Materials Procedures Committee Regular Meeting

Meeting Time/Date: 9:00am, November 16, 2022

Meeting Location: MCS&T (Conference Rm.) - 190 Dry Branch Drive, Charleston, WV 25306

Online Meeting: Google Meet Video Conference

Online Link - (https://meet.google.com/apa-rvti-ndx?authuser=0)

Files Available on ProjectWise for DOT users – See Invite or Follow P/W path:

WVDOH ORGS\MCS&T (0077) - FM\Materials Procedure Committee\MP Committee Meeting Files\2022\2022 11 16 - MP Meeting Files

Files Available on Webpage –

https://transportation.wv.gov/highways/mcst/Pages/MP-Committee-Page.aspx

Materials Procedures approved at the last meeting (10/26/22)

1. 109.00.20 - Basis of Charges for Additional Testing
2. 401.02.28 - Guide to Designing Hot-Mix Asphalt Using the Superpave Volumetric Design Method
3. 401.02.29 - Guide for Quality Control and Acceptance Requirements for Superpave Hot-Mix Asphalt
4. 715.07.20 - Standard Method of Test for Determining the Quality of Water Used with Hydraulic Cement
5. 401.07.21 - Sampling Compacted Asphaltic Mixtures from the Roadway
6. 401.07.23 - Guide to Determining Interface Bond Shear Strength of Multi-Layered Asphalt Pavement Specimens
7. 700.00.24 - Nuclear Density Test by the Roller Pass Method

Actions from the last meeting on Materials Procedures pending approval (10/26/22)

1. MP 702.01.20 - Standard Method of Test for Determining the Percentage of Coal and Lightweight Particles in Aggregate. *Comments were addressed from Janie Matics and section 3.1 "ASTM C123 OR AASHTO T 113" was removed.*
2. MP 601.11.20 - Field Calibration and Operation of Rolling Ten Foot Straight Edge on Bridge Decks. *Attachment graphic has been updated.*

Materials Procedures - Old Business

Number	Champion	Title	Description
1-100.00.03*	Brayack	Method of Evaluation of Non-Standard or Non-Conforming Materials in Construction via DMIR	General workflow clarifications. Removed section that dictated a contract administration duty. Added language as per FHWA guidance.
2-603.02.10*	Thaxton	Guide for Approval of Component and Ship Loose Materials Pertaining to	Modification to process changes.

		Precast and Prestressed Concrete Items	
3-702.01.20*	Jobes	Standard Method of Test for Determining the Percentage of Coal and Lightweight Particles in Aggregate	General format changes and grammar cleanups. Possible process change. Jobes to discuss.
4-601.11.20*	Whelan	Field calibration and operation of Rolling Ten Foot Straight Edge on Bridge Decks	Metric unit updates. Section 2, update to match current practices. Need to update graphic?
5-106.10.50*	Brayack	WVDOH Buy America Acceptance Guidelines	Address new federal laws for Buy America, Build America
6-109.00.21*	Brayack	Basis For Charges for Non-Submittal of Sampling & Testing Documentation by The Established Deadline	Adds deadline for entering samples in AWP.
7-709.01.55*	Hanna	Criteria To Approve Plain Reinforcing Steel Bars Used in Concrete	Adds NTPEP

Materials Procedures - New Business

1-106.00.02&	Brayack	Procedure for Evaluating Products for Use in Highway Construction	Significant cleanups, adds Buy America, Build America for APLs.
2-642.40.20&	Preston	Analysis of Water	Mike Jones and I have update MP 642.40.20. We have added the information that Perrow needed with his update of MP 715.07.20 and well as update other items in MP 642.40.20.

Note 1: * Denotes this MP is up for Vote

Note 2: & Denotes this MP is not up for Vote

Comments

Comments due November 9th, so the Champion may review and address them. Submit comments to Adam Nester (Adam.W.Nester@wv.gov)

Next Meeting

New or Updated MPs due to the MP Chair 3-weeks before the next meeting: Nov. 30, 2022

Meeting Time/Date: 9:00 am, December 21, 2022

Meeting Location: MCST/TBD

Online Meeting: Google Meet Video Conference (Link TBD)

Additional MP Committee Meeting Information

For details of previous meetings, please visit the MCST MP Committee Webpage
https://transportation.wv.gov/highways/mcst/Pages/MP-Committee-Page.aspx

Tentative MP Committee Dates for 2023:

January 18, February 15, March 15

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION
MATERIALS PROCEDURE

METHOD OF EVALUATION OF NON-STANDARD OR NON-CONFORMING MATERIALS IN CONSTRUCTION VIA DMIR

1. PURPOSE

1.1 Provide a method for evaluating material that does not meet the requirements of the Contract Documents.

1.1.1 To evaluate a material when a failure is ~~the above-mentioned documents and is~~ not otherwise~~-~~ addressed in the Contract Documents~~addressed in those documents~~.

1.2 Provide guidelines and/or a course of action~~/inaction~~ when a material test has not been performed or has been performed incorrectly.

2. DEFINITIONS

2.1 ST-1: Special Testing Form 1~~-~~ The ST-1 is a historic WVDOH document which has been used to provide an acceptance method for a material that does not have a prescribed acceptance method or is otherwise outside the scope of the normal acceptance procedure. ~~This form has evolved over the years but is still used for the original purpose.~~ An ST-1 is to be done before the material is placed.

2.2 DMIR: District Materials Inspection Report – A DMIR is ~~an~~a materials investigation~~,~~ ~~typically~~ into a situation where the material does not meet the requirements of the Contract Documents. ~~material failure or any other situation where there is no prescribed method for the resolution of a material on a project. A DMIR can have several outcomes including, but not limited to: Remove and replace, a price reduction, or accept in place etc.~~

2.3 AWP: (AASHTOWare Project Management Software) – This is the generic term for the suite of software used by the WVDOH to manage and process projects. This system manages contracts, samples, tests and other aspects of projects.

~~2.4 Authorize a Sample – This is a technical AWP term in which the user closes or locks the sample. Authoring a sample indicates that the sample has been resolved in the system and the system will allow the project to proceed through certification. This does not have any indication of whether the sample has passed or failed.~~

~~2.5~~2.4 Concur/Non-Concur of Sample – This is a technical AWP term in which the reviewer indicates their acceptance of a sample. A “Non-Concur” typically requires additional action to accept the material in the AWP system.

~~2.6~~2.5 District ~~Sample ID~~Lab Number – This is the tracking number and database ~~a technical AWP term which refers to the “key”~~ field for the WVDOH ~~a record in the~~materials management system ~~AWP database~~.

3. SCOPE

3.1 This procedure applies to situations where the resolution of a non-conformance ~~issue~~ is not clearly defined or described by ~~the Standard Specifications or other WVDOH documents, or if District wishes to diverge from these documents~~Contract Documents.

3.1.1 The DMIR shall be submitted to MCS&T for consideration and either concurrence/non-concurrence for the following situations:

3.1.1.1 The Material did not meet the Standard Specifications or other Division Testing Requirements.

3.1.1.2 The Material is not addressed in the Standard Specifications or other Division Documents and has been placed before testing (ST-1 or evaluation methods were not utilized).

3.1.1.3 Sampling and/or testing was not done correctly, samples or documentation was lost, or testing otherwise cannot be used to represent or accept the material.

3.1.1.4 The resolution of the material has not been addressed in a change order or other contractual document.

3.2 As per Section 105.3 of the Standard Specifications, the Engineer may accept materials that do not conform to Contract Documents. In this instance, material acceptance shall be processed via DMIR.

3.2.1 In any event of a DMIR, a change order shall be processed, even if the final evaluation/penalty of the DMIR is $0.00.

~~3.1.2~~3.2.2 A note of each DMIR, regardless of evaluation amount shall be in the final material certifications letter (MC-8).

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~~4. procedure~~

~~5.~~4. DMIR Documentation and Submission to MCS&T

~~5.1~~4.1 The DMIR form is available on the WVDOH MCS&T Webpage[1]. All required fields must be completed before submitting the DMIR to MCS&T.

~~5.1.1~~4.1.1 The preparer of the DMIR, typically the Materials Supervisor or their designee, shall clearly state all details that initiated the DMIR and shall include the following categories of information:

1. General/Project information
2. Materials information
3. Type of deviation
4. Situation
5. Review
6. Conclusion
7. Review and Signatures from Construction Engineer and Materials Supervisor

8. Supporting Documentation

~~5.1.2~~4.1.2 A description of the material, known quantities, technical issues, or any requirement from the applicable Specifications, Contract Proposal, Project Plans, Material Procedures (MPs), Standard Details, Special Provisions, AASHTO, ASTM, or any Non-Specification issues shall be provided.

~~5.1.3~~4.1.3 A justification and any supporting and/or relevant detail shall be provided.

~~5.1.4~~4.1.4 The conclusion shall clearly state and justify the final price assessment resolution (which may be $0.00), including all applicable fees and penalties.

~~5.1.5~~4.1.5 The assessment fees should be listed individually and with a final total price assessment. Justification of the price assessment shall be provided.

~~5.1.6~~4.1.6 The ~~Supporting~~ supporting ~~Documentation~~ documentation shall provide the necessary information and evidence for the materials inspection.

4.2 The DMIR shall be sent to the ST-1/DMIR mailbox (St1dmir@wv.gov).

4.2.1 DMIR Request Email files shall be submitted in the following format for both the subject of the email and the file name for the submission: DMIR-District Lab Number-CID Contract ID. An example follows,

4.2.1.1 DMIR-MXZXXXX-CID 20XX00XXXX

~~5.2~~4.3 The sample shall be logged in the current materials tracking system and sent to the applicable MCS&T section to review. If the subject material(s) meets the project requirements, MCS&T will concur with the sample and the reviewer will then ~~authorize the~~process sample in AWP.

~~5.2.1~~4.3.1 The District must electronically send the fillable PDF form. This cannot be hand-written and scanned (the Sample ID must be able to be selected for Copy and Paste).

4.4 After MCS&T has reviewed ~~and authorized~~ the DMIR ~~sample~~ (whether be concur or non-concur), the DMIR will be sent to Contract Administration Division. Contract Administration will finish processing the sample in AWP.

Signature Block

RLS:B

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

GUIDE FOR APPROVAL OF COMPONENT AND SHIP LOOSE MATERIALS PERTAINING TO PRECAST AND PRESTRESSED CONCRETE ITEMS

1. PURPOSE

1.1 To set forth the procedures for the approval of component materials used in the fabrication of precast and prestressed concrete items and ship loose materials incidental to precast and prestressed concrete items.

1.2 Ship loose materials are defined as the loose materials that are used in conjunction with various precast or prestressed concrete items. These ship loose materials are normally paid for under the same bid item number as the primary precast or prestressed concrete item.

1.2.1 ~~Examples of ship loose materials include bearing pads and shims that are shipped along with prestressed concrete beams.~~ Materials such as (but not limited to) metal soil reinforcing devices, metal attachment devices, bearing pads, shims, and geotextile fabrics that are used for prestressed concrete beams, and retaining wall systems are ~~also~~ classified as ship loose materials.

2. SCOPE

2.1 This procedure will apply to all precast concrete fabricators and prestressed concrete fabricators that supply material for use on West Virginia Division of Highways projects. It shall also apply to suppliers of any other precast concrete items (such as retaining wall system suppliers), which require the use of ship loose materials.

3. REFERENCED DOCUMENTS

~~2.1~~ 3.1 Current WV DOT Standard & Supplemental Specifications

~~3.~~4. SAMPLING

~~3.1~~4.1 Approved Sources

~~3.1.1~~4.1.1 With the exception of coarse and fine aggregate, component materials obtained from a West Virginia Division of Highways approved source and component materials pre-tested at the source in a manner set forth in MP 700.00.01 (or other established

procedures) may be used at the precast, or prestressed concrete fabricator without further sampling and testing.

3.1.1.14.1.1.1 Any ship loose materials that are obtained from an approved source will not require any further sampling or testing. However, the approved source laboratory number shall be listed on all shipping documents related to that material.

3.1.24.1.2 All component materials that are not obtained from a Division approved source or otherwise pre-approved shall be sampled at the precast or prestressed concrete fabricator and subsequently tested. Ship loose materials that are not obtained from a Division approved source may be sampled at a variety of locations (material fabricator, precast concrete fabricator, material distributor, or whichever location is most convenient), but they must be sampled, tested, and approved prior to shipment to the project. All materials must meet the requirements of the appropriate ssection of the Sspecifications.

3.1.2.14.1.2.1 Certain ship loose materials may, at the discretion of MCS&T Division, be accepted based on certification rather than sampling and testing.

3.1.34.1.3 When AASHTO M 6 is the applicable specification for fine aggregate, natural sand shall meet the requirements of Class A with respect to material finer than the No. 200 (75 µm) sieve. Natural sand shall meet the remainder of the Class B requirements. All other fine aggregate types shall meet all of the requirements of Class B.

3.1.44.1.4 Mixing water for precast concrete items shall be tested in accordance with the requirements of ~~section~~ Section 715.7 of the ~~standard s~~Specifications.

3.24.2 Frequency of Sampling

3.2.14.2.1 Aggregates (both coarse and fine) and other component and ship loose materials not obtained from a Division approved source will be sampled by the Division, at the fabricator (or other location as noted in Ssection 3.1.2), as shown in Table 1.

TABLE 1

Material	Sampling Frequency	Sample Size
Cement	Semi-Annually	10 lb (4 kg)
Pozzolanic Additives	Semi-Annually	4 lb (2 kg)
Fine Aggregate	Semi-Annually	25 lb (10 kg)
Coarse Aggregate	Semi-Annually	110 lb (50 kg)
Mixing Water	Semi-Annually	1 quart (1 liter)
Reinforcing Steel		
Epoxy	Annually	5 ft (2 m)
Black Bar	N/A (Accepted on NTPEP Compliance)	NA
Prestressing Steel	Only Sampled at the Source	N/A
Hot-Poured Elastic Type Concrete Joint Sealer	Only Sampled at the Source	N/A
Preformed Expansion Joint Filler	Only Sampled at the Source	N/A
Elastomeric Bearing Pads and Shims	Only Sampled at the Source	N/A
Welded Wire Fabric	Each Lot (if Not NTPEP Compliant)	1 pc. 3 ft x 3 ft (1 m x 1 m)
Bright Wire for Welded Wire Fabric	Reference MP 709.04.40 or in accordance with Q-Cast Certification Requirements	1 pc 5 ft
Concrete Sealant	Only Sampled at the Source	N/A
Steel Inserts & Miscellaneous Steel Hardware	Annually	2 Pieces
Asphalt Plastic Cement	Each Lot or at the Source	N/A
Metal Soil Reinforcing Strips	Each Lot (Either at the Source or At the Point of use Prior to Installation)	N/A (NDT of Random Pieces)
Geotextile Fabric	N/A (Accepted on NTPEP Compliance)	N/A
Steel Diaphragms	N/A (Inspected at the Fabricator)	N/A

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3.2.24.2.2 The fabricator may not use any component material in the fabrication process until the material has been shown to meet specifications. Until otherwise notified by the Division, the fabricator may continue to use materials that are sampled on a semi-annual basis (and that were approved during the prior sampling period) while these materials are being tested during the current sampling period.

3.2.2.14.2.2.1 An approved laboratory reference number shall be issued to each ship loose material that meets specifications. Approved laboratory reference numbers must be issued to all ship loose materials that are to be paid for under the same bid item number as a precast or prestressed concrete item before an approved laboratory reference number can be issued to that precast, or prestressed concrete item.

3.2.34.2.3 At the time of component material sampling, the fabricator shall provide the Division with a current copy of each concrete mix design (and a list of all items that are produced from each mix design) that may be used in production of precast or prestressed concrete items for the Division during the next six months.

3.34.3 Non-Specification Material

3.3.14.3.1 If a material is removed from the Division's approved list, use of that material shall be immediately discontinued, and the material shall be sampled and tested in the same manner as any other material that is not on the approved list (i.e. it shall be sampled and tested at the frequency shown in Table 1) until it regains status on the Division's approved list.

3.3.24.3.2 If tests conducted on a component material sample indicate that one or more properties of a material do not meet specification requirements, the Division shall immediately notify the fabricator. Upon receipt of this notification ~~(whether written or verbal)~~, the fabricator shall discontinue the use of the component material in question until further notice by the Division.

3.3.34.3.3 If an amount of material finer than the No. 200 (75 µm) sieve, greater than what is allowed by Section 703.4~~x.x.x~~ of the ~~specifications~~Specifications, is present in either the coarse or fine aggregate, then the total amount of material finer than the No. 200 (75 µm) sieve for the entire mix shall be evaluated. The fabricator shall have previously provided a copy of all mix designs as outlined in section 3.2.3, and the total amount of material finer than the No. 200 (75 µm) sieve for the entire mix will be evaluated as outlined in section 3.3.3.1.

3.3.3.14.3.3.1 As long as the total percentage of material finer than the No. 200 (75 µm) sieve present in the entire mix does not exceed the total percent of material finer than the No. 200 (75 µm) that would exist if both aggregate fractions in the mix contained their specified maximum percentage passing the No. 200 (75 µm) sieve, then that combination of aggregates will be considered as meeting Section 703.4~~x.x.x~~ of the Specifications~~specifications~~.

3.3.44.3.4 If it is determined that a ship loose material does not meet Section 703.4 of the Specifications~~specification requirements~~, use of that ship loose material shall not be permitted.

3.44.4 Re-Testing of Non-Specification Component Material

3.4.14.4.1 When tests of the first sample indicate that one or more properties of a material do not meet specification requirements, the Division shall re-sample the material as soon as possible after the fabricator has taken corrective action, and one of the following two scenarios will occur (sections 3.4.1.1 or 3.4.1.2).

3.4.1.14.4.1.1 If the second sample meets Section 703~~x.x.x~~ of the Specifications~~specifications~~, the Division will immediately notify the fabricator. Upon ~~this~~ notification ~~(whether written or verbal)~~, the fabricator may resume the use of this component material.

3.4.1.24.4.1.2 If the second sample does not meet Section 703~~x.x.x~~ of the Specifications~~specifications~~, the Division will immediately notify the fabricator, but the Division will not re-sample the material in question (from the particular source that did not meet specifications) until the next sampling period specified in Table 1 ~~(and~~ only after corrective action has been taken by the fabricator~~)~~. Until a sample is obtained that meets specifications~~, this non-specification~~ the component material may not be used.

3.4.24.4.2 Once a component material in question has been shown to not meet specifications by more than one sample and test, the Division will only re-sample that component material once during the next sampling period (as set forth in Table 1), and one of the following two scenarios will occur (sections 3.4.2.1 or 3.4.2.2).

3.4.2.14.4.2.1 The material is sampled again during the next sampling period, and it meets specifications. The use of this component material may be resumed.

3.4.2.24.4.2.2 The material in question is sampled again during the next sampling period, and again it does not meet specifications. The Division will not re-sample the material in question again until the next sampling period specified in Table 1 (see section 3.4.2). Until a sample is obtained that meets specifications~~, this non-specification~~ the component material may not be used.

3.4.34.4.3 For an aggregate in which an excessive amount of material finer than the No. 200 (75 µm) sieve is the only reason for not meeting specifications, there are two possible scenarios. When the first scenario, given in section 3.3.3.1, occurs, that particular combination of fine and coarse aggregate will be considered as meeting specifications. The second scenario is if the total percentage of material finer than the No. 200 (75 µm) sieve present in the entire mix exceeds the total percent of material finer than the No. 200 (75 µm) sieve that would exist if both aggregate fractions in the mix contained their specified maximum percentage passing the No. 200 (75 µm) sieve. In this case, that particular combination of fine and coarse aggregate will be considered as not

meeting Section 703.4~~x.x.x~~ of the Specifications~~specifications~~.~~ At this point, the~~ ~~Then~~When this second scenario occurs, the Division shall immediately notify the fabricator.~~ Upon~~ ~~u~~Upon receipt of this notification ~~(whether written or verbal)~~, the fabricator shall discontinue the use of this combination of material until further notice by the Division. Situations in which the second scenario occurs will be handled as outlined in section 3.4.4.

Commented [MMA2]: I think that this should be a separate sentence and not combined with the previous sentence.

~~3.4.4~~4.4.4 During any re-sampling of a failing combination of aggregates, both the fine and coarse aggregate shall be re-sampled (so that a current evaluation of the total amount of material finer than the No. 200 (75 µm) sieve present in the entire mix may be performed). The Division will re-sample both the fine and coarse aggregate as soon as possible, and one of the following two scenarios will occur (sections 3.4.4.1 or 3.4.4.2).

~~3.4.4.1~~4.4.4.1 If the second sample meets Section 703.4~~x.x.x~~ of the Specifications~~specifications~~, the Division will immediately notify the fabricator~~. Upon this notification (whether written or verbal),~~ and the fabricator may resume the use of this combination of fine and coarse aggregate.

~~3.4.4.2~~4.4.4.2 If the second sample does not meet specifications (as outlined in section 3.3.3.1), the Division will immediately notify the fabricator, but the Division will not re-sample that combination of fine and coarse aggregate until the next sampling period specified in Table 1 (see section 3.4.2). Until a sample is obtained that meets Section 703.4~~X.x.x~~ of the Specifications~~specifications~~, this non-specification combination of fine and coarse aggregate may not be used.

~~4.~~5. ALTERNATE MATERIALS

~~4.1~~5.1 The prestressed or precast concrete fabricator may use a different source of material if the current material has been shown to not meet specifications.

~~4.1.1~~5.1.1 This new material shall be sampled as set forth in section 3.0 or 3.2 (whichever is applicable).

~~4.1.2~~5.1.2 In the case of component materials, new concrete mix design (in the case of prestressed items) containing this material shall be approved by the Division prior to the use of this new material. In the case of precast items, a new mix design containing this material shall be provided to the Division at the time of sampling.

~~4.2~~5.2 If either a new source of coarse or fine aggregate is used because of an inability of the former combination of material to meet specifications due to an excessive amount of material finer than the No. 200 (75 µm) sieve, both the coarse aggregate and fine aggregate portions of this new combination shall be re-sampled, and evaluated as set forth in section 3.4.3.

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Ronald L. Stanevich, PE, Director
Materials Control, Soils & Testing Division

MP 603.02.10 Steward – ~~Aggregate and Soils~~Cement and Concrete Section
RLS:~~M~~Tt

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

STANDARD METHOD OF TEST FOR DETERMINING THE PERCENTAGE OF COAL AND LIGHTWEIGHT PARTICLES IN AGGREGATE

1. PURPOSE

1.1 To provide a standard method of testing for coal and lightweight particles in aggregates by means of a sink-float separation in a heavy liquid with a designated specific gravity.

2. SCOPE

2.1 This procedure is applicable to fine and coarse aggregates.

3. APPLICABLE DOCUMENTS

3.1 ~~ASTM C 123 OR AASHTO T 113~~

3.2 ASTM E 11

3.3 ASTM E 100

3.4 ASTM C 702 OR AASHTO T 248

3.5 MATERIALS PROCEDURE (MP) 700.00.06

3.6 ASTM C 127 OR AASHTO T 85

3.7 ASTM C 128 OR AASHTO T 84

~~3.7~~3.8 Add M 231? (4.2)

4. APPARATUS

4.1 Sieves—The following sieve sizes conforming to ~~AASHTO M 92~~;ASTM E11 4.75 mm (No. 4) and 300 µm (No. 50).

4.2 Balance—The balance shall have sufficient capacity, be readable to 0.1 percent of the sample mass, or better, and conform to the requirements of M 231.

4.3 Oven—An oven capable of maintaining a temperature of 110°C ± 5°C (230°F ± 9°F).

4.4 Containers—Large vat/tank for storage of heavy liquid with compatible mesh bucket for immersion of coarse aggregate into heavy liquid, buckets for soaking test portion,

Pans for surface drying the aggregates, 600 ml Pyrex beakers for containing fine aggregate test portions.

4.5 Skimmers—Made of 300 µm (No. 50) sieve cloth conforming to ASTM E 11. Fitting one with a handle for scooping floating particles from heavy liquid. The other must be capable of fitting over 600 ml Pyrex beakers.

4.6 Stirring Rods—A glass rod for stirring fine aggregates, a large metal rod for stirring coarse aggregates.

4.7 Heavy Liquid—Consisting of a mixture of zinc bromide and water in such proportions so that a designated specific gravity of 2.00 ± 0.01 can be maintained at all times during the test.

4.8 Hydrometer—Conforming to the requirements of ASTM E 100 and capable of measuring the liquid specific gravity to within ± 0.01.

4.9 Safety Equipment—Industrial type rubber gloves, face shield or goggles.

Note: Although there is no particular hazard from the fumes of zinc bromide solution, precautions shall be taken to avoid inhalation of fumes and contact with eyes and skin. Goggles and gloves shall be worn, and the solution should only be used in a laboratory exhaust hood.

5. SAMPLE PREPARATION

5.1 Secure a field sample of the aggregate in accordance with MP 700.00.06. Samples shall be representative of the sources from which they are obtained and shall be reduced to an appropriate size by use of a sample splitter or by quartering in accordance with ASTM C 702 or AASHTO T 248.

5.2 The samples shall be dried in an oven to a constant mass at a temperature of 110 ± 5°C (230±9°F).

5.2.1 In the following minimum test portions, the oven-dried sample shall be weighed to the nearest one gram and that weight recorded.

Nominal Maximum Size of Aggregate (Sieve Openings)	Minimum Weight of Test Sample (Grams)
No. 4 (4.75 mm)	200 grams
¾ in (19.0 mm)	3,000 grams
1 ½ in (37.5 mm)	5,000 grams
3 in (75.0 mm)	10,000 grams

5.3 The fine aggregate oven dry sample shall be cooled to room temperature and sieved over a 300 µm (No. 50) sieve until less than one percent of the retained material passes through the sieve in one minute of continuous sieving. Discard the minus 300 µm (No. 50) sieve material.

5.3.1 Bring the plus 300 µm (No. 50) test portion to a saturated-surface-dry condition as specified in ASTM C 128 or AASHTO T 84. (See Note 1 and Note 2).

Note 1 – If material undergoes degradation in water, the material does not have to be brought to an SSD condition.

Note 2 – Pit derived silica sand commonly contains soft and easily degradable aggregations of sub-bituminous coal. Because of this possible degrading constituent, pit sand shall not be subjected to SSD condition under this procedure.

5.4 Coarse aggregates shall be sieved over a 4.75 mm (No. 4) sieve. The plus 4.75 mm (No. 4) material shall be thoroughly washed and oven dried to a constant mass at a temperature of 110°C ± 5°C (230 ± 9°F).

5.4.1 Allow oven dry sample to cool to room temperature and weigh a test portion to a minimum test size, to the nearest 1 gram and record weight.

5.4.2 Bring sample to a saturated-surface-dry condition as specified in ASTM C 128 or AASHTO T 84. (See Note 1 and Note 2).

6. PROCEDURE

6.1 Under a ventilation hood or in adequately ventilated area, check the heavy liquid (zinc bromide) for correct specific gravity (2.00 ± 0.01).

6.2 Fine Aggregate - weigh a test portion to a minimum of 200 grams to the nearest 0.1 gram and record weight. This test portion shall be placed in a 600 ml beaker and a volume of heavy liquid poured into the beaker until the liquid level is at least 1 in (25 mm) above the sample level.

6.2.1 Agitate the test portion by means of a glass-stirring rod allowing the lightweight particles to float to the surface.

6.2.2 Pour the liquid and floating lightweight particles into a second beaker, passing through a 300 µm (No. 50) skimmer, making sure that only the floating particles are poured off with the liquid.

6.2.3 Repeat procedure in section 6.2.2 until test portion is free from floating particles, then drain heavy liquid from test portion back into vat. Rinse test portion with water to remove heavy liquid from sample and discard.

6.2.4 Wash the decanted particles retained on the 300 µm (No. 50) skimmer with water until all the zinc bromide is removed.

6.2.5 Dry decanted particles to a constant weight and weigh to the nearest 0.1 gram.

6.3 Coarse Aggregate - Place sample into mesh bucket and place into vat of zinc bromide solution.

6.3.1 NOTE: If test portion is sufficiently large, two or more runs may be necessary to complete testing.

6.3.2 Agitate test portion by means of a large metal stirring rod allowing the lightweight particles to float to the surface.

6.3.3 Remove floating pieces from heavy liquid by scooping with a 300 µm (No. 50) skimmer. Repeat process until test portion is free of floating particles.

6.3.4 Raise mesh bucket to drain heavy liquid from test portion into vat. Rinse test portion with water to remove heavy liquid from sample and discard.

6.3.5 Wash lightweight particles with water until all the zinc bromide is removed.

6.3.6 Dry lightweight particles to a constant weight and weigh to the nearest 1.0 gram.

6.4 Slag: Due to the manufacturing process, there is entrapped air in the aggregate. The procedure for slag is the same for any other coarse aggregate; however, a greater number of pieces will come to the surface than with other types of aggregates. The floating particles must be friable before they are considered as deleterious.

7. CALCULATION

7.1 Calculate the percentage of lightweight particles as follows:

Fine Aggregates

$$L = \frac{W_1}{W_2} \times 100$$

L = Percentage of lightweight particles
W_1 = Oven dry mass of lightweight particles
W_2 = Oven dry mass of test portion

7.2 Report results to nearest 0.1 percent.

Ronald L. Stanevich, P.E.
Director
Materials Control, Soils and Testing Division

MP 702.01.20 Steward – Aggregate & Soils Section
RLS:Mj

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

FIELD CALIBRATION AND OPERATION OF ROLLING ~~Ten~~ TEN FOOT STRAIGHT EDGE ON BRIDGE DECKS

Commented [BDA1]: Clean up ft, feet, in, inch ", ', etc,

1. PURPOSE

1.1 To establish a field calibration procedure for the 10 ft ~~3 m~~ rolling straight edge.

1.2 To establish a procedure for documenting out of tolerance bridge deck sections.

2. FIELD CALIBRATION

~~The marking of high and low sections on the deck is best accomplished by the use of red and green clothes dye. One small package should be mixed with 1.89 L of water. It is suggested the dye be mixed in gallon jugs and poured into the appropriate tank on the machine. Drain the tanks and flush when it is anticipated the machine will not be used for a week or more.~~

~~Before using, ensure the tank valves on the bottom of the tank are open. Use the red dye solution for high areas and green dye solution for low areas. Do not leave fluid in tanks in freezing weather.~~

2.1 Under each set of wheels place a piece of steel or other suitable solid material, with dimensions approximately ~~76 mm x 305 mm x 13 mm~~ 3-in x 12-in x 0.5-in. Stretch a piece of string between the front and rear wheels, across the top of each of the pieces, and adjust the center riding wheel so that it just touches the string.

2.2 When straight edging a deck with a vertical curve, the riding wheel should be adjusted as above and then a final adjustment up or down should be made according to the vertical differences of the curve in a ~~3 m~~10 ft. length.

2.3 When the center wheel is in proper alignment, the dial on the straight edge should read zero. If adjustment is needed, ~~lengthen~~lengthen, or shorten the linkage to this center wheel as per the instructions of the manufacturer of the straight edge. ~~This adjustment may be made by removing the top from the control box and loosening the Allen-bolt on the straight gear ram~~. ~~Move the ram up or down to get the zero adjusted, then tighten the Allen-bolt.~~

~~The adjustment for the high and low valves to open on 3 mm, 6.3 mm or any other designated tolerance is accomplished in the following manner.Fill the tanks with premixed red dye and green dye.Set the dial to read the designated high tolerance.Loosen the two Allen-bolts at the lower front face of the dial marker high side.~~

~~Turn on the electric switch at the side of the control box (on is up), and raise or lower the slide held by the Allen-bolts until the solenoid valve opens. Then secure by tightening the Allen-bolts.Repeat the above procedures for the low side.~~

3. OPERATION

3.1 Preparation

Obtain a bridge deck floor plan from the project plans and place this plan sheet on a hard surface. Cover the deck floor plan with graph paper. Align the graph paper so that the lines are parallel to the centerline of the deck. Draw a centerline and parallel lines, set to scale at 2 ft.~~0.6 m~~ intervals, the length of the deck.

As an alternate method, the bridge floor plan may be printed on graph paper with one set of lines parallel to the centerline or a sketch may be drawn on graph paper.

If the bridge includes a horizontal curve, mark locations on the scale drawing that are 25 f~~ee~~t~~7.6 m~~ to 50 f~~ee~~t~~15.2 m~~, apart along the centerline. Lay off lines at these locations, perpendicular to the centerline. Mark locations that represent 2 ft.~~0.6 m~~ intervals along these lines. Connect these locations to produce lines parallel to the centerline.

3.2 Procedure

~~3.2.1~~ Mark the centerline of the bridge with suitable~~with a suitable~~ chalk. If stations are available on the bridge, draw a transverse perpendicular line every 25 f~~ee~~t~~7.6 m~~ to 50 f~~ee~~t.~~15.2 m~~. Continue to mark off longitudinal lines parallel to the centerline at 2 ft.~~0.6 m~~ centers. Transfer the location of the transverse perpendicular lines to the bridge deck plans or overlay.

~~3.2.2~~ Pull the rolling straight edge down the bridge centerline with the center wheel running over the chalk line. When the pass is completed, move the straight edge to the next 2 ft.~~0.6 m~~ line and push it back across the bridge. Repeat this operation until all lines have been straight edged. The direction the straight edge is oriented should not be changed.

~~3.2.3~~ Transfer the location of any high or low readings~~dye markings~~ (measure to the nearest 1 inch.~~30 mm~~) from the deck to the overlay paper or other graph paper. Mark red and green (red for high, green for low) lines and tie them together as per the attachment. The lines should be extended and joined approximately 2 ft.~~0.3 m~~ into the next two segments of the bridge deck area. The areas may then be computed by use of a planimeter.

Ronald L. Stanevich, P.E.
Director
Materials Control, Soils and Testing Division

MP 601.11.20 Steward – Pavement Analysis and Evaluation Section
RLS:A
ATTACHMENT

PROJECT NUMBERS
FEDERAL
STATE
WV
DISTRICT
SEVEN
COUNTY
BRAXTON
SHEET
1
OF
1
13+86
15+21
0
10
20
LOW AREAS
HIGH AREAS
25 SF
5'
WEST VIRGINIA DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT SEVEN
STRANGE CREEK BRIDGE
10 ' ROLLING STRAIGHT EDGE
BRIDGE PLAN VIEW SHOWING
AREAS OUT OF TOLERANCE
SHEET 1 OF 1

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

WVDOH BUY AMERICA ACCEPTANCE GUIDELINES

1. PURPOSE

1.1 To set forth instructions for compliance with both State and Federal Buy America Requirements (henceforth referred to as "Buy America Requirements"), as listed in Sections 2.2, 2.3 and 2.4 of this document.

2. REFERENCED DOCUMENTS

2.1 WVDOH Standard Specifications, Current Edition.

2.2 23 U.S.C. 313 and 23 CFR 635.410 "Buy America Requirements."

2.3 Chapter 5, Article 19 and Chapter 5A, Article 3, Section 56 of the West Virginia Code, entitled "West Virginia American Steel Act of 2001."

2.4 Build America, Buy America Act, Section 70914.

2.5 Office of Management and Budget (OMB) Memorandum M-22-11, dated April 18, 2022.

3. ACCEPTANCE OF MATERIALS

3.1 This procedure applies to the following:

1. Steel and Iron
2. Manufactured Products
3. Construction Materials

3.2 Unless there is an approved exception as outlined in this MP, all applicable materials on construction projects shall conform to the requirements of Section 106.1 of the WVDOH Standard Specifications.

3.3 Buy America Requirements only apply to articles, materials, and supplies that are permanently incorporated into the project. It does not apply to materials brought to the construction site, and removed at, or before the completion of the infrastructure project, such as tools, equipment, temporary scaffolding, or traffic control devices.

3.4 For the purpose of complying with Buy America Requirements, a material or product should only be classified into one of the three categories listed in Section 3.1.

3.5 Steel and Iron.

3.5.1 Pursuant to Buy America Requirements, all manufacturing processes for steel and iron materials must take place in the United States. This includes all processes from the initial melting stage through application of coatings.

3.6 Manufactured Products.

3.6.1 Pursuant to Buy America Requirements, all Manufactured Products must be produced in the United States, and the cost of the components of the Manufactured

Product that are mined, produced, or manufactured in the United States shall be greater than 55 percent of the total cost of all components of the Manufactured Product.

3.6.2 The Federal Highway Administration (FHWA) has a longstanding waiver in effect exempting Manufactured Products from Buy America Requirements.

3.7 Construction Materials.

3.7.1 Pursuant to Buy America Requirements, all Construction Materials are required to be produced in the United States. All manufacturing processes for the Construction Materials shall occur in the United States.

3.7.2 Construction Materials includes any article, material, or supply that is or consists primarily of: non-ferrous metals; plastic and polymer-based products (including PVC, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall.

3.7.3 Construction Materials does not include items of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregate such as stone, sand, or gravel; or aggregate binding agents or additives.

3.7.4 Items that consist of two or more of the listed Construction Materials that have been combined together through a manufacturing process shall be treated as a Manufactured Product.

3.7.5 Items that consist of at least one of the listed Construction Materials that have been combined together through a manufacturing process with another material that is not listed shall be treated as a Manufactured Product.

3.8 Buy America Certification.

3.8.1 When Buy America Requirements apply, the Contractor shall furnish a notarized Certificate of Compliance signed by a company official with knowledge and authority to certify that all applicable materials and products to be incorporated into the project, including those of any subcontractors and suppliers, are compliant with Buy America Requirements. This shall be done prior to the permanent incorporation of the materials into the project.

3.8.2 The Division shall not authorize or make any payments to any Contractor not fully compliant with this requirement. Any payment made to any Contractor who did not fully comply with this requirement shall be recovered by the Division.

3.8.3 The notarized Certificate of Compliance shall contain the following information:

3.8.3.1 Title: Buy America Certification of Compliance.

3.8.3.2 The Name, Address and Contact Information for the Company.

3.8.3.3 The Name of the Customer.

3.8.3.4 The shipping date of the material.

3.8.3.5 A company statement that demonstrates compliance with Buy America Requirements.

3.8.3.6 The statement: "In the event where a supplied material does not meet applicable Buy America Requirements, any payments made for the associated material shall be returned to the Division."

3.8.3.7 The Contract ID for the Material (if applicable).

3.8.3.8 Both the Federal and State Project Number for the Material (if applicable).

3.8.3.9 The name of the material and/or material code reference in the Certificate of Compliance. This material name shall be a clear, common name of the material that is comparable to the AWP Material Name. Part Numbers, etc., may also be on the document if the company wishes.

3.8.3.10 The Line Item for the Material (if applicable).

3.8.3.11 The Quantity of the Material Shipped.

3.8.3.12 Signature of the Company Official and date.

3.8.3.13 The document must be notarized.

3.8.4 Attachment 1 shows a sample Certificate of Compliance.

3.8.5 The project shall file this Certificate of Compliance in each respective Line-Item Folder in ProjectWise (or the current Division utilized document retention software) for the project.

3.8.6 Multiple items may be listed on the Certificate of Compliance, though all the information for each line must be on the document.

4. BUY AMERICA MINIMAL USE EXCEPTIONS

4.1 Steel and Iron Materials.

4.1.1 As provided for in 23 CFR 635.410(b)(4), an exception from Federal Buy America requirements exists for the minimal use of steel and iron materials "if the cost of such materials used does not exceed one-tenth of one percent (0.1 percent) of the total contract cost or $2,500, whichever is greater. For the purposes of this paragraph, the cost is that shown to be the value of the steel and iron products as they are delivered to the project."

4.1.2 Authority for determining applicability and issuance of a minimal use exception for steel and iron materials has been delegated to the West Virginia Department of Transportation through its Stewardship and Oversight Agreement with the FHWA West Virginia Division Office.

4.1.3 Procedure for granting a minimal use exception from Federal Buy America requirements for the minimal use of steel and iron materials.

4.1.3.1 The Contractor shall submit a letter to the District Construction Engineer requesting a minimal use exception for the use of foreign steel or iron materials. The letter shall demonstrate that the cost of the foreign steel or iron materials to be incorporated into the project do not exceed one-tenth of one percent (0.1 percent) of the total contract cost or $2,500, whichever is greater. Attached to the letter shall be documentation

(e.g., invoices) which demonstrates that the cost of the foreign steel or iron materials requested to be used is the cost of the materials as they are delivered to the project.

4.1.3.2 If the District Construction Engineer determines a minimal use exception is applicable and appropriate, they will respond to the Contractor via letter granting a minimal use exception.

4.1.3.3 All documentation related to the granting of a minimal use exception shall be maintained in the project files.

4.2 Steel Products.

4.2.1 As provided for in Chapter 5A, Article 3 Section 56 of the West Virginia Code, an exception from West Virginia domestic steel preference requirements exists for the minimal use of foreign steel products, when authorized in writing by the director of Purchasing Division, if "The cost for each contract item used does not exceed one tenth of one percent of the total contract cost or $2,500, whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project."

4.2.2 Procedure for granting a minimal use exception from West Virginia domestic steel requirements.

4.2.2.1 The Contractor shall submit a letter to the District Construction Engineer requesting a minimal use exception for the use of foreign steel products. The letter shall demonstrate that the cost of the foreign steel products to be incorporated into the project do not exceed one-tenth of one percent (0.1 percent) of the total contract cost or $2,500, whichever is greater. Attached to the letter shall be documentation (e.g., invoices) which demonstrates that the cost of the foreign steel products requested to be used is the cost of the materials as they are delivered to the project.

4.2.2.2 If the District Construction Engineer determines a minimal use exception is applicable and appropriate, they will draft a letter to the director of Purchasing Division requesting the minimal use exception. The letter shall demonstrate that the cost of the foreign steel products to be incorporated into the project do not exceed one-tenth of one percent (0.1 percent) of the total contract cost or $2,500, whichever is greater. Attached to the letter shall be documentation (e.g., invoices) which demonstrates that the cost of the foreign steel products requested to be used is the cost of the materials as they are delivered to the project.

4.2.2.3 If approved by the director of Purchasing Division, the District Construction Engineer will respond to the Contractor via letter granting a minimal use exception.

4.2.2.4 All documentation related to the granting of a minimal use exception shall be maintained in the project files.

4.3 Construction Materials.

4.3.1 There are currently no minimal use exceptions for Federal Buy America Requirements for Construction Materials.

5. BUY AMERICA WAIVERS

5.1 Steel and Iron Materials.

5.1.1 As provided for in 23 CFR 635.410(c)(1), WVDOH may request a waiver from Federal Buy America requirements for steel and iron materials if: (1) the application of Buy America requirements would be inconsistent with the public interest; or (2) steel and iron materials/products are not produced in the United States in sufficient and reasonably available quantities which are of a satisfactory quality.

5.1.2 A request for a Buy America waiver, accompanied by supporting information, must be submitted in writing to the FHWA West Virginia Division Administrator for consideration.

6. BUY AMERICA MATERIALS

6.1 Attachment 1 includes a sample Certificate of Compliance

6.2 Attachment 2 includes a list of materials and products used in WVDOH construction projects and the applicability of Buy America Requirements.

6.2.1 This materials and products list may be updated by the Director of MCS&T as needed to ensure compliance with Buy America Requirements. Any update to this form will be in accordance with guidance from and through an affirmation process with FHWA.

6.2.2 Attachment 3 includes OMB Memorandum M-22-11, dated April 18, 2022 for additional guidance.

Ronald L. Stanevich, P.E.
Director
Materials Control, Soils & Testing Division

MP 106.10.50 Steward – Materials Control Section
RLS:Bs

ATTACHMENTS

Buy America Certification of Compliance

Acme Manufacturing Company
123 Main Street
Charleston, WV 25302

Customer
Stark Construction Company
413 Kanawha Boulevard
Charleston, WV 25305

Ship Date: 10/31/2022

The below listed materials and products meets all the requirements of all Federal and State Laws for Buy America, including but not limited to: Chapter 5, Article 19 and Chapter 5A, Article 3 Section 56 of the West Virginia Code; 23 U.S.C. 313 Buy America, 23 CFR 635.410 Buy America Requirements, and Build America, Buy America Act, Section 70914. In the event where a supplied material does not meet applicable Buy America Requirements, any payments made for the associated materials shall be returned to the Division.

This Certification of Compliance is for the material and project listed below:

CID: 22000005R1
Federal Number: B-0010(000)X
State Number: U002-00-1.00

Line: 0020	526.003.004 - Widget, Part Qi	500 Cubits
Line: 0025	596.003.004 - Widget, Part Hr	300 Cubits

Jonathan Doe, Quality Assurance Manager

Note: We will create a clean, PDF form for this.

Note: We will create a clean, PDF form for this.

Location of Attachment 1 – M-22-11 – Will attach to final document.
Link to file: https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf

DOH-M-22 WVDOH Buy America Requirement Materials

Material Code	Material Description	CoC Required	Notes
206.003.003.X	Base Reinforcement, Geogrid, Type 1,2	Yes	
211.004.000	Unclassified, Borrow Excavation	No	
211.005.000	Rock Borrow Excavation	No	
212.002.000	Select Material for Backfill	No	
218.003.003	Riprap, Grouted	No	
218.003.006	Slope Protection, Concrete	No	
219.003.000.0X	CLSM -Type A,B,C - Controlled Low Strength Material	No	
311.002.000.X	Free Draining Base Course, Open Graded - Asphalt/Cement	No	
401.002.00X	Asphalt Mix, All Types	No	
405.002.001.X	Type A,B,C - Chip Seal Aggregate	No	
412.002.001	Bituminous Patching Winter Grade	No	
420.001.001	Asphalt, Micro Surfacing	No	
420.002.002.X	Aggregate, 2,3FA, Fine, Micro-Surfacing	No	
494.PSP.001	Asphalt, Cold In-Place Recycled	No	
501.003.001.0X	Concrete, Pavement, All Types	Yes	*1
514.003.000	Concrete, Roller Compacted	Yes	*1
601.003.00X.0X	Concrete, All Classes	No	
601.008.009	Stay-in-Place Fabricated Metal Forms	Yes	
601.PSP.001	Polymer, Fiberglass Reinforced (FRP)	Yes	
601.PSP.002	Epoxy Resign Injection System	Yes	
601.PSP.003	Epoxy Bonding Compound	Yes	
602.002.000.3	Reinforcing Bars, Uncoated Corrosion Resistant Rebar	Yes	
602.007.003	Reinforcing Bars, Splice Connector	Yes	
603.002.000.0X	Concrete Members (All Precast/Prestressed)	Yes	*1
603.006.002.2	Concrete, Class S-P, Self Consolidating	No	
603.PSP.001	Post Tension Rod, Steel	Yes	
604.002.000	Concrete for Pipe Culvert	No	
604.PSP.001	Pipe, Polyethylene Liner	Yes	
605.002.000	ConcreteManholes & Inlets (Precast)	No	
605.002.000.01	Steel, Welded Grates for Inlets	Yes	
605.002.000.0X	Manhole, All Types	Yes	*1
605.002.000.0X	Inlet, All Types	Yes	*1
605.002.000.14	Slot Inlet Riser, Perforated	Yes	
605.002.000.16	Lift Station & Valve Vault	Yes	
607.002.000.01	End Terminal, Flared or Tangent Steel	Yes	
607.002.000.02	Blockout, Polymer	Yes	
607.002.000.03	Blockout, Non Plastic	Yes	
607.PSP.000	High Tension Cable Barrier	Yes	
607.PSP.001	Cable End Terminal	Yes	
609.002.000	Concrete, Sidewalk	Yes	*1
609.002.001	Detectable Warning Surface	Yes	
610.002.000	Asphalt Curb	No	
612.002.001.X	Tunnel Liner, Steel Plate Pipe, 2/4 Flange	Yes	

DOH-M-22 WVDOH Buy America Requirement Materials

Material Code	Material Description	CoC Required	Notes
614.007.000	Lagging, Concrete	No	
615.000.000.01	Steel Superstructure, Truss/Arch	Yes	
615.000.000.02	Steel Superstructure	Yes	
615.000.000.03	Expansion Dam, Steel, Tooth Type	Yes	
615.000.000.04	Expansion Dam, Steel, Strip Seal Type	Yes	
615.000.000.05	Expansion Dam, Steel, Modular Type	Yes	
615.000.000.06	Bearing Assemblies, Steel	Yes	
615.000.000.07	Steel Girders	Yes	
615.000.000.08	Steel Crossframes	Yes	
615.000.000.09	Steel Diaphragms	Yes	
615.003.003	Shear Stud Connector, Steel	Yes	
616.009.000	Piles, Concrete (Precast)	No	
617.004.000	Pipe Railing, Steel	Yes	
617.005.000	Railing, Steel, Ferrous Metal	Yes	
617.006.000	Railing, Aluminum, Pedestrian	Yes	
620.000.000.01	Culvert, Concrete, Reinforced, Cast In Place, All Types	Yes	*1
620.000.000.02	Culvert, Concrete, Three-Sided Structure (Precast)	Yes	*1
620.000.000.03	Culvert, Concrete, Arch-Topped, (Precast)	Yes	*1
620.000.000.04	Culvert, Concrete, Flat-Topped, (Precast)	Yes	*1
620.000.000.05	Culvert, Concrete, Reinforced, Two Piece, (Precast)	Yes	*1
621.002.001	Flooring Steel Grid, Open Type	Yes	
621.002.002	Flooring, Steel Grid, Filled	Yes	
622.001.000	Timber Bridges	Yes	
623.002.000	Shotcrete, Monofilament Polypropylene Fibers for Pneumatically	Yes	
625.004.003	Steel, Casing Pipe for Drilled Caissons	Yes	
625.004.004	CSL (Crosshole Sonic Logging) Testing Tubes for Caissons	Yes	
626.004.003	Retaining Wall, Cast In Place	Yes	*1
626.005.001	Retaining Wall (Precast)	Yes	*1
626.005.001.01	Retaining Wall, MSE, Wall Panels	Yes	*1
626.005.001.02	Retaining Wall, MSE Modular Block	Yes	*1
626.005.001.03	Retaining Wall, MSE Wire Face	Yes	*1
626.005.001.123	Modular Block Sealant	Yes	
626.006.001.3	Retaining Wall, Granular Backfill	Yes	*1
626.006.002	Retaining Wall, Concrete, Cast in Place	Yes	*1
627.PSP.001	Expansion Joint, Foam	No	
631.002.000	Electrical, Miscellaneous	Yes	
632.002.001	Horizontal Drain	Yes	
633.002.000	Gutter, Invert Pipe	Yes	
633.004.000	Gutter, Concrete	No	
633.006.000	Gutter, Dumped Rock	No	
634.002.000	Cribbing, Concrete	Yes	*1
636.002.001.01	Traffic Control Devices	No	

DOH-M-22 WVDOH Buy America Requirement Materials

Material Code	Material Description	CoC Required	Notes
636.002.001.02	Warning Lights	No	
636.002.001.03	Traffic Cones	No	
636.004.000	Dust Palliatives	No	
638.002.000	Survey Marker	Yes	
638.006.000	Outlet Marker	Yes	
642.006.000	Compost Filter Sock	Yes	
645.001.001	Elasticized Expanded Polystyrene - E-EPS	Yes	
645.001.003	Impervious Membrane	Yes	
645.002.001	Soil Reinforcement, Geosynthetic	Yes	
645.002.002	Backfill Material	No	
651.002.000	Topsoil	No	
657.002.001	Supports, Beams	Yes	
657.002.006	Supports, Pipe, Steel	Yes	
657.002.008	Support, Sign, Steel, Anchor Bolt, Roadway	Yes	
657.002.010	Supports, Tubular, Steel	Yes	
657.002.011.1	Supports, Steel, Channel Bar (U Channel)	Yes	
657.002.011.2	Supports, Steel, Breakaway Splice Devices	Yes	
658.002.000	Sign Support, Steel, Overhead	Yes	
658.002.007	Sign Support, Steel, Anchor Bolt O-H	Yes	
661.002.001.1	Signs, Aluminum, Flat Sheet Finished	Yes	
661.002.001.2	Signs, Aluminum, Extruded Panel Finished	Yes	
661.002.001.3	Sign Hardware	Yes	
661.002.015	Delineators, XS1 Bicycle Rail	Yes	
662.002.007.1	Luminaires, Roadway, Area, Underpass, Sign Light	Yes	
662.002.007.2	Signs, Internally Illuminated LED	Yes	
662.002.013.1	Pole, Steel, Lighting Support	Yes	
662.002.013.1.6	Lighting Support, Steel, Anchor Bolt	Yes	
662.002.013.2	Lighting Support, Steel, High Mast Type	Yes	
662.002.013.4	Luminaire Support Arm, Steel, Type 1 & 2	Yes	
662.002.013.5	Luminaire Support Arm, Steel, Type 3	Yes	
662.002.013.6	Lighting Pole, Aluminum	Yes	
662.002.013.7	Luminaire Support Arm, Aluminum	Yes	
662.002.014	Navigation Lighting System	Yes	
667.PSP.000	LED Dynamic Message Sign	Yes	
679.002.002.1	Concrete, Latex Modified	Yes	
679.002.002.2	Concrete, Microsilica	No	
688.005.004	Soluble Salt Removers	No	
689.000.000	Metalizing, Steel Coating	Yes	
690.001.002	Powder Coating of New Galvanized Steel For Signing and Lighti	Yes	
701.001.000.X	Cement, Portland, All Types	No	
701.001.000.7	Cement, Type UHR	No	
701.001.000.8	Cement, Portland, Type 1 Low - Alkali	No	

DOH-M-22 WVDOH Buy America Requirement Materials

Material Code	Material Description	CoC Required	Notes
701.003.000	Cement, Type 1L - Blended Hydraulic	No	
701.004.000	Cement, Masonry	No	
704.00X.00X.0X	Aggregate - All Types/Classes	No	
705.004.000.0X	Asphalt, Emulsion, All Types	No	
705.005.000.0X	Asphalt, Liquid, All Types	No	
705.007.000	Asphalt, Dampproofing and Water-Proofing	No	
705.008.000	Asphalt, Dampproofing and Water-Proofing, Primer	No	
705.011.000.0X	Asphalt, Liquid, All Types	No	
707.001.001	Type M Admixture, Concrete, Air-Entraining	No	
707.002.002.01.1	Type D Admixture, Concrete Water-Reducing And Retarding	No	
707.002.002.01.2	Type G Admixture, Concrete Water-Reducing And Retarding,	No	
707.002.002.01.3	Admixture, Citric Acid (Retarder)	No	
707.003.001.1	Type A Admixture, Concrete, Water-Reducing	No	
707.003.001.2	Type F Admixture, Concrete, Water-Reducing	No	
707.004.001	Fly Ash - SCM, Supplementary Cementitious Material	No	
707.004.002	Slag Cement - SCM, Supplementary Cementitious Material	No	
707.004.003	Silica Fume - SCM, Supplementary Cementitious Material	No	
707.004.004	Natural - SCM, Supplementary Cementitious Material	No	
707.005.000	Admixture, Latex	Yes	
707.006.000	Burlap, Polyethylene Coated	No	
707.007.000	Burlap, Jute or Kenaf	No	
707.008.000	Curing, Concrete, Waterproof Paper	Yes	
707.009.000	Curing, Concrete, Liquid Membrane Compound	Yes	
707.010.000	Curing, Concrete, White Poly Sheeting, F	Yes	
707.011.000	Coating, Epoxy Resin Protection, Type 3, Grades 1 or 2, Class B	Yes	
707.012.002	Sealer, Concrete	Yes	
707.013.001	Type C Admixture, Concrete, Accelerating	No	
707.014.001	Admixture, Concrete, Water-Reducing & Accelerating, Type E	No	
707.015.001	Type D - Admixture, Concrete, Hydration Control Stabilizing	No	
707.016.001	Coating Materials, Concrete Protection	Yes	
707.017.001	Type S Admixture, Concrete, Specialized	No	
707.018.001	Admixture, Concrete, Foaming Agent	No	
708.001.001	Expansion Joint, Cork	No	
708.001.002	Expansion Joint, Bituminous Fiber	No	
708.002.001	Joint Seals, Preformed Elastomeric, Neoprene	Yes	
708.002.002	Expansion Joint, Sponge Rubber	No	
708.003.000	Joint Sealant, Hot-Poured for Concrete and Asphalt Pavements	Yes	
708.004.001.X	Sealant, Silicone Joint, All Types	Yes	
708.004.002	Joint, Back-up Material	No	
708.009.000	Bitumen Sealant, Concrete and Masonary	No	
708.010.001	Waterstops (Elastomer Material), Polyvinylchloride	Yes	
708.010.002	Waterstops (Elastomer Material), Rubber	Yes	

DOH-M-22 WVDOH Buy America Requirement Materials

Material Code	Material Description	CoC Required	Notes
708.PSP.001	Neoprene Sheet for Semi-Integral Abutments	No	
709.000.000	Steel, Miscellaneous	Yes	
709.000.000.0	Welding Electrodes, Piles	Yes	
709.001.000.1	Reinforcing Bar, Steel Rebar	Yes	
709.001.000.2	Reinforcing Bar, Steel, Epoxy Coated, Coaters Rebar	Yes	
709.001.000.3	Epoxy Powders for Rebar	Yes	
709.002.000.1	Reinforcement, 7-Wire Strand, Prestressing	Yes	
709.002.000.2	Reinforcement, Steel Bar, High Strength, Prestressing	Yes	
709.003.000	Bolt, Steel, Wire Mesh, Hook, Expansion	Yes	
709.004.000.1	Wire, Steel, Reinforcement	Yes	
709.004.000.2	Welded Wire, Steel, Reinforcement	Yes	
709.005.000	Pavement Reinforcement, Expanded Metal	Yes	
709.006.000	Bar or Rod Mats, Steel, Fabricated	Yes	
709.007.000	Bolt, Joint Tie Bolt Assembly, (J-Hook)	Yes	
709.008.000	Structural Metal, Steel, High Strength Low Alloy	Yes	
709.010.000.1	Gray Iron Castings	Yes	
709.010.000.2	Iron Castings, Ductile Iron Castings	Yes	
709.012.000.1	Structural and Eyebar, Steel, (Piling)	Yes	
709.012.000.2	Lagging, Steel	Yes	
709.015.000	Dowel Bars and Dowel Baskets, Assemblies, Coated	Yes	
709.017.000	Pipe, Steel, Welded & Seamless	Yes	
709.018.002	Copper Alloy Castings for Name Plates For Bridges	Yes	
709.021.000	Pipe, Steel, Floor Drains & Down-Spouts	Yes	
709.024.002	Bolt,Steel, High Strength A325 / A449	Yes	
709.024.003	Nut, Steel, High Strength	Yes	
709.024.004	Washer, Steel, High Strength	Yes	
709.036.000	Aluminum Alloy, Bolts, Nuts, and Set Screws	Yes	
709.037.000	Aluminum Alloy, Washers	Yes	
709.042.000	Steel, Galvanized Pipe or Tubing for Horiontal Drains	Yes	
709.045.000	Guardrail Posts, Galvanized Steel	Yes	
709.046.000	Post, Braces & Grate Frames, Fence, Steel	Yes	
709.046.000.1	Post, Studded Tee	Yes	
709.050.000	Pile Points, Steel (Piling)	Yes	
709.051.000	Sign Support Surface Mount Bracket, Breakaway Device	Yes	
709.052.000	Sign Support, Omni-Directional Breakaway Device, Steel Beam,	Yes	
709.053.000	Supports, Steel, Tubular	Yes	
709.054.000	Sign Support Back to Back U-Channel, Breakaway Device	Yes	
709.055.000	Sign Support Bracket - Barrier Wall	Yes	
710.002.001	Softwood, Structural	Yes	
710.002.002	Hardwood, Structural	Yes	
710.002.003	Hardwood, Bridge Decking	Yes	
710.002.004	Graded Material	No	

DOH-M-22 WVDOH Buy America Requirement Materials

Material Code	Material Description	CoC Required	Notes
710.003.000	Preservative Treatment	No	
710.004.000	Wood Preservers	Yes	
710.005.000	Post, Wood, Guardrail, Rectangular	Yes	
710.005.000.4	Post, Wood for Fence and Signs	Yes	
710.006.000	Plywood	Yes	*2
710.007.000	Common Lumber	Yes	*2
710.008.000	Poles, Service and Lighting, Wood	Yes	
711.005.000	Concrete Protective Coatings And Stain	Yes	
711.006.000.1	Paint, Zinc Primers, Organic	Yes	
711.006.000.2	Paint, Zinc Primers, Inorganic	Yes	
711.012.000	Paint, Epoxy Coatings	Yes	
711.022.000	Paint, Zinc Rich Low VOC System	Yes	
711.022.003	Paint, Intermediate Coat	Yes	
711.022.004	Paint, Top Coat	Yes	
711.040.000	Paint, Temporary, White, Yellow Traffic	No	
711.041.000.1	Paint, White or Yellow, Fast-Dry Traffic	Yes	
711.041.000.2	Paint, Yellow, Fast-Dry Traffic	Yes	
712.004.000	Guardrail, Fasteners and Anchor Bolts, Stains for Galvanized Ste	Yes	
712.004.001	Guardrail Splice Bolt	Yes	
712.004.002	Guardrail Post Bolt	Yes	
712.004.003	Guardrail Nuts	Yes	
712.004.004	Guardrail Washers	Yes	
712.004.005	Guardrail Beam, Steel	Yes	
712.004.007	Guardrail End, Steel	Yes	
712.005.000	Guardrail, Fasteners and Anchor Bolts, Zinc-Aluminum-Magnesi	Yes	
712.008.001	Fence, Steel, Chain-Link	Yes	
712.009.000.1	Fence, Wire, Steel, Right of Way, Zinc Coated (Galvanized) Clas	Yes	
712.009.000.2	Fence, Wire, Steel, Right of Way, Zinc Coated (Galvanized) Clas	Yes	
712.010.000	Barbed Wire, Coated Steel	Yes	
712.011.000	Fence, Safety	Yes	
713.002.000	Pipe and Pipe Arch, Metallic Coated Corrugated Steel	Yes	
713.003.000	Pipe and Pipe Arch, Asphalt Coated Corrugated Steel	Yes	
713.005.001	Pipe, Fiber Bonded Full Bituminous Coated Steel	Yes	
713.018.000	Box Culvert, Aluminum Alloy Structural Plate	Yes	
713.020.000	Pipe, End Sections for Corrugated Steel Pipe and Pipe Arch	Yes	
713.024.000	Pipe and Pipe Arch, Aluminum Coated Corrugated Steel	Yes	
714.002.000	Pipe, Reinforced Concrete Culvert, Storm Drain & Sewer, Class I	Yes	*1
714.003.000	Pipe, Concrete, Arch, Storm Drain & Sewer	Yes	*1
714.004.000	Pipe, Reinforced Concrete, Eliptical Culvert, Storm Drain & Sew	Yes	*1
714.005.000	Pipe, Perforated Concrete	Yes	*1
714.007.000	Box Culverts, Reinforced Concrete, Precast	Yes	*1
714.008.000	Concrete End Sections	Yes	*1

DOH-M-22 WVDOH Buy America Requirement Materials

Material Code	Material Description	CoC Required	Notes
714.017.000	Pipe, Polypropylene, Dual Wall, 12-60 Inches	Yes	
714.018.000	Pipe, High Density Polyethylene, Steel Reinforced	Yes	
714.019.000.1	3-6 inches Perforated Pipe, High Density Polyethylene, Profile W	Yes	
714.019.000.2	3-10 inches Non Perforated Pipe, High Density Polyethylene, Prc	Yes	
714.019.000.3	12-60 inches Pipe, High Density Polyethylene, Profile Wall	Yes	
714.020.000	Pipe, Perforated Plastic Semicircular	Yes	
714.022.000	Pipe, Polyvinyl Chloride (PVC)	Yes	
714.023.000	Box Culverts, Concrete, Precast Reinforced	Yes	
714.024.000	Pipe, Storm Drain, Non-Asbestos, Fiber-Cement	Yes	
715.001.000	Chloride, Calcium	No	
715.002.000	Chloride, Sodium	No	
715.004.001	Cementitious Materials, PCC Concrete Repair Materials	No	
715.004.002	Non-Cementitious Materials, Concrete Repairs	No	
715.005.000	Cement Grout, Pakaged Dry, Hydraulic, Non-Shrink	No	
715.005.000.1	Plant Produced Grout	No	
715.006.000	Lime, Hydrated	No	
715.007.000	Water for Hydraulic Cement	No	
715.008.000	Fabric, Waterproofing	Yes	
715.009.003.6	Delineator Post, Soil Mounted Plastic	Yes	
715.009.003.7	Delineator Post, Guardrail Mounted Plastic	Yes	
715.009.003.8	Delineator - Type B1	Yes	
715.011.00X	Geotextile - Eng Fabric, All Types	Yes	
715.011.010	Engineering Fabric for Pumped Sediment and Erosion Control (L	Yes	
715.012.000	Concrete, Miscellaneous Uses	No	
715.013.000	Fabric Pads, Preformed	Yes	
715.014.000	Bearing Pads, Elastomeric, Plain & Reinforced	Yes	
715.015.000	Neoprene Sheeting for Miscellaneous Items	Yes	
715.016.000.001	Brick, Clay or Shale, Sewer Brick	No	
715.016.000.002	Brick, Clay or Shale, Building Brick	No	
715.017.000	Brick, Concrete	No	
715.018.000	Concrete Units, Masonry	No	
715.019.000.01	Concrete Units, Manholes and Inlets (Precast) Special	Yes	*1
715.019.000.0X	Manhole, All Types (Precast)	Yes	*1
715.019.000.04	Inlet, All Types	Yes	*1
715.019.000.14	Lift Station & Valve Vault (Precast)	Yes	*1
715.020.000	Precast Concrete Median Barriers (Temporary)	Yes	*1
715.022.000	Precast Concrete Median Barriers (Permanent)	Yes	*1
715.023.000	Gabion Baskets	Yes	*1
715.024.002.X	Matting for Erosion Control, All Types	Yes	
715.025.000	Limestone, Ground Agricultural	No	
715.026.001	Fertilizer, Seeding	No	
715.026.002	Fertilizer, Landscape Planting	No	

DOH-M-22 WVDOH Buy America Requirement Materials

Material Code	Material Description	CoC Required	Notes
715.027.001.1	Mulch, Straw, Seeding	No	
715.027.001.2	Mulch, Wood Cellulose, Seeding	No	
715.027.001.3	Mulch Binder, Chemical, Seeding	No	
715.027.002	Mulch Materials, Landscape Plantings	No	
715.028.000	Seed	No	
715.029.000	Inoculating Bacteria	No	
715.033.000	Vines and Ground Cover Plants	No	
715.034.000	Seedling Plants	No	
715.035.000	Trees and Shrubs	No	
715.036.000	Asphaltum Base Paint for Tree Surgery	No	
715.037.001	Tree Stakes	Yes	
715.037.002	Wire, Guying and Staking Plants	Yes	
715.037.003	Hose, Guying and Staking Plants	No	
715.037.004	Twine, Tying Wrapped Tree Trunks	No	
715.037.005	Tree Wrap	No	
715.037.006	Anti-Desiccant - Emulsion Protective Film	No	
715.038.000	Manhole Steps	Yes	
715.039.000	Elastomeric Gasket & Sealing Material	Yes	
715.040.002	Pavement Preformed Marking Material, Type V	No	
715.040.006.1	Raised Pavement Markers, Type P-2, RPM	Yes	
715.040.006.2	Raised Pavement Marker, Type R-4, RPM	Yes	
715.041.001	Traffic Safety Devices, Attenuating Type V	Yes	
715.041.001.01	Reflective U-Channel Strips	Yes	
715.041.001.02	Channelizer Cones	No	
715.041.00X	Traffic Safety Devices, Attenuating All Types	Yes	
715.042.000.1	Traffic Signal Materials & Equipment	Yes	
715.042.000.2	Traffic Signals, Miscellaneous	Yes	
715.042.005.2	Loops (LPS)	Yes	
715.042.005.3	Closed Circuit Television (PAS-CCTV)	Yes	
715.042.005.4	Pedestrian Detector with Audible	Yes	
715.042.005.5	Radar Advance Digital Detection (RADD)	Yes	
715.042.005.6	Video Detection Cameras (VTDS)	Yes	
715.042.006.2	Signal Sections (V12) (V12P) (G16)	Yes	
715.042.009.1.2	Signal Supports, Mast Arm	Yes	
715.042.009.1.3	Supports, Signal, Video Arm	Yes	
715.042.009.2	Signal Supports, Strain Types C1, C1L, C2 and C2L	Yes	
715.042.009.2.2	Signal Supports, Anchor Bolts	Yes	
715.042.009.3	Signal Support, Wood	Yes	
715.042.009.4.1	Signal Supports, Aluminum, Pedestal E-1	Yes	
715.042.009.4.2	Signal Support, Steel, Pedestal E-2	Yes	
715.042.009.4.3	Signal Support, Steel, Pedestal E-3	Yes	
715.042.010.1	Conduit, Rigid, Type R	Yes	

DOH-M-22 WVDOH Buy America Requirement Materials

Material Code	Material Description	CoC Required	Notes
715.042.010.2	Conduit, Flexible, PVC Cover	Yes	
715.042.010.3	Conduit, Type P (Polyvinyl Chloride)	Yes	
715.042.011.X	Junction Box, All Types, All Duty, Cast in Place	Yes	*1
715.045.000	Bentonite	No	
716.001.001	Random Material	No	
716.001.001.1	Soil	No	
716.001.001.2	Granular Material	No	
716.001.001.3	Shale, Soft	No	
716.001.002	Rock	No	
716.001.003	Shale, Hard	No	
716.001.004	Borrow Material	No	
718.000.000.1	Waterline Items	Yes	
718.000.000.2	Sewerline Items	Yes	
718.001.000	Pipe, Ductile Iron	Yes	
718.005.000	Pipe, Plastic (PVC) Waterline	Yes	
718.007.000	Pipe, Plastic (Polyethylene) Waterline	Yes	
718.009.000	Service Line, Copper	Yes	
718.010.000	Gate Valves	Yes	
718.011.000	Valve Box	Yes	
718.012.000	Pipe, Casing, Water/Sewer	Yes	
718.013.000	Fire Hydrants	Yes	
718.014.000	Meters	Yes	

Note *1 - Only Steel/Iron/Non-Ferrous Components in this Material are Subject to Buy America Requirements

Note *2 - Only if permanently incorporated in the project

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS AND TESTING DIVISION
MATERIALS PROCEDURE

BASIS FOR CHARGES FOR NON-SUBMITTAL OF SAMPLING & TESTING DOCUMENTATION BY THE ESTABLISHED DEADLINE

1. PURPOSE

1.1 To provide a unit cost per test to be assessed to the Contractor when testing documentation or samples are not submitted by the Contractor by the established deadline. Periodic updates of this Attachment shall be the responsibility of the Director of Materials Control, Soils and Testing Division or their designee (Director).

2. SCOPE

2.1 This procedure is applicable to circumstances where a construction item's testing documentation or samples are not submitted by the deadline established in this document. In the case of a general item, this timeframe is seven (7) days from the sampling date. The timeframe for special-case items such as gradations and cylinder breaks is noted in Attachment 1.

2.1.1 All of the following requirements shall be met to meet the above-defined timeframe:

2.1.1.1 Documentation submission includes (A) generating the sample in the Division Approved Sampling and Testing software (SiteManager, AASHTOWare Projects, etc.), (B) entering all data into this system, (C) presenting the data to the District for review and (D) providing all testing documentation.

~~2.1.1.1~~2.1.1.2 The Contractor may request to the Project, in writing a waiver for the requirements of A-D. This must be done before any material is sampled or tested. If approved, the Project will be responsible for entering the testing data.

2.2 The penalty for an infraction as described in Section 2.1 is $700 per test. In the instance where a single test comprises of a prescribed series of sub-tests (typically 5), the cost of each infraction will be the standard rate divided by the total number of required sub-tests. This is only applicable in the certain circumstances as noted in Attachment 1.

2.2.1 This procedure is not limited to tests listed in Attachment 1, but applicable to any material test required by the Standard Specifications and/or Materials Procedures. For this case, the Director will establish the timeframe for the test or may utilize the standard timeframe as described in Section 2.1. The rate shall follow Section 2.2.

3. ABSENT TESTING DOCUMENTATION OR FAILURE TO TEST

3.1 In no case shall this Materials Procedure allow for the acceptance of non-tested material. In the case where no testing was performed, or no documentation was submitted for material, the resolution for the acceptance of the material shall be in accordance with the applicable section(s) of the Standard Specifications and Materials Procedures.

Additionally, and regardless of the outcomes of this resolution, a price assessment in accordance with Attachment 1 shall also be assessed.

_____

Ronald L. Stanevich, PE
Director
Materials Control, Soils & Testing Division

MP 109.00.21 Steward – Materials Control Section
RLS:B
ATTACHMENT

Cost Penalties Per Test

Material Category	Test and Rate	Testing Time Frame (Days)	#Cost/Ea	Cost
Soil and Aggregate	In-Place Density (5 tests)	*T	0.2 (*Rate)	*Rate
	Gradation (Each Test)	14	-	*Rate
	Liquid and Plastic Limits	*T	-	*Rate
	Crushed Particle Analysis	14	-	*Rate
Asphalt	Asphalt Mixture Test	*T	-	*Rate
	In-Field Density Testing	*T	0.2 (*Rate)	*Rate
Chip Seal	Gradation (Each Test)	*T	-	*Rate
Concrete	Abar	14		*Rate
	Optimized Gradation	14		*Rate
	Cylinder Test	35		*Rate
	Rapid Chloride Permeability	*T		*Rate
	Air and Slump (1 test)	*T		*Rate
Grout	Grout Break Report (Each Test)	*T		*Rate
	Grout Strength Report	*T		*Rate
CLSM	Cylinder Test	35		*Rate
	Flow Test	35		*Rate

*T - Standard timeframe as described in Section 2.1

*Rate - Standard rate as described in Section 2.2

#Cost/Ea - Unless there is rate in this column, each infraction results in the full rate

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

MATERIALS PROCEDURE

CRITERIA TO APPROVE PLAIN REINFORCING STEEL BARS USED IN CONCRETE

1. PURPOSE

1.1 To establish procedures for qualifying manufactures of plain steel reinforcing bars acceptable for use on West Virginia Division of Highways (WVDOH) projects.

1.2 To establish a procedure for maintaining a record of such information.

1.3 To establish a procedure for transmitting such information to the WVDOH Personnel and contractors on WVDOH projects.

2. SCOPE

2.1 This procedure shall apply to all manufactures who produce plain uncoated reinforcing steel bars.

3. APPLICABLE DOCUMENTS

3.1 *WVDOH Specifications for Roads and Bridges, Section 709.1*

3.2 *National Transportation Product Evaluation Program "NTPEP"*

3.3 *American Association of State Highway and Transportation Officials "AASHTO" Section M31*

3.4 *WVDOH Form HL-468*

4. ACCEPTANCE PROCEDURE

4.1 With each shipment, of plain rebar material to a WVDOH project, the rebar manufacturer or distributor shall provide shipping documents which contain an Approved Source List (APL) source lab number reflecting materials meeting quality specified by the WVDOH.

5. ACCEPTANCE PROCEDURE (APPROVED SOURCE)

5.1 For a new manufacturer to be considered as an approved source of plain rebar, the manufacturer must comply with the following requirements.

5.2 The manufacturer is to complete form HL-468 attainable from the website: https://transportation.wv.gov/highways/mcst/Pages/newproduct_evaluationprocedure.aspx and submit it to the WVDOH Materials Control, Soils and Testing (MCS&T) division new products email address, indicating intention to be included on the WVDOH APL as an approved source manufacturer of plain rebar.

5.3 The manufacturer is to submit a current certificate indicating membership and compliance with the National Transportation Product Evaluation Program ("NTPEP") requirements for Reinforcing Steel and Wire. Additionally, audits are to be performed at the product manufacturer's facility and encompass a detailed review of the quality management system, production process, and testing capabilities.

5.4 After the NTPEP compliance documents have been evaluated, the Division will conduct quality assurance (QA) sampling at the source to verify compliance to AASHTO M31. This Division QA sampling and testing shall be performed prior to source approval and once a year thereafter. Division QA sampling shall consist of 3 bars with a minimum length of three feet, from 5 separate heats, all sampling shall be unbiased and sampled randomly from the most recent stocks or straight from production. Sampling may also be done from a WVDOH project location, should material be available at the project site.

5.5 If laboratory testing meets or exceeds the requirements of AASHTO M31, the manufacturer will be assigned a seven-digit approved source number and be placed on the APL for plain rebar. This approval will be active for one year.

5.6 If testing outlined in Section 5.4 is performed on material supplied by a manufacturer who is not on the APL, and the testing does not meet the requirements of AASHTO M31, or the manufacturer is not in compliance with NTPEP requirements, the manufacturer will not be added to the APL.

5.6.1 If testing outlined in Section 5.4 is performed on material supplied by a manufacturer who is on the APL, and the testing does not meet the requirements of AASHTO M31, or the manufacturer is not in compliance with NTPEP requirements, the manufacturer will be removed from the APL. Also, any material from that manufacturer that is supplied to WVDOH projects, after the date on which it was determined that the AASHTO M31 or NTPEP requirements were not met, will be rejected from those WVDOH projects.

5.6.2 If the manufacturer informs the WVDOH MCS&T Division in writing that issues causing noncompliance with NTPTP requirements and/or failure to meet the requirements of AASHTO M31 have been resolved, the manufacturer may request a reevaluation of their facility. That reevaluation shall be in accordance with sections 5.2 thru 5.5. If the results of that reevaluation confirm WVDOH requirements have been met, the manufacturer will be added to the APL.

5.7 If a manufacturer is currently listed on the APL for plain rebar, a yearly renewal evaluation of that manufacturer shall be conducted consisting of the above sections 5.3 thru 5.6.

6 DOCUMENTATION REPORT

6.1 The APL for "plain" reinforcing steel bars "rebar" used on WVDOH projects may be updated at any time with the addition of a new manufacturer, or with the removal of a manufacturer.

6.2 A current APL of reinforcing steel bar manufacturers is available accessing the current West Virginia Department of Transportation approved source list website: https://transportation.wv.gov/highways/mcst/Pages/APL_By_Number.aspx

Ronald L. Stanevich, P.E.
Director
Materials Control, Soils and Testing Division

RLS:Hl

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

PROCEDURE FOR EVALUATING PRODUCTS FOR USE IN HIGHWAY CONSTRUCTION

1. SCOPE

1.1 New ~~Products~~ products ~~/ Processes not currently covered by the Standard Specifications or Supplemental Specifications~~ are frequently presented to the Division by various producers or suppliers with a request that they be considered for use in our highway program. ~~In order to~~To facilitate handling of such requests in a uniform and expeditious manner, this Materials Procedure outlines the steps necessary for such product~~/process~~ submittal and evaluation. This Procedure covers the addition of approved submitted products to the Division's Approved Product List (APL).

2. REFERENCE DOCUMENTS

2.1 MP 106.00.03: *Guidelines for Establishing ~~A~~and Maintaining Approved Product Lists of Materials, Systems and Sources.*

~~2.1~~2.2 MP 106.10.50: *WVDOH Buy America Acceptance Guidelines.*

3. PROCEDURE

3.1 Consideration for ~~New~~ new ~~Product~~ product ~~Evaluation~~ evaluation shall be requested through completion by the Producer/Supplier of West Virginia Division of Highways (DOH) Form HL-468, "*Preliminary Information for New Product Evaluation*". Once completed, DOH Form HL-468 shall be submitted to the Materials Control, Soils and Testing Division (MCS&T) via email to the New Products Evaluation email address: DOHNewProducts@wv.gov .

3.1.1 The HL-468 Form can be found on the MCS&T Division's Materials Procedures Webpage[1]. A sample of this form shown in Attachment 1.

3.2 Upon receipt of the completed Form HL-468, the Materials Control, Soils and Testing Division shall distribute to ~~Districts/Divisions and/or other~~ applicable parties for evaluation. This preliminary evaluation shall determine the need/usefulness of the product/process for various DOH applications. ~~Any District/Division having an interest shall respond within fourteen calendar days to MCS&T. Lack of response from Districts/Divisions personnel, shall be indication of "*No Interest*". A further, more detailed review/evaluation of the product may follow if deemed necessary and is detailed in bullet 2.2.2.~~

3.2.1 If the preliminary review indicates that the product may be accepted without further evaluation, the ~~Manufacturer/Supplier shall be notified by MCS&T that no further~~

[1] https://transportation.wv.gov/highways/mcst/Pages/MP-100s.aspx

~~information or testing is warranted~~Product shall be considered accepated and added to the APL.

~~2.2.1.1 Please note that such approvals may result in the need for new policies and guidance such as Standard Specifications, Special Provisions, or Design Directives and creation of such will need to be championed by the interested party and work through the applicable approval processes.~~

3.2.2 If the preliminary review indicates that further research or evaluation is warranted, the Manufacturer/Supplier shall be notified by MCS&T to submit additional types of information. This may include but not be limited to: samples, product specifications, certified test data, or product demonstrations. Product~~/Process demonstrations~~ testing shall be coordinated by the Materials Control Soils and Testing Division with the results of any further testing/evaluation being submitted to all appropriate ~~District/Division personnel for review and comment~~evaluating parties.

~~All comments shall be forwarded to MCS&T within fourteen calendar days. The Manufacturer/Supplier shall be notified by MCS&T of the result of these additional evaluations. Refer to bullets 2.2.1 and 2.2.1.1 if the product is acceptable and approved.~~

3.3 If the ~~review~~ evaluation indicates that the product is not acceptable, the Manufacturer/Supplier shall be notified by MCS&T. The Manufacturer/Supplier shall not ~~be permitted to~~ submit the same product for evaluation during the same calendar year.

~~3.3~~3.4 In the instance where a product has significant approved usage, the Director (or their Designee) of MCS&T may add a product the either a new or existing APL as per MP 106.00.03. If a product is a candidate for being added to the APL in this manner, the Lab Coordinator shall contact the Producer/Supplier prior to the addition of the product to the APL to request completion of the required HL-468.

4. DOCUMENTATION

4.1 The Materials Control, Soils and Testing Division shall maintain a New Product Evaluation listing with the current status of all requests from the time of receipt. This listing shall include the product evaluation report number, which will provide information such as; the product name, the Manufacturer/Supplier, date of initial request, and the final action recommended. This listing will be maintained on the Division's website. Where applicable, product evaluation data will also be submitted for inclusion in the AASHTO Product Evaluation List (APEL).

4.1.1 Additionally MCS&T may evaluate the product/process after one year to determine if the performance or functionality of the product/process meets the desired results, goals or intentions of the DOH. Please note that any such evaluation may result in the product being removed from the New Product Evaluation Listing. This report will be in the form of a Materials Inspection Report (MIR) and this report will remain as part of the new products evaluation listing.

5. BUY AMERICA

5.1 Each HL-468 submission must include whether the product meets the Buy America Build America (BABA) requirements of MP 106.10.50. If the producer/supplier indicates that their product meets the BABA requirements, the company shall produce a signed and notarized certification of compliance (CoC) stating the company's compliance.

5.2 A notarized certificate of compliance shall contain the following information:

5.2.1 Title: Certification of Buy America, Buy America Compliance for Source Approval

5.2.2 The Name, Address and Contact Information for the Company.

5.2.3 The date of the application

5.2.4 A company statement that demonstrates compliance with Buy America and Buy America Build America

5.2.4.1 The statement "In the event where the material delivered to a WVDOH project does not meet these requirements, any payments made for the associated materials shall be returned to the Division."

5.2.5 The name of the material and/or material code reference in the CoC. This material name shall be a clear, common name of the material that is comparable to the AWP Material Name. Part Numbers etc. may also be on the document if the company wishes.

5.2.6 Signature of the Company Quality Assurance Manager (or Equivalent) and date.

5.3 The document must be notarized.

~~4.1.1~~5.4 A sample of this CoC document is provided in Attachment 2.

_____
Ronald L. Stanevich, PE, Director
Materials Control, Soils & Testing Division

MP 106.00.02 Steward – Lab Support Section
RLS:~~Bp~~Bps
ATTACHMENTS

ATTACHMENT 1 - SAMPLE HL-468 FORM (See Excel File - This will likey become a google form)

ATTACHMENT 2: SAMPLE COMPLIANCE FORM

Certification of Buy America, Build America Compliance For Source Approval

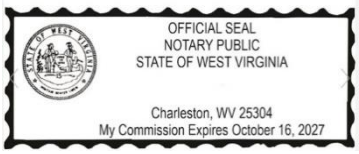
Acme Manufacturing Company
123 Main Street
Charleston, WV
25302

HL 468 Submission Date: 10/31/2022

The below listed material meets all the requirements of all Federal and State Laws for Buy America, Build America, including but not limited to: 23 Chapter 5, Article 19 and Chapter 5A, Article 3 Section 56 of the West Virginia Code, 23 U.S.C. 313 Buy America, 23 CFR 635.410 Buy America Requirements and Buy America, Build America Act, Section 70914. In the event where the material delivered to a WVDOH project does not meet these requirements, any payments made for the associated materials shall be returned to the Division.

This Certification of Compliance is for the material listed below:

526.003.004 - Widget, Part Qi
596.003.004 - Widget, Part Hr



Jonathan Doe, Quality Assurance Manager

WVDOH Use Only

Reviewed by: Reviewed Date: Status:

HL-468-22

WEST VIRGINIA DIVISION OF HIGHWAYS
PRELIMINARY INFORMATION FOR TECHNOLOGY/PRODUCT EVALUATION

1 TRADE NAME _____

MANUFACTURER _____

ADDRESS _____ APPLIED FOR? _____
City State Zip

2 REPRESENTATIVE _____

ADDRESS _____ PHONE _____
City State Zip

3 PRODUCT CATEGORY _____

4 EXISTING MATERIAL CODE: _____

5 BUY AMERICA BUILD AMERICA COMPLIANT? _____ NO _____ YES

5A IF 5 IS YES, SIGNED AND NOTARIZED CERTIFICATE OF COMPLIANCE PROVIDED IN ACCORDANCE WITH MP 106.00.02 _____ YES

6 RECOMMENDED USE - PRIMARY

7 RECOMMENDED USE - ALTERNATE

8 ANY KNOWN OR PROBABLE ADVERSE AFFECT ON PRESENTLY USED OR INSTALLED MATERIALS, STRUCTURES OR EQUIPMENT

9 PLAN DRAWING, PICTURE, OR SKETCH FURNISHED BY MANUFACTURER?

_____ YES _____ NO

10 MEETS REQUIREMENTS OF FOLLOWING SPECIFICATIONS

<-AASHTO <-ASTM <-FHWA <-OTHER

11 APPROVED FOR PROPOSED USE BY HIGHWAY AUTHORITIES OR OTHER AGENCIES IN THE FOLLOWING STATES

12 ARE INSTRUCTIONS OR DIRECTIONS FOR INSTALLATION, APPLICATION OR USE AVAILABLE?

_____ YES _____ NO

COPY ATTACHED: _____ YES _____ NO

13 WILL DEMONSTRATION BE PROVIDED? _____

14 ARE EDUCATIONAL COURSES OR VIDEOS AVAILABLE? _____ YES _____ NO

15 AVAILABILITY SEASONAL _____ NON-SEASONAL _____

DELIVERY AT SITE _____

AFTER RECEIPT OF ORDER.

ARE QUANTITIES LIMITED? _____ YES _____ NO

16 WILL FREE SAMPLE BE FURNISHED? _____ YES _____ NO

17 NEW MARKET? _____ YES _____ NO

ALTERNATE FOR WHICH EXISTING PRODUCT? _____

18 IS PRODUCT GUARANTEED? _____ YES _____ NO

CONDITIONS?

19 BACKGROUND DESCRIPTION OF COMPANY AND ITS PRODUCT

20 ADDITIONAL IMFORMATION

21 THE FOREGOING INFORMATION IS FURNISHED BY

NAME/TITLE: _____

EMAIL ADDRESS: _____

COMPLETED FORMS SHOULD EMAILED TO:
DOHNewProducts@wv.gov

MP 642.40.20
REPLACES MP 712.20.35
ORIGINAL ISSUANCE: NOVEMBER 1985
REISSUED: JANUARY 1995
ISSUED: OCTOBER 2022

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS & TESTING DIVISION

MATERIALS PROCEDURE

ANALYSIS OF WATER

1. ~~PURPOSE~~SCOPE

1.1 The ~~To set forth~~ methods of collection, preservation, and chemical, biological, and physical analysis of water and mixing water used in cement concrete.

~~2. SCOPE~~

1.2 ~~The methods set forth in this procedure shall be used for all water analysis except physical testing of water used in concrete.~~The given methods are the primary test procedures for water analysis.

2. APPLICABLE DOCUMENTS

~~AASHTO (American Association of State Highway and Transportation Officials) T 263 and T 264.~~

~~Standard Methods for the Examination of Water and Wastewater, American Public Health Association.~~

a. MP 715.07.20 - Standard Method of Test for Determining the Quality of Water Used with Hydraulic Cement.

b. AASHTO R23 - Standard Practice for Chemical, Biological, and Physical Analysis of Water, most recent edition.

c. AASHTO R24 - Standard Practice for Collection and Preservation of Water Samples, most recent edition.

d. ASTM C1602 - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete, most recent edition.

e. ASTM C1603 - Standard Test Method for Measurement of Solids in Water, most recent edition.

f. Standard Methods for the Examination of Water and Wastewater, American Public Health Association, most recent edition.

g. ASTM C114 - Standard Test Methods for *Chemical* Analysis of Hydraulic Cement, most recent edition.

3. COLLECTION AND PRESERVATION

3.1 Collection and preservation of water samples shall be conducted by AASHTO ~~T 264.~~R24.

4. CHEMICAL, BIOLOGICAL, AND PHYSICAL ANALYSIS

4.1 The chemical, biological, and physical analysis of water shall be conducted by AASHTO ~~T 263~~R23 ~~with the following exceptions.~~and Standard Methods for the Examination of Water and Wastewater.

4.1.1 Hydrogen Ion Concentration for pH by Electrometric Method, Method 4500-H+.

4.1.2 Argentometric method for Chloride, Method 4500-Cl B.

4.1.3 Gravimetric Method Ignition as SO4 Method 4500-SO4.

4.1.4 Atomic Absorption Method for Sodium and Potassium Method 3500-B.

4.1.5 ASTM C1603 - Standard Test method for Measurement of Solids in Water.

4.1.6 Nitrate Test 418B.

4.1.7 Oil and Grease Test 503A.

4.1.8 Total Kjeldahl Nitrogen Test 420A.

Ron L. Stanevich, P.E.
Director
Materials Control, Soils and Testing Division

RLS:Mpj