

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

MATERIALS PROCEDURE

MATERIAL CERTIFICATIONS GUIDELINES

1. PURPOSE

- 1.1 To set forth procedures for the submittal and acceptance of Materials Certifications also known as MC-8s.
 - 1.2 To provide as an outline for training of employees new to the Materials Certification process.
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2. SCOPE

- 2.1 This will apply to all Materials Certifications done in the State of West Virginia, whether they are federally or non-federally funded, FEMA, or any other designation.
 - 2.2 Though this MP references the use of AASHTOWare SiteManager, ProjectWise, SiteManger Reports, and other agency specific programs, if these programs are supplanted by other programs or are otherwise rendered obsolete, this MP will apply to the equivalent, if applicable in the new programs, pending the update of this MP.
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3. DEFINITIONS

- 3.1 Authorize: This is a SiteManager term that means that the sample has been resolved by the employee entering the sample. An authorized status does not indicate that the sample has pass, failed, or authorized, etc.; acceptance or passing status is shown in the sample status.
- 3.2 DMIR: District Materials Inspection Report.
- 3.3 ST-1: Special Testing Form #1.

4. CERTIFICATION OF MATERIALS

- 4.1 Different materials are accepted by different methods and these methods are often described in detail by various Materials Procedures, Specifications, or Plan Notes etc. The Evidence of Inspection form is available on the [WVDOH MCST Toolbox](#)¹ and is a good starting point for the acceptance method for materials used on projects. All materials are accepted under the general categories:
1. Direct Test
 2. Approved Product List
 3. Direct Coverage
 4. Master Sample
 5. ST-1/DMIR
- 4.2 The body of this MP will generically describe, using specific examples, the certification of materials based on the above-mentioned material acceptance.
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5. APPLICABLE DOCUMENTATIONS FOR THE REVIEW OF MATERIALS ON PROJECTS

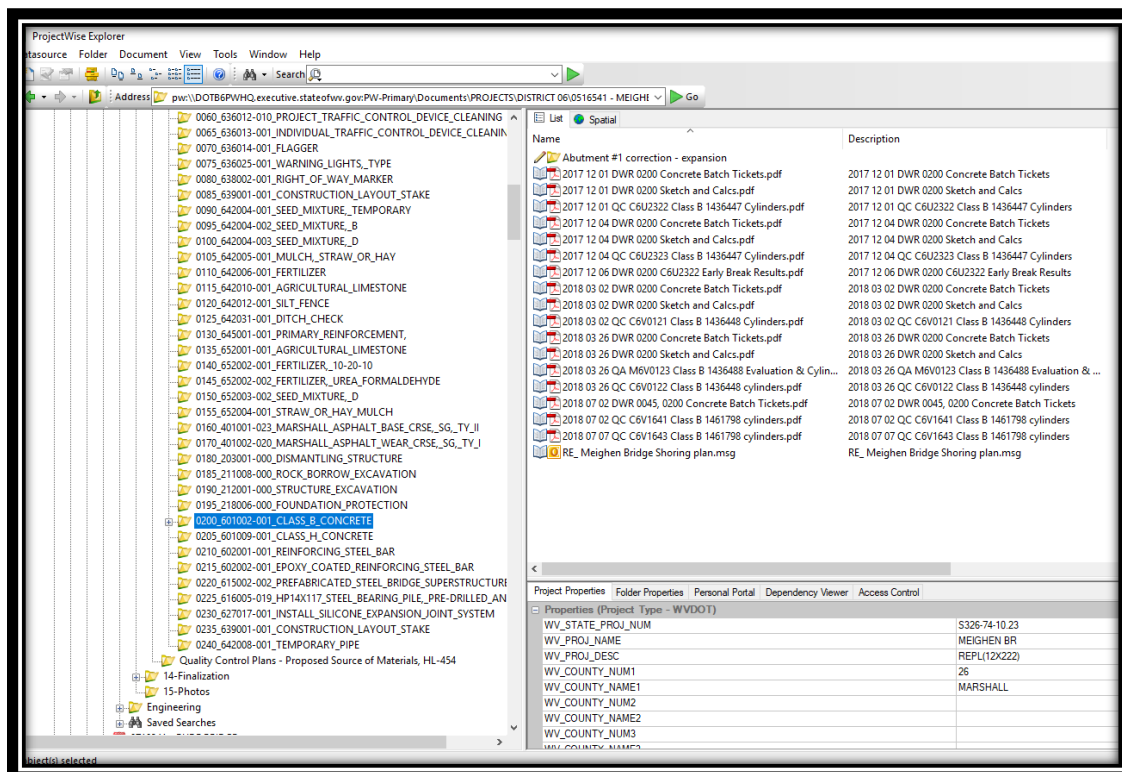
- 5.1 This section provides the list of reports and their role in the certification of materials. The next section demonstrates the generation of these reports.
- 5.2 The Sampling Checklist is the primary reviewing tool for Material Certifications. For smaller and or less convoluted projects, this can be used as the only reviewing report.
- 5.2.1 The Sampling Checklist shows the type of test(s) and or acceptance done, the results, the frequency of sampling performed and the required frequency of sampling. An example of this is show below:

¹ <https://transportation.wv.gov/highways/mcst/Pages/tbox.aspx>

Contract ID: 0516541				West Virginia Department of Transportation		Current As Of: 7/17/2019 2:27:48 PM	
MEIGHEN BRIDGE		Detailed Sampling Checklist					
Project Number	Item Code	Line Item Number	Item Description	Supplemental Description	Current Contract Quantity	Authorized Quantity	Unit
Material Code - Desc				Sample Type - Acceptance Type			
0516541	601002-001	0200	CLASS B CONCRETE		164.000	156.400	CY
601.002.003 - Concrete Class B				Quality Control - Test Results			
Test Method SM601.01a - Concrete				Completed 4	Current Req. 2	Total Expected 2	Frequency 1 / 100
				Conv. Factor 1			
Sample ID	Lab Number	Test Number	Sample Status	Sample Date	Completion Date	Authorized Date	Last Modified Date
B2187861836070741	C6V0121	1	COMP	03/02/2018	04/05/2018	04/05/2018	03/06/2018
B2187861842124731	C6V0122	1	COMP	03/26/2018	04/24/2018	04/24/2018	04/02/2018
B21878617C5092932	C6U2322	1	COMP	12/01/2017	01/02/2018	01/24/2019	12/05/2017
B21878617C5093538	C6U2323	1	COMP	12/04/2017	01/03/2018	04/05/2018	12/05/2017
Special Instructions:				Quality Assurance - Test Results			
601.002.003 - Concrete Class B				Completed 1	Current Req. 1	Total Expected 1	Frequency 1 / 1000
Test Method SM601.01a - Concrete				Conv. Factor 1			
Sample ID	Lab Number	Test Number	Sample Status	Sample Date	Completion Date	Authorized Date	Last Modified Date
B2187861842125644	M6V0123	1	COMP	03/26/2018	05/11/2018	03/15/2019	04/02/2018
Special Instructions:							

Figure 5.1

5.2.2 The Sampling Checklist provides a guideline for the reviewer to check the corresponding ProjectWise project folder for each item. An example of the ProjectWise Folder for this Class B Concrete example above is shown next:



- 5.3 Other reports may be utilized in addition to the Sampling Checklist but not in lieu. One example, the E440 Report, will help to separate out quantities, date placed, date tested etc. This gives more details on the Sampling Checklist which provides a total quantity and test resolutions. An example of a E440 Report is shown next:

E440 Report

Contract ID: 0608202R1
Auth No: SM7951C
Percent Complete: 96.2%
DWR Date Range: 04/13/2015 To 05/05/2016

State Project #: S350-36/3-1.17 00
Federal Project #:
Location: Effie Composite Bridge Replacement

(DWR's)

DWR Date	Inspector User Id	Location Installed Description	Plan Quantity	+	CO Quantity	=	Revised Plan Quantity	Installed Quantity
			102.00		0.40		102.40	
Line / Item Number: 0160 / 218006-000 FOUNDATION PROTECTION								
08/11/2015	B984649	Effie Bridge						102.400
							Line 0160 Totals:	102.400
			176.00		-176.00		0.00	
Line / Item Number: 0165 / 601002-001 CLASS B CONCRETE								
05/07/2015	B984649	Effie Bridge						10.290
05/19/2015	B984649	Effie Bridge						11.280
05/29/2015	B984649	Effie Bridge						13.390
06/04/2015	B984649	Effie Bridge12						19.690
06/12/2015	B984649	Effie Bridge						13.270
06/18/2015	B984649	Effie Bridge						14.370
07/06/2015	B984649	Effie Bridge						39.820
10/09/2015	B902569	project						-122.110
							Line 0165 Totals:	0.000

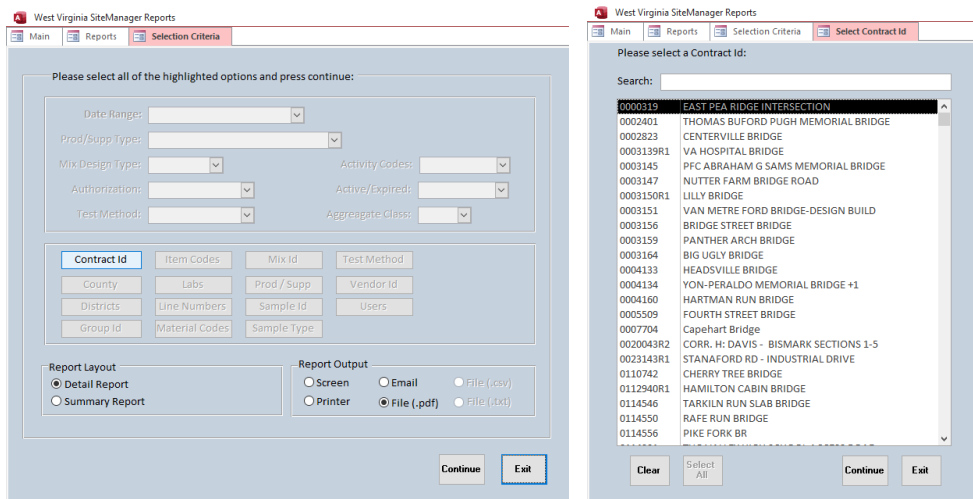
Thursday, March 12, 2020
Page 10 of 20

6. GENERATING PROJECT TRACKING REPORTS

- 6.1 Reports are generated by using “West Virginia SiteManager Reports” through Microsoft Access. This needs to be setup by system administration. This section goes through the steps to generate both the Sampling Checklist and the E440 report.
- 6.2 The path for generating a sampling checklist is as follows: Materials -> Sample Reports -> Sampling Checklist (Figures 6.1 and 6.2). From here (Figure 6.3), select Contract ID and input the Sample ID (Figure 6.4). Hit Continue and continue back onto the Sampling Checklist Screen. Be sure to select the radio box for “File (.pdf)” and hit continue. This will generate the PDF file which will appear in your “documents” folder and will also open on your screen.



Figures 6.1 and 6.2



Figures 6.3 and 6.4

- 6.3 The E440 report is generated in the same manor, using the following path: Materials
-> Sample Reports -> E440 Report.

7. GENERAL REJECTION REASONS

- 7.1 The following (though not limited to these) issues will result in a rejection:
- (1) Illegible or otherwise unreadable documentation.
 - (2) Any discrepancy on the sampling checklist.
 - (3) Any unresolved material failures.
 - (4) Key Dates are not entered correctly (Showing 00/00/00).
 - (5) Lab numbers do not match approved product list or item is not on the approved product list.
 - (6) DMIRs have not been approved
 - (7) Money has not been taken off the contract for price reductions or DMIRs
 - (8) Quantities tested must be equivalent to or greater than material paid.
 - (9) Documents are not filed in the District Org folders to show A-bar for concrete and asphalt mix tests have been ran for materials shipped.
 - (10) There is a pending change order, which relates to a price penalty for materials.

8. DIRECT TEST

- 8.1 A direct test is the acceptance of a material based on a test that is performed on the material. For example, Section 601 of the Standard Specifications discusses the acceptance of Portland Cement Concrete. Air content, slump and compressive strength are all examples of direct tests performed in the field.
- 8.2 There are many other direct tests. For details on a specific test, refer to the Standard Specifications and if applicable, the MP.
- 8.2.1 Reviewing the Sampling Check List, check that each material was sampled to meet or exceed the required frequency. Confirm that each sample was completed, authorized and any failure(s) were resolved.
- 8.2.2 The testing documentation should be in ProjectWise under the applicable line item number.

8.3 An example of a Direct Test is shown below:

Contract ID: 0516541 MEIGHEN BRIDGE		 West Virginia Department of Transportation <i>Detailed Sampling Checklist</i>		Current As Of: 7/17/2019 2:27:48 PM				
Project Number	Item Code	Line Item Number	Item Description	Supplemental Description	Current Contract Quantity	Authorized Quantity	Unit	
Material Code - Desc			Sample Type - Acceptance Type					
0516541	601002-001	0200	CLASS B CONCRETE		164.000	156.400	CY	
601.002.003 - Concrete Class B								
Quality Control - Test Results								
Test Method		Completed	Current Req.	Total Expected	Frequency	Conv. Factor		
SM601.01a - Concrete		4	2	2	1 / 100	1		
Sample ID	Lab Number	Test Number	Sample Status	Sample Date	Completion Date	Authorized Date	Last Modified Date	Authorized By
B2187861836070741	C6V0121	1	COMP	03/02/2018	04/05/2018	04/05/2018	03/06/2018	B314039
B2187861842124731	C6V0122	1	COMP	03/26/2018	04/24/2018	04/24/2018	04/02/2018	B314039
B21878617C5092932	C6U2322	1	COMP	12/01/2017	01/02/2018	01/24/2019	12/05/2017	B314039
B21878617C5093538	C6U2323	1	COMP	12/04/2017	01/03/2018	04/05/2018	12/05/2017	B314039
Special Instructions:								
601.002.003 - Concrete Class B								
Quality Assurance - Test Results								
Test Method		Completed	Current Req.	Total Expected	Frequency	Conv. Factor		
SM601.01a - Concrete		1	1	1	1 / 1000	1		
Sample ID	Lab Number	Test Number	Sample Status	Sample Date	Completion Date	Authorized Date	Last Modified Date	Authorized By
B2187861842125644	M6V0123	1	COMP	03/26/2018	05/11/2018	03/15/2019	04/02/2018	B314039
Special Instructions:								

9. DIRECT COVERAGE

- 9.1 This type of coverage is provided directly by MCS&T or their designee. A prestressed box beam is an example of this type of coverage. The Director of MCS&T's designee, whether it be state employee or consultant will approve the material as per applicable MPs and assign a lab number to this coverage.
- 9.2 The lab sample shall be authorized in SiteManager and additional information about this approval may, but not is required to be provided.
- 9.3 An example of a direct coverage sample on the sampling checklist is provided below:

Contract ID: 0114546 TARKILN RUN SLAB BRIDGE		 West Virginia Department of Transportation <i>Detailed Sampling Checklist</i>		Current As Of: 5/8/2019 10:05:17 AM				
Project Number	Item Code	Line Item Number	Item Description	Supplemental Description	Current Contract Quantity	Authorized Quantity	Unit	
Material Code - Desc			Sample Type - Acceptance Type					
0114546	620001-001	0285	PRECAST REINFORCED CONCRETE ARCH-TOPPED BRIDGE/CULVERT,		120.000	120.000	LF	
620.002.002 - Culvrt Prcst Arch			Direct Coverage - Certificate/Invoice					
Test Method			Completed	Current Req.	Total Expected	Frequency	Conv. Factor	
SM106.05 - Plant Inspection, Concrete			1	1	1	1 / 999999	1	
Sample ID	Lab Number	Test Number	Sample Status	Sample Date	Completion Date	Authorized Date	Last Modified Date	Authorized By
E02405117BE133201	1461363	1	CNTR	10/27/2017	06/28/2018	07/03/2018	06/29/2018	E024051
Special Instructions:								
0114546	620004-001	0290	WINGWALL FOR CONCRETE CULVERT		4.000	4.000	EA	
603.002.028 - Con Wng Prcst Rnfld			Direct Coverage - Certificate/Invoice					
Test Method			Completed	Current Req.	Total Expected	Frequency	Conv. Factor	
SM600.01 - Precast Concrete Final Inspection			1	1	1	1 / 999999	1	
Sample ID	Lab Number	Test Number	Sample Status	Sample Date	Completion Date	Authorized Date	Last Modified Date	Authorized By
E024051185H094049	1461363	1	CNTR	10/27/2017	05/17/2018	06/29/2018	05/17/2018	E024051
Special Instructions:								
0114546	636023-001	9010	TEMPORARY TRAFFIC SIGNAL		1.000	1.000	LS	
715.009.002 - Traffic Signals Misc			Approved Source - Certificate/Invoice					
Test Method			Completed	Current Req.	Total Expected	Frequency	Conv. Factor	
SM106.25 - Approved Source Verification			1	1	1	1 / 999999	1	
Sample ID	Lab Number	Test Number	Sample Status	Sample Date	Completion Date	Authorized Date	Last Modified Date	Authorized By
B5146111931105909	1392834	1	CNTR	03/01/2019	03/01/2019	03/01/2019	03/01/2019	B931220
Special Instructions:								

Wednesday, May 08, 2019 Page 24 of 24

10. MASTER COVERAGE

- 10.1 This type of coverage is provided directly by MCS&T or their designee and is similar to Direct Coverage. The Director of MCS&T's designee, whether it be state employee or consultant will approve a lot of material as per applicable MPs and assign a lab number to this lot of coverage.
- 10.1.1 Districts request MCS&T to use this material and coverage is provided from this lot by MCS&T. For example, 100 pieces of lagging may be approved. A District may request 30 of these pieces. This leaves another 70 pieces of material to be requested by another District or project etc.

10.2 The lab sample shall be authorized in SiteManager and additional information about this approval may, but it not required to be provided.

10.3 An example of a Master Sample on the sampling checklist is provided below:

Contract ID: 1701729 FLATWOODS-HEATERS ROAD SLIDE		 West Virginia Department of Transportation Detailed Sampling Checklist		Current As Of: 10/24/2018 8:35:37 PM	
Project Number	Line Item Number	Item Description	Supplemental Description	Current Contract Quantity	Authorized Quantity
Material Code - Desc			Sample Type - Acceptance Type		Unit
1701729	614001-004 0035	HP10X57 STEEL PILE		801.970	801.970 LF
711.012.001 - Epoxy Mastic		Approved Source - Certificate/Invoice			
<u>Test Method</u>		<u>Completed</u>	<u>Current Req.</u>	<u>Total Expected</u>	<u>Frequency</u>
SM106.25 - Approved Source Verification		1	1	1	1 / 999999
<u>Sample ID</u>	<u>Lab Number</u>	<u>Test Number</u>	<u>Sample Status</u>	<u>Sample Date</u>	<u>Completion Date</u>
E073653181101647	1425213A	1	CNTR	01/18/2018	01/18/2018
				<u>Authorized Date</u>	<u>Last Modified Date</u>
				10/16/2018	01/18/2018
					<u>Authorized By</u>
					B396989
Special Instructions:					
1701729	614003-001 0040	CONCRETE LAGGING, THICKNESS 8"		931.700	931.700 SF
614.002.003 - Lagging, Concrete		Master Sample - Certificate/Invoice			
<u>Test Method</u>		<u>Completed</u>	<u>Current Req.</u>	<u>Total Expected</u>	<u>Frequency</u>
SM600.01 - Precast Concrete Final Inspection		1	1	1	1 / 999999
<u>Sample ID</u>	<u>Lab Number</u>	<u>Test Number</u>	<u>Sample Status</u>	<u>Sample Date</u>	<u>Completion Date</u>
B688656168H081934	1458040	1	CNTR	08/17/2016	08/17/2016
				<u>Authorized Date</u>	<u>Last Modified Date</u>
				01/19/2018	01/19/2018
					<u>Authorized By</u>
					B517368
Special Instructions:					
1701729	636008-002 0045	TEMPORARY PAVEMENT MARKING- PAINT 6 IN	SOLID LINE	519.000	519.000 LF
711.040.001 - Paint,Temp W/Y Traff		Quality Assurance - District - Test Results			
<u>Test Method</u>		<u>Completed</u>	<u>Current Req.</u>	<u>Total Expected</u>	<u>Frequency</u>
SM711.07 - Retroreflectivity			0	0	0 / 999999
					<u>Conv. Factor</u>
					1
Special Instructions: no record of paint testing					

11. ST-1/DMIR DOCUMENTATION

- 11.1 If there is no other method for testing a material, or in the rare case, the material does not meet the specifications, the District may choose to accept the material using an ST-1 or DMIR.
- 11.2 ST-1s should be reviewed and authorized² by the Director of MCS&T or their designee.
- 11.3 A DMIR should be reviewed by the Director of MCS&T or their designee.
- 11.4 An example of a ST-1 Sample on the sampling checklist is provided below:

Contract ID: 1605302 D4 REIMBURSABLE GUARDRAIL		 West Virginia Department of Transportation <i>Detailed Sampling Checklist</i>		Current As Of: 9/10/2019 10:37:29 AM			
Project Number	Item Code	Line Item Number	Item Description	Supplemental Description	Current Contract Quantity	Authorized Quantity	Unit
Material Code - Desc			Sample Type - Acceptance Type				
1605302	607070-103	0205	3/4 INCH CABLE	(MANUFACTURER SPECIFIED)	1,000.000	20.000	LF
709.011.001 - Steel, Misc.			Project Specific - Concurrence				
<u>Test Method</u>			<u>Completed</u>	<u>Current Req.</u>	<u>Total Expected</u>	<u>Frequency</u>	<u>Conv. Factor</u>
SM106.27 - Special Acceptance Material (ST-1)			0	0	0 / 0	1	
Special Instructions:							
1605302	607070-104	0210	CABLE SPLICE	(MANUFACTURER SPECIFIED)	10.000	8.000	EA
709.011.001 - Steel, Misc.			Project Specific - Concurrence				
<u>Test Method</u>			<u>Completed</u>	<u>Current Req.</u>	<u>Total Expected</u>	<u>Frequency</u>	<u>Conv. Factor</u>
SM106.27 - Special Acceptance Material (ST-1)			0	0	0 / 0	1	
Special Instructions:							
1605302	607070-109	0215	CABLE TENSIONING	(MANUFACTURER SPECIFIED)	100.000	6.000	EA
709.011.001 - Steel, Misc.			Project Specific - Concurrence				
<u>Test Method</u>			<u>Completed</u>	<u>Current Req.</u>	<u>Total Expected</u>	<u>Frequency</u>	<u>Conv. Factor</u>
SM106.27 - Special Acceptance Material (ST-1)			0	0	0 / 0	1	
Special Instructions:							
1605302	607070-112	0220	ANCHOR POST,	(NUCOR)	15.000		EA
709.011.001 - Steel, Misc.			Approved Source - Certificate/Invoice				
<u>Test Method</u>			<u>Completed</u>	<u>Current Req.</u>	<u>Total Expected</u>	<u>Frequency</u>	<u>Conv. Factor</u>
SM106.25 - Approved Source Verification			0	0	0 / 0	1	
Special Instructions:							
Tuesday, September 10, 2019				Page 17 of 22			

² As defined earlier, "authorized" does not imply approval, it is the Site Manger term for indicating that the sample has been resolved.

11.5 An example of a DMIR Sample on the sampling checklist is provided below:

Contract ID: 1534111R1 HEDGESVILLE ROAD		 West Virginia Department of Transportation Detailed Sampling Checklist		Current As Of: 5/20/2020 8:23:57 AM				
Project Number	Item Code	Line Item Number	Item Description	Supplemental Description	Current Contract Quantity	Authorized Quantity	Unit	
Material Code - Desc			Sample Type - Acceptance Type					
1534111	506001-003	0030	CONCRETE PAVEMENT REPAIR, TYPE I, THICKNESS,	8"	4,210.700	4,210.700	SY	
900.004.001 - MIR, District			Documentation - Concurrence					
Test Method			Completed	Current Req.	Total Expected	Frequency	Conv. Factor	
SM106.02 - Materials Inspection Report, District			6	1	1	1 / 999999	1	
Sample ID	Lab Number	Test Number	Sample Status	Sample Date	Completion Date	Authorized Date	Last Modified Date	Authorized By
A06623118AM080934	M5M9820	1	CNTR	10/16/2018	10/22/2018	01/08/2019	10/22/2018	A095289
A06623118AM080801	M5M9819	1	CNTR	10/16/2018	10/22/2018	01/08/2019	10/22/2018	A095289
A06623118AM080610	M5M9818	1	CNTR	10/16/2018	10/22/2018	01/08/2019	10/22/2018	A095289
A06623118AM080434	M5M9817	1	CNTR	10/16/2018	10/22/2018	01/08/2019	10/22/2018	A095289
A06623118AM080146	M5M9816	1	CNTR	10/16/2018	10/22/2018	01/08/2019	10/22/2018	A095289
A06623118AM075023	M5M9815	1	CNTR	10/16/2018	10/22/2018	01/08/2019	10/22/2018	A095289
Special Instructions: DMIR District. M5M9815, M5M9816, M5M9817, M5M9818, M5M9819, M5M9820.								

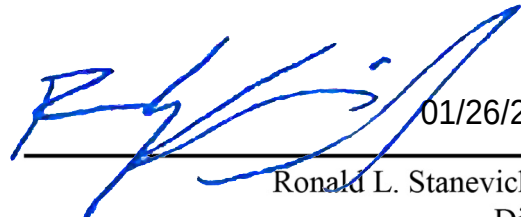
12. SUBMISSION OF MATERIAL CERTIFICATION

- 12.1 The live Material Certification Form is available as a fillable pdf file on the [Division Webpage](https://transportation.wv.gov/highways/mcst/Pages/tbox.aspx)³. This form shall be completed with all the listed information pertaining to the contract. All required fields must be filled before submitting to MCS&T.
- 12.1.1 The District must electronically send the fillable PDF form. This cannot be hand-written and scanned.
- 12.2 The Material Certification shall be submitted by the District Materials Supervisor. As directed in this MP, all required documentation shall be included in the submission.
- 12.3 The Material Certification shall be sent to the mailbox: (DOH.MC8@wv.gov).

³ <https://transportation.wv.gov/highways/mcst/Pages/tbox.aspx>

- 12.4 Upon receipt of the Material Certification, MCST will notify the submitter that the submission has been received. The Material Certifications shall be logged and processed in the order that they are received. If the subject materials meets the requirements, MCS&T will issue a Letter of Material Certification.
- 12.5 If the submission does not meet the requirements, the reviewer will mark the contract material certification key date as rejected and notify the District. MCS&T will create and send the requirements punch list to the District for review. Once the punch list has been completed by the District, they will resubmit the Material Certification for review. If the revised submission meets the requirements, MCS&T will issue a Letter of Material Certification.

RLS:Bc


01/26/2022

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