



Appendix D – Frequency Guide, Construction Phases

Material Quality Assurance Processes

Aggregate Materials, Controlled Mixtures

Project Construction

Material Verification for SATD Materials			Material Verification
Project Engineer to verify load ticket for correct JMF.	1 per	1	Placement Day
Project Site Testing			Material Sampling and Testing
Compaction and Moisture analysis performed by Project Engineer. Submit compaction report to MMD for clearance.	1 per	1	Placement Day
	2 per	2	Lane Mile per Lift

Aggregate Materials, Crushed Gradations

Material Production

SATD Material Review			Material Certification for Project Usage
Material to be sampled as Common Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling. 35 LBS in a Soils Bag	1 per	1	Prior to Usage on Project
Material to be sampled as Capping Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling. 35 LBS in a Soils Bag	2 per	1	Prior to Usage on Project
Material to be sampled as Modified Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling. 35 LBS in a Soils Bag	2 per	1	Prior to Usage on Project
Material to be sampled as Select Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling. 35 LBS in a Soils Bag	2 per	1	Prior to Usage on Project

Project Construction

Material Verification for SATD Materials			Material Verification
Project Engineer to verify material product, submit Form 14.	1 per	1	Placement Day
Project Engineer to submit verification samples of Common Borrow material. 35 LBS in a Soils Bag	1 per	15000	Cubic Yard
Project Engineer to submit verification samples of Modified Borrow material. 35 LBS in a Soils Bag	1 per	15000	Cubic Yard
Project Engineer to submit verification samples of material of Select Borrow. 35 LBS in a Soils Bag	1 per	15000	Cubic Yard
Project Site Testing			Material Sampling and Testing

Material Quality Assurance Processes

<p>Compaction and Moisture analysis of Common Borrow to be performed by Project Engineer. Submit Compaction report to MMD for clearance.</p> <p>35 LBS in a Soils Bag</p>	<p>4 per 1</p> <p>1 per 2000</p>	<p>Lane Mile per Lift</p> <p>Cubic Yard</p>
<p>Compaction and Moisture analysis of Capping Borrow to be performed by Project Engineer. Submit Compaction report to MMD for clearance.</p> <p>35 LBS in a Soils Bag</p>	<p>4 per 1</p> <p>1 per 2000</p>	<p>Lane Mile per Lift</p> <p>Cubic Yard</p>
<p>Compaction and Moisture analysis of Modified Borrow to be performed by Project Engineer. Submit Compaction report to MMD for clearance.</p> <p>35 LBS. in a Soils Bag</p>	<p>4 per 1</p> <p>1 per 2000</p>	<p>Lane Mile per Lift</p> <p>Cubic Yard</p>
<p>Compaction and Moisture analysis of Select Borrow to be performed by Project Engineer. Submit Compaction report to MMD for clearance.</p> <p>35 LBS in a Soils Bag</p>	<p>4 per 1</p> <p>1 per 2000</p>	<p>Lane Mile per Lift</p> <p>Cubic Yard</p>
<p>Compaction and Moisture analysis of Select Borrow for Trench Backfill to be performed by Project Engineer. Submit Compaction report to MMD for clearance.</p>	<p>1 per 150</p>	<p>Linear Feet per 3 Foot Lift</p>

Aggregate Materials, Other Stone and Sand

Project Construction

Material Verification for SATD Materials	<i>Material Verification</i>		
<p>Project Engineer to verify material, Submit form 14 for clearance</p>	<p>1 per 1</p>	<p>Item Completion</p>	

Aggregate Materials, Recycled PCC Gradations

Material Production

SATD Certification Review	<i>Material Certification for Project Usage</i>		
<p>Material Certification to be provided by material supplier during facility visit.</p>	<p>1 per 1</p>	<p>Prior to Usage on Project</p>	

SATD Material Review	<i>Material Certification for Project Usage</i>		
<p>Material to be sampled as Common Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling.</p> <p>35 LBS in a Soils Bag</p>	<p>2 per 1</p>	<p>Prior to Usage on Project</p>	
<p>Material to be sampled as Modified Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling.</p> <p>35 LBS in a Soils Bag</p>	<p>2 per 1</p>	<p>Prior to Usage on Project</p>	
<p>Material to be sampled as Select Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling.</p> <p>35 LBS in a Soils Bag</p>	<p>2 per 1</p>	<p>Prior to Usage on Project</p>	

Project Construction

Project Sampling and Lab Testing of SATD Material	<i>Material Verification</i>		
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Material Quality Assurance Processes

Project Engineer to submit verification samples of Common Borrow material. 1 per 15000 Cubic Yard

35 LBS in a Soils Bag

Project Engineer to submit verification samples of material of Modified Borrow. 1 per 15000 Cubic Yard

35 LBS in a Soils Bag

Project Engineer to submit verification samples of Select Borrow material. 1 per 15000 Cubic Yard

35 LBS in a Soils Bag

Project Site Testing *Material Sampling and Testing*

Project Engineer to verify pH of placed recycled materials. 1 per 1 Project Completion

Project Engineer to verify pH of placed material, and perform Compaction and Moisture analysis of Common Borrow. Submit Compaction report to MMD for clearance. 4 per 1 Lane Mile per Lift
1 per 2000 Cubic Yard

Project Engineer to verify pH of placed recycled material, and perform Compaction and Moisture analysis of Modified Borrow. 4 per 1 Lane Mile per Lift
1 per 2000 Cubic Yard

Project Engineer to verify pH of placed material, and perform Compaction and Moisture analysis of Select Borrow. Submit Compaction report to MMD for clearance. 4 per 1 Lane Mile per Lift
1 per 2000 Cubic Yard

Asphalt Mixtures

Material Production

Notification of Production for ATD materials *Production Notification*

Producer to notify the Asphalt Technology Division 1 day prior to production. 1 per 1 Placement Day

Project Construction

Core Sampling for Asphalt Mix Density Analysis *Material Sampling and Testing*

Project Engineer shall verify that the contractor takes QC and QA Density Cores at random locations in the pavement. (1 Sample = 5 Cores Min. See Material QA Manual for more information) 2 per 1 Production Day

1 Sample = 5 - 6" Dia. Cores (min)

Density Gauge testing for Patches or Small Quantities *Material Sampling and Testing*

Patch density measured at random locations with an asphalt density gauge, recorded on a Form 73-1P and submitted to OMT. See specification 505.03.14 for additional details. 1 per 1 Lift of each Patch

2 Readings per test

Box Sampling for Asphalt Mixture *Material Sampling and Testing*

Material Quality Assurance Processes

Project Engineer shall verify that the contractor takes QC and QA Mix Box at random intervals during placement of asphalt mixture.

2	per	1000	Ton
2	per	1	Production Day

1 Sample = 1-50 LB Box (2-50 LB for 25.0mm Mix, 2-50 LB for 37.5mm Mix)

Box Sampling for Patches or Small Daily Quantities of Asphalt Mixture Material Sampling and Testing

Project Engineer shall verify that the contractor takes QC and QA Box Samples at random intervals at least once per mix for every 1000 tons or once per mix weekly, whichever yields the greater frequency. See 505.03.12 for additional details.

2	per	5	Placement Day
2	per	1000	Ton

1 Sample = 1-50 LB Box (2-50 LB for 25.0mm Mix, 2-50 LB for 37.5mm Mix)

Asphalt Mix Density Pay Factor Analysis Sample Analysis

Density QA and QC results are to be processed by the Asphalt Technology Division to develop a recommended "Density Pay Factor".

1	per	1	Sample Set
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Asphalt Mix Pay Factor Analysis Sample Analysis

Mixture QA and QC results are to be processed by the Asphalt Technology Division to develop a recommended "Mixture Pay Factor".

1	per	1	Project Completion
1	per	6000	Ton

Evaluation of Pavement Surface Profile Project Wide Testing

Surface profiling will be completed as indicated in Section 535 of the Special Provisions.

1	per	1	Item Completion
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Cement Materials and Bagged Mixtures, Group 1

Project Construction

CTD Material Verification Material Verification

Project Engineer to collect certifications (TC 1.03 w/o test data) and submit to OMT for clearance.

1	per	1	Delivery to Project
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Cement Materials and Bagged Mixtures, Group 2

Material Production

CTD Material Review and Acceptance Material Certification for Project Usage

Submit sample of material accompanied by a Form 88 and Material certification (1.03 w/o test data) to OMT for job specific approval.

1	per	1	Prior to Usage on Project
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1 Factory Sealed Container in a Factory Sealed Container

Project Construction

CTD Material Verification Material Verification

Project Engineer to collect certifications (TC 1.03 w/o test data) and a material sample. Submit to OMT for verification and clearance

1	per	1	Delivery to Project
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Cement Materials and Bagged Mixtures, Group 3

Material Production

Material Quality Assurance Processes

CTD Material Review and Acceptance *Material Certification for Project Usage*

Submit Form 88 and Material Certification (1.03 w/o test data) to OMT for job specific approval. 1 per 1 Prior to Usage on Project

Project Construction

CTD Material Verification *Material Verification*

Project Engineer to verify approval stamp. 1 per 1 Delivery to Project

Compost Materials

Project Construction

LPD Material Verification *Material Verification*

Project Engineer to verify LPD or MDE approval stamp. 1 per 1 Delivery to Project

Concrete Deck Protection

Project Construction

CTD Material Verification *Material Verification*

Project Engineer to collect certifications (TC 1.03 w/o test data) and submit to OMT for clearance. 1 per 1 Delivery to Project

Contract Specified Material Systems

Project Construction

LPD Material/Product verification *Material Verification*

Project Engineer to collect manufacturers certification (TC 1.03 w/o test results) and fill out Form 14 indicating material was placed in accordance with documents. Submit certification and Form 14 to OMT for clearance. 1 per 1 Item Completion

Curing Compounds (Liquid Membrane)

Project Construction

CTD Material Verification *Material Verification*

Project Engineer to collect certifications (TC 1.03 w/ test data) and submit to OMT for clearance. 1 per 1 Delivery to Project

Decorative Concrete Finish, Horizontal Surface

Project Construction

CTD Material Verification *Material Verification*

Project Engineer to inspect placed materials and submit Form 14 to MMD for clearance. 1 per 1 Item Completion

Decorative Concrete Stains, Vertical Surface

Project Construction

CTD Material Verification *Material Verification*

Material Quality Assurance Processes

Project Engineer to collect manufacturer's material certifications (TC 1.03 w/ test data) and submit to MMD for clearance.

1 per 1

Delivery to Project

Decorative Reinforced Thermoplastic

Project Construction

LPD Material/Product verification	Material Verification		
Material/Product Verification at Project Site	1 per	1	Item Completion
	1 per	1	Prior to Usage on Project

Electrical Accessories

Material Production

Approval of Material Prior to Shipment	Material Certification for Project Usage		
Producer to submit Catalog Cuts to the Office of Traffic and Safety.	1 per	1	Prior to Usage on Project

Project Construction

OOTS Material Verification	Material Verification		
Project Engineer to verify material product, submit Form 14.	1 per	1	Delivery to Project

Emulsified Asphalts, Other

Project Construction

ATD Material Verification	Material Verification		
Project Engineer to collect certifications (TC 1.03 w/ test data), FORM 88, and material samples. Submit items to OMT for testing and clearance.	1 per	1	Item Completion
1 Gallon in a Widemouth Plastic Jar			

Emulsified Asphalts, Tack Coat

Project Construction

ATD Material Verification	Material Verification		
Project Engineer to collect certifications (TC 1.03 w/ test data), FORM 88, and material samples. Submit items to OMT for testing and clearance.	1 per	1	Item Completion
1 Gallon in a Widemouth Plastic Jar			

Fertilizers

Project Construction

LPD Material Verification	Material Verification		
Project Engineer to collect certifications (TC 1.03 w/o test data) and submit to OMT for clearance.	1 per	1	Delivery to Project

Form Release

Project Construction

Material Quality Assurance Processes

CTD Material Verification

Material Verification

Project Engineer to inspect placed material and submit Form 14.

1 per 1

Delivery to Project

Geosynthetic Materials, Geotextiles

Project Construction

Material Verification for SATD Materials

Material Verification

Project Engineer to receive certified roll data (TC1.03 w/ test data) and submit to MMD for clearance.

1 per 1

Delivery to Project

Geosynthetic Materials, Other

Project Construction

Material Verification for SATD Materials

Material Verification

Project Engineer to verify material.

1 per 1

Delivery to Project

Miscellaneous Chemical Materials

Project Construction

CTD Material Verification

Material Verification

Project Engineer to collect certifications (TC 1.03 w/ test data) and submit certs and Form 14 to OMT for clearance.

1 per 1

Delivery to Project

Miscellaneous Landscape Materials

Project Construction

Visual Inspection of Placed Material

Material Sampling and Testing

Project Engineer to inspect placed material and submit Form 14.

1 per 1

Delivery to Project

Miscellaneous Materials

Project Construction

LPD Material/Product verification

Material Verification

Project Engineer to inspect placed material and submit Form 14.

1 per 1

Delivery to Project

Project Engineer to collect certifications (TC 1.03 w/ test data) and submit certs to OMT for clearance.

1 per 1

Delivery to Project

Mulch

Project Construction

Visual Inspection of Placed Material

Material Sampling and Testing

Project Engineer to inspect placed material and submit Form 14.

1 per 1

Delivery to Project

Pavement Marking Mat'l: Liquid Applied

Project Construction

Material Quality Assurance Processes

Pavement Marking Material Verification at Project Site *Material Verification*

Project Engineer to collect manufacturer's certifications (TC 1.03 w/ test data) and OMT stamped documentation approving the material batch, submit to MMD for clearance. 1 per 1 Delivery to Project

Post Placement Project Wide Testing *Project Wide Testing*

Field Testing at Project Site by the Pavement Marking Team as per MSMT 729. 1 per 1 Item Completion

Pavement Marking Mat'l: Non-Liquid and Preformed

Project Construction

Pavement Marking Material Verification at Project Site *Material Verification*

Project Engineer to collect manufacturer's Certification (TC 1.03 w/o test data), and submit certifications to MMD for clearance. 1 per 1 Delivery to Project

Post Placement Project Wide Testing *Project Wide Testing*

Field Testing at Project Site by the Pavement Marking Team as per MSMT 729. 1 per 1 Item Completion

Pavement Marking Mat'l: Other

Project Construction

Pavement Marking Material Verification at Project Site *Material Verification*

Project Engineer to collect OMT stamped manufacturer's certification (TC 1.03 w/ test data) and submit them to MMD for clearance. 1 per 1 Delivery to Project

Pavement Repair Materials

Project Construction

ATD Material Verification *Material Verification*

Project Engineer to collect certifications (TC 1.03 w/o test data) and submit certs to OMT for clearance. 1 per 1 Delivery to Project

Pesticides

Material Production

LPD Material Review *Material Certification for Project Usage*

Project Engineer to contact LPD to schedule site visit and develop pesticide placement plan. 1 per 1 Prior to Usage on Project

Project Construction

Visual Inspection of Placed Material *Material Sampling and Testing*

Project Engineer to inspect material placement and submit Form 14 to OMT for clearance. 1 per 1 Item Completion

Plant Materials

Material Production

Material Quality Assurance Processes

LPD Material Review			Material Certification for Project Usage
Approval of Material for Project Use, Facility Visit.	1	per 1	Prior to Usage on Project

Portland Cement Concrete Mixtures

Material Production

Notification of Production for CTD materials			Production Notification
Producer to notify OMT one working day prior to production at concrete@sha.state.md.us	1	per 1	Production Day

Project Construction

CTD Material Verification			Material Verification
Project Engineer to conduct field tests. (Air Entrainment, Slump, etc.).	1	per 1	Delivery to Project
Project Engineer to collect certifications (TC 1.03 w/ test data) and submit to OMT for clearance.	1	per 1	Delivery to Project

Concrete Sampling and Testing			Material Sampling and Testing
Project Engineer to mold acceptance cylinders, Prime Contractor to cure and transport cylinders to OMT for testing.	1	per 50	Cubic Yard
2 Cylinders = 1 Sample	1	per 1	Production Day
Mix 7 -Project Engineer to mold acceptance cylinders, Prime Contractor to cure and transport cylinders to OMT for testing.	3	per 1	Placement Day
2 Cylinders = 1 Sample			

Pay Factor Calculation			Sample Analysis
OMT to perform statistical analysis on all acceptance concrete cylinder tests for project.	1	per 1	Item Completion

Portland Cement Concrete Mixtures, Latex Modified

Project Construction

CTD Material Verification			Material Verification
Project Engineer to perform concrete plastic tests.	1	per 1	Delivery to Project
Typically one slump and one air entrainment.			

Chemical Tests			Material Sampling and Testing
Submit a sample or certification (TC 1.03 w/ test data) of each component to OMT for verification.	1	per 1	Lot / Production Day
2 Quarts - Latex, 1 Quart Each Admixture in a Plastic Jug			

Concrete Sampling and Testing			Material Sampling and Testing
Submit sample to OMT for testing.	2	per 1	Truck

Pay Factor Calculation			Sample Analysis
OMT to perform statistical analysis on all acceptance concrete cylinder tests for project.	1	per 1	Item Completion

Precast Concrete, Drainage Structures

Material Production

Notification of Production for CTD materials			Production Notification
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Material Quality Assurance Processes

Producer to notify the Concrete Technology Division prior to production at concrete@sha.state.md.us. Please provide the design standard with the notification. 1 per 1 Prior to Usage on Project

CTD Material Review and Acceptance *Material Certification for Project Usage*

Submit copies of any shop drawings, specifications, or plan sheets to the designer as per the Invitation for Bids document. 1 per 1 Prior to Usage on Project

Project Construction

CTD Material Verification *Material Verification*

Project Engineer to visually inspect precast elements, record all QC stamps on a Form 14, and verify stamp matches the certification. Collect manufacture's certification and submit it along with the Form 14 to MMD for clearance. 1 per 1 Delivery to Project

Precast Concrete, Miscellaneous

Material Production

Notification of Production for CTD materials *Production Notification*

Producer to notify the Concrete Technology Division between 48 hours prior to shipment and end of shipping day at concrete@sha.state.md.us. 1 per 1 Prior to Usage on Project

Project Construction

CTD Material Verification *Material Verification*

Project Engineer to visually inspect precast elements, record all QC stamps on a Form 14, and verify stamp matches the certification. Collect manufacture's Certification and submit it along with the Form 14 to MMD for clearance. 1 per 1 Delivery to Project

Precast Concrete, Pipe

Material Production

Notification of Production for CTD materials *Production Notification*

Producer to notify the Concrete Technology Division between 48 hours prior to shipment and end of shipping day at concrete@sha.state.md.us. 1 per 1 Prior to Usage on Project

CTD Material Review and Acceptance *Material Certification for Project Usage*

Plant QC Personnel to perform lot inspection 1 per 1 Prior to Usage on Project

Project Construction

CTD Material Verification *Material Verification*

Project Engineer to visually inspect pipe, record all QC Stamps from pipe on a Form 14, and verify a pipe stamp matches the certification. Collect manufacture's Certification and submit it along with the Form 14 to MMD for Clearance. 1 per 1 Delivery to Project

Precast Concrete, Prestressed and Structural

Material Quality Assurance Processes

Material Production

Notification of Production for CTD materials		Production Notification	
Producer to submit Shop Drawings and provide Production Notice to the Concrete Technology Division (concrete@sha.state.md.us) 30 business days before commencing production of any prestressed or other structural concrete items.	1 per 1	Prior to Usage on Project	
CTD Material Review and Acceptance		Material Certification for Project Usage	
Direct Inspection at Facility during Casting, Approval of Material for Project Use.	1 per 1	Prior to Usage on Project	

Project Construction

CTD Material Verification		Material Verification	
Project Engineer to visually inspect precast elements, record all stamps on a Form 14, and verify stamps match the certification. Collect manufacture's certification and submit it along with the Form 14 to MMD for clearance.	1 per 1	Delivery to Project	

Precast Concrete, Walls

Material Production

Notification of Production for CTD materials		Production Notification	
Producer to submit Shop Drawings and provide Production Notice to the Concrete Technology Division (concrete@sha.state.md.us) 30 business days before commencing production of any precast MSE or Noise Barrier components.	1 per 1	Prior to Usage on Project	
CTD Material Review and Acceptance		Material Certification for Project Usage	
Direct Inspection at Facility during Casting, Approval of Material for Project Use.	1 per 1	Prior to Usage on Project	
Test Panel Verification		Material Certification for Project Usage	
Test panel to be evaluated by OMT, LOD and OOS.	1 per 1	Prior to Usage on Project	

Project Construction

CTD Material Verification		Material Verification	
Project Engineer to visually inspect precast elements, record all stamps on a Form 14, and verify stamps match the certification. Collect manufacture's certification and submit it along with the Form 14 to MMD for clearance.	1 per 1	Delivery to Project	

Recycled Materials for HMA Mixtures

Project Construction

ATD Material Verification		Material Verification	
Project Engineer to visually inspect placed material and submit Form 14 to OMT for clearance.	1 per 1	Item Completion	

Reflective Sheeting

Project Construction

Material Quality Assurance Processes

OOTS Material Verification

Material Verification

See source response for "Aluminum Signs" for this item for acceptance 1 per 1 Delivery to Project

Sealers: Qualified Liquid Materials

Project Construction

LPD Material/Product verification

Material Verification

Project Engineer to collect certifications (TC1.03 w/ test data) and submit certifications to OMT for clearance. 1 per 1 Delivery to Project

Seed and Sod, Specialty Mixtures

Project Construction

LPD Material Verification

Material Verification

Project Engineer to verify seed or sod mixture. Submit Form 14 to OMT for clearance. 1 per 1 Item Completion

Seed and Sod, Standard Mixtures

Project Construction

LPD Material Verification

Material Verification

Project Engineer to verify state approved seed mix/sod tickets (LPD or MDE). Copies shall be submitted to OMT for material clearance. 1 per 1 Delivery to Project

SM Group 1 - General Approval

Project Construction

Material Verification at Project Site, Structural Materials

Material Verification

Project Engineer to submit Form 14 to the Materials Management Division confirming the material and its placement are acceptable and conform to specifications. 1 per 1 Delivery to Project

SM Group 2 - General Approval with Certification

Project Construction

Material Verification at Project Site, Structural Materials

Material Verification

Project Engineer to collect manufacturer's certification (TC 1.03 w/o test data) indicating the specification to which the material conforms. Submit certification with Form 14 Stamp to the Materials Management Division for clearance. 1 per 1 Delivery to Project

Project Engineer to collect manufacturer's certification (TC 1.03 with test data) indicating the specification to which the material conforms. Submit certification with Form 14 Stamp to the Materials Management Division for clearance. 1 per 1 Delivery to Project

SM Group 3 - Evaluation Before Shipment

Material Quality Assurance Processes

Material Production

OMT approval of material for shipment, Structural Materials			Material Certification for Project Usage
Submit Material Certification (TC 1.03 w/ Batch Specific Test Data) to metals@sha.state.md.us for review prior to delivery. If acceptable the document will be stamped by OMT and returned to the supplier to accompany the material to the project site.	1	per 1	Prior to Usage on Project
The Structural Materials team will inspect the material, all relevant certifications, and may take material samples at the production facility. Please contact metals@sha.state.md.us to schedule an inspection.	1	per 1	Prior to Usage on Project
Submit Material Certification (TC 1.03 w/o test data) for timber preservatives to metals@sha.state.md.us. If acceptable the document will be stamped by OMT and returned to the source of supply to accompany the material to the project site.	1	per 1	Prior to Usage on Project
Submit Sample, Form 88 and Material Certification (TC 1.03 w/o test data) for clay brick materials to OMT for evaluation. Form 88 will be returned to PE. Alternate sampling may be requested by contacting metals@sha.state.md.us 3 weeks prior to delivery. 10 Bricks	1	per 5000	Each
Submit Sample, Form 88 and Material Certification (TC 1.03 w/o test data) for concrete block to OMT for evaluation. Form 88 will be returned to PE. Alternate sampling may be requested by contacting metals@sha.state.md.us 3 weeks prior to delivery. 6 Blocks	1	per 6000	Each

Project Construction

Material Verification at Project Site, Structural Materials			Material Verification
Project Engineer to collect OMT stamped documentation indicating review and approval of material. Submit document to the Materials Management Division for materials clearance.	1	per 1	Delivery to Project

SM Group 4 - Detectable Warning Surfaces

Project Construction

Material Verification at Project Site, Structural Materials			Material Verification
Project Engineer to collect certifications (TC 1.03 w/o test data) and submit certs to OMT for clearance.	1	per 1	Delivery to Project

SM Group 5 - Producer and Batch Data Tracked

Material Production

OMT approval of material for shipment, Structural Materials			Material Certification for Project Usage
Batch/Heat of Material must be approved by OMT. The producer to submit Material Certification (TC 1.03 w/ test data) and Sample to Structural Materials for evaluation. Contact metals@sha.state.md.us for further information.	1	per 1	Batch, Lot or Heat

Material Quality Assurance Processes

Project Construction

Material Verification at Project Site, Structural Materials			Material Verification
Project Engineer to collect OMT stamped Material Certification (TC 1.03 w/ test data) and submit to the Materials Management Division for materials clearance.	1	per 1	Delivery to Project

SM Group 6 - Qualified Facilities, Limited Review

Material Production

Quality Assurance of Structural Material production facilities.			Material Certification for Project Usage
Facility re-qualification required, Structural Materials to conduct facility evaluation and reissue facility certification. Please contact metals@sha.state.md.us to schedule an evaluation.	1	per 12	Months

Project Construction

Material Verification at Project Site, Structural Materials			Material Verification
Project Engineer to collect the stamped supplier's Certification of Compliance listing the materials shipped and submit to the Materials Management Division for materials clearance.	1	per 1	Delivery to Project

SM Group 7 - Qualified Facilities, Cert Review

Material Production

Quality Assurance of Structural Material production facilities.			Material Certification for Project Usage
Facility re-qualification required. Structural Materials to conduct facility evaluation prior to material approval. Contact metals@sha.state.md.us to determine inspection schedule.	1	per 12	Months

OMT approval of material for shipment, Structural Materials			Material Certification for Project Usage
Submit Material Certification (TC 1.03 w/ test data) to metals@sha.state.md.us for review prior to delivery. If acceptable the document will be stamped by OMT and returned to the source of supply to accompany the delivery.	1	per 1	Prior to Usage on Project
Submit Material Certification (TC 1.03 w/ test data) and a sample to Structural Materials, contact metals@sha.state.md.us. If acceptable the document will be stamped by OMT and returned to the source of supply to accompany the delivery.	1	per 1	Prior to Usage on Project

Project Construction

Material Verification at Project Site, Structural Materials			Material Verification
Project Engineer to collect OMT stamped documentation indicating review and approval of material. Submit document to the Materials Management Division for materials clearance.	1	per 1	Delivery to Project

SM Group 8 - Qualified Facilities, Production Insp

Material Quality Assurance Processes

Material Production

Quality Assurance of Structural Material production facilities.				<i>Material Certification for Project Usage</i>
Facility re-qualification required. Structural Materials to conduct facility evaluation and reissue facility certification.	1	per	12	Months
OMT approval of material for shipment, Structural Materials				<i>Material Certification for Project Usage</i>
The Metals team will inspect the fabrication, all relevant certifications, and may take material samples at the production facility. Please contact metals@sha.state.md.us to determine inspection schedule.	1	per	1	Prior to Usage on Project

Project Construction

Material Verification at Project Site, Structural Materials				<i>Material Verification</i>
Project Engineer to collect OMT stamped documentation indicating review and approval of material. Submit document to the Materials Management Division for materials clearance.	1	per	1	Delivery to Project

Soil Amendments

Project Construction

LPD Material Verification				<i>Material Verification</i>
Project Engineer to verify material product, submit Form 14 for clearance.	1	per	1	Item Completion

Soil Cement

Material Production

SATD Material Review				<i>Material Certification for Project Usage</i>
Material to be sampled at its place of origin. Project Engineer to contact SATD to schedule a sampling.	1	per	1	Prior to Usage on Project

Project Construction

Material Verification for SATD Materials				<i>Material Verification</i>
Submit mix design sample to laboratory for verification	2	per	2	Sample Set
	1	per	1	Each
Project Engineer to Submit FM 14 for every load of Cement. 35 LBS in a Soils Bag	1	per	1	Sample Set
Project Site Testing				<i>Material Sampling and Testing</i>
Design mix, construct a 100 foot long control strip onsite. Submit a verification unconfined compressive strength sample to the laboratory for testing. Complete a moisture correction factor based on this control strip. 35 LBS in a Soils Bag	1	per	1	Cubic Yard

Material Quality Assurance Processes

The Project Engineer (PE) is to perform density tests at the frequency of 1 density test per station, per lane. Utilize the moisture correction factor from the control strip. PE to submit density sheets to laboratory for materials clearance. 1 per 1 Cubic Yard

The Project Engineer (PE) is to take 1 unconfined compressive strength sample per 5 stations, per lane. 35 LBS in a Soils Bag 1 per 1 Cubic Yard

Soil Materials, Fill Soil

Material Production

SATD Material Review	Material Certification for Project Usage			
Material to be sampled as Common Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling. 35 LBS in a Soils Bag	2	per	1	Prior to Usage on Project
Material to be sampled as Capping Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling. 35 LBS in a Soils Bag	2	per	1	Prior to Usage on Project
Material to be sampled as Modified Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling. 35 LBS in a Soils Bag	2	per	1	Prior to Usage on Project
Material to be sampled as Select Borrow at its place of origin. Project Engineer to contact SATD to schedule a sampling. 35 LBS in a Soils Bag	2	per	1	Prior to Usage on Project
Material to be sampled as Clay Core material at its place of origin. Project Engineer to contact SATD to schedule a sampling. 35 LBS in a Soils Bag	2	per	1	Prior to Usage on Project

Project Construction

Project Sampling and Lab Testing of SATD Material	Material Verification			
Project Engineer to submit verification samples of Common Borrow. 35 LBS in a Soils Bag	1	per	15000	Cubic Yard
Project Engineer to submit verification samples of material of Capping Borrow. 35 LBS in a Soils Bag	2	per	2	Lane Mile per Lift
Project Engineer to submit verification samples of material of Modified Borrow. 35 LBS in a Soils Bag	1	per	15000	Cubic Yard
Project Engineer to submit verification samples of material of Select Borrow. 35 LBS in a Soils Bag	1	per	15000	Cubic Yard
Project Engineer to submit verification samples of Clay Core material. 35 LBS in a Soils Bag	1	per	15000	Cubic Yard

Project Site Testing	Material Sampling and Testing		
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Material Quality Assurance Processes

Compaction and Moisture analysis of Common Borrow to be performed by Project Engineer. Submit Compaction report to MMD for clearance.	4 per 1 per	1 2000	Lane Mile per Lift Cubic Yard
Compaction and Moisture analysis of Capping Borrow to be performed by Project Engineer. Submit Compaction report to MMD for clearance.	4 per 1 per	1 2000	Lane Mile per Lift Cubic Yard
Compaction and Moisture analysis of Modified Borrow to be performed by Project Engineer. Submit Compaction report to MMD for clearance.	4 per 1 per	1 2000	Lane Mile per Lift Cubic Yard
Compaction and Moisture analysis of Select Borrow to be performed by Project Engineer. Submit Compaction report to MMD for clearance.	4 per 1 per	1 2000	Lane Mile per Lift Cubic Yard
Compaction and Moisture analysis of Select Borrow for Trench Backfill to be performed by Project Engineer. Submit Compaction report to MMD for clearance.	1 per	150	Linear Feet per 3 Foot Lift
Compaction and Moisture analysis of Clay Core material to be performed by Project Engineer. Submit Compaction report to MMD for clearance.	1 per	2000	Cubic Yard

Soil Materials, Furnished Landscaping Soils

Project Construction

Material Verification for SATD Materials	Material Verification		
Project Engineer to verify material and submit the approved Form 27B to the Materials Management Division for clearance. Form 27B may be found on the Documents Tab on the material source submission.	1 per	1	Delivery to Project

Soil Materials, Salvaged & Other Landscaping Soils

Material Production

SATD Material Review	Material Certification for Project Usage		
Project Engineer to contact SATD at least 30 days prior to material usage or placement. SATD will sample material at source, ensure material testing, and provide a Soil Test Report (Form 27B) and the Nutrient Management Plan. 20 LB in a Soils Bag	1 per	1	Prior to Usage on Project
Project Engineer to contact SATD at least 30 days prior to material usage or placement. SATD will sample material at source, ensure material testing, and provide a Soil Test Report (Form 27B). 20 LB in a Soils Bag	1 per	1	Prior to Usage on Project

Project Construction

Material Verification for SATD Materials	Material Verification		
Project Engineer to verify material and submit the approved Form 27B to the Materials Management Division for clearance.	1 per	1	Item Completion

Material Quality Assurance Processes

Soil Stabilization Matting

Project Construction

LPD Material Verification			<i>Material Verification</i>
Project Engineer to inspect placed material and submit Form 14.	1	per 1	Delivery to Project

Surface Treatments

Material Production

Notification of Production for ATD materials			<i>Production Notification</i>
Producer to notify the Asphalt Technology Division one week prior to material placement.	1	per 1	Placement Day

Project Construction

ATD Material Verification			<i>Material Verification</i>
Project Engineer to collect material certifications (TC 1.03 w/o test results) and submit to materials management for clearance.	1	per 1	Delivery to Project

Sampling and Testing of ATD materials			<i>Material Sampling and Testing</i>
Project Engineer to sample emulsion and mixture. Sample to be delivered to OMT for verification. 1 Gallon of Mixture and 1 Gallon of Emulsion in a Widemouth Plastic Jar	1	per 1	Production Day

Traffic and Related Materials, Miscellaneous

Project Construction

OOTS Material Verification			<i>Material Verification</i>
Project Engineer to submit Form 14 to the Materials Management Division confirming the product is undamaged, acceptably placed, and conforms to specification.	1	per 1	Delivery to Project

Traffic Barrier End Treatments

Material Production

Approval of Material Prior to Shipment			<i>Material Certification for Project Usage</i>
Contractor to submit "Request to use NCHRP-350 Product" to the Engineer of Record. The Engineer of Record refers to a Project's design Engineer or plan sheet approver who is a Licensed Engineer in the field of design and MASH implementation.	1	per 1	Prior to Usage on Project

Project Construction

OOTS Material Verification			<i>Material Verification</i>
See source response for "Metal Traffic Barrier, Certified Installer" for this item for acceptance procedures.	1	per 1	Delivery to Project

Material Quality Assurance Processes

Project Engineer to collect manufacturer's certification (TC 1.03 w/o test data) and submit certifications to the Materials Management Division for clearance. 1 per 1 Delivery to Project

Traffic Control Materials, Qualified

Project Construction

OOTS Material Verification			Material Verification
Project Engineer to collect certifications (TC 1.03 w/o test data) and submit certs to the Materials Management Division for clearance.	1	per 1	Delivery to Project

Traffic Control Materials, Qualified & Temporary

Project Construction

OOTS Material Verification			Material Verification
Project Engineer to submit Form 14 to the Materials Management Division confirming the product is undamaged, acceptably placed, and conforms to specification. Indicate the product manufacturer and model number (when available).	1	per 1	Delivery to Project

Traffic Control Materials, Specialty Items

Material Production

Approval of Material Prior to Shipment			Material Certification for Project Usage
Producer to submit Shop Drawings or Catalog Cuts to the Office of Traffic and Safety for evaluation.	1	per 1	Prior to Usage on Project

Project Construction

OOTS Material Verification			Material Verification
Project Engineer to submit Form 14 to the Materials Management Division confirming receipt of approved documentation from OOTS and conformance to specifications.	1	per 1	Delivery to Project

Traffic, Misc. Services and Products

Project Construction

OOTS Material Verification			Material Verification
Project Engineer to submit Form 14 to the Materials Management Division confirming the product is undamaged, acceptably placed, and conforms to specification. Indicate the product manufacturer and model number (when available).	1	per 1	Delivery to Project