

# **Materials Quality Documentation Training Spring 2023**

# Meeting Agenda and Details

- We will follow the times stated on the attached agenda.
- Please post questions in the chat and if time is remaining after a presenter is finished, we will answer as many questions as we can until the next presentation starts.
- Pat Norton will monitor the chat.
- There will be a question-and-answer session at the end of the training, or you can email questions after.

## 2023 State Materials Lab Quality Assurance Section Documentation Training Agenda March 8th & 15th 8:00 am – 2:30 pm

<u>Topic</u>	<u>Presenter</u>	<u>Time</u>
Introductions / Agenda Review	Donny Henderson / Garrett Webster	8:00 am to 8:10 am
2022 Construction Manual Updates	Donny Henderson	8:10 am to 8:15 am
Quality Assurance Requirements / Tidbits and Tips Newsletter / 2022 SAO Audit Results	Pat Norton	8:15 am to 8:30 am
State Materials Lab QA Materials Quality Audits	Erica Legaspi	8:30 am to 8:45 am
Record of Materials (ROM)	Matt Johnson	8:45 am to 9:00 am
Break		9:00 am to 9:10 am
Qualified Products List (QPL)	John Emerick	9:10 am to 9:25 am
Aggregate Source Approval (ASA)	Peter See	9:25 am to 9:40 am
Request for Approval of Materials (RAM) / Unifier RAMs	Suzanna Dethlefs	9:40 am to 10:00 am
Unifier	Wendy Stroschein	10:00 am to 10:15 am
Break		10:15 am to 10:25 am
Structural Materials Lab	Zach Kane & Sam Wade	10:25 am to 10:45 am
Specialty Testing Lab	Katie Dafoe	10:45 am to 11:05 am
Bituminous Testing Lab	Scott Phillips / Jason Zimmer	11:05 am to 11:25 am
Quality Systems	Kevin Burns	11:25 am to 11:40 pm
Fabrications Section	Marvin Nitta / Jason Dewey	11:40 am to 12:00 pm
Lunch		12:00 pm to 12:30 pm
SAMs and MATs - HMA	Jeff Gubbe	12:30 pm to 1:00 pm
Pavement Management	Karen Strauss	1:00 pm to 1:15 pm
E-Ticketing and E-Construction	Kevin Waligorski / Cecilia McNeil-Hardwick	1:15 pm to 1:30 pm
Certificate of Materials Origin / BABA	Heidi Jensen	1:30 pm to 2:00 pm
Questions		2:00 pm to 2:30 pm

# Introduction: Garrett Webster – Assistant State Materials Engineer – Materials Quality

- Oversees the following sections and personnel:
- **Quality Systems**
  - Kevin Burns
    - Garth Newman, Mark Willoughby
- **Fabrications**
  - Marvin Nitta, Jason Dewey
    - Ben Bolton, Kenneth Sutter, Corey Wecker, Ryan Zuspan
    - Mike Munsinger, Todd Kramer, Karen Burke, Ryan McBroom, Tyrus Snow
- **Materials Quality Assurance**
  - Donny Henderson
    - Pat Norton
    - Matt Johnson, Suzanna Dethlefs, John Emerick, Erica Legaspi, Peter See

# Introduction: Materials Quality Assurance Staff

- Donny Henderson - Materials Quality Assurance Engineer
- Pat Norton - Asst. Materials Quality Assurance Engineer
- Suzanna Dethlefs – RAM Engineer (Request for Approval of Materials)
- Matt Johnson – ROM Engineer (Record of Materials)
- Erica Legaspi – Construction Quality Audit/New Products Engineer
- John Emerick – QPL/ASA Engineer (Qualified Products List & Aggregate Source Approval)
- Peter See – Assistant QPL/ASA Engineer
- **VACANT** – Quality Assurance Specialist

# Current Website and Access to Materials Lab Information and Resources

- Construction Materials Link: [Construction materials | WSDOT \(wa.gov\)](#)
- Maintained Record of Materials (ROM)
- Aggregate Source Approval (ASA)
- Qualified Product List (QPL)
- New Products
- Request for Approval of Material (RAM)
- Qualified Testers
- Statistical Analysis of Materials (SAM)
- Concrete Mix Design Checklists
- Overall HQ Materials Lab Information

Updates to the external website will be coming soon. Once updated, we will send out a notification via the monthly newsletter.

# Construction Manual Updates as of October 2022

- **9-1.4B Fabricated Items:**
  - *Removal of State Mats Lab and Vancouver inspection office numbers.*
  - *Added: verbiage to the end of the last paragraph.*
- **9-2 Materials Fabrication Inspection Office – Inspected Items Acceptance:**
  - 9-2.1 General – Added: *Assistant State Materials Engineer for approval.*
- **9-4 Specific Requirements for Each Material**
  - 9-4.81 Concrete Patching Material, Grout and Mortar (6) – *Added AASHTO R 100.*
- **9-5.2 Quality Assurance Program Structure and Responsibilities Table 9-3**
  - Added: *Regional Construction Manager Section.*
- **9-5.3 WAQTC Testing Technician Qualification Program**
  - Added: *Within the WAQTC program concrete testers are American Concrete Institute certified testers.*
- **9-5.4B Independent Assurance**
  - Added to last paragraph: *The IA Annual audits will normally be conducted in person by the IAI. If extenuating circumstances exist that prevent the IAI from observing the tester in-person, then with written approval from of the State Materials Laboratory Quality Systems Manager the IAI may perform the IA audit remotely via camera with the tester in place of the in-person review.*
- **9-5.6A Qualification of Region and Private Testing Laboratories**
  - Added: *This whole section has been re-written.*
- **9-5.6B Qualification of Specialty Testing Laboratories**
  - Added: *This whole section has been re-written.*

# Construction Manual Updates as of October 2022

- **9-5.7 Independent Assurance Program (IAP)**
  - Added: *Regional Construction Manager, an update on the process of how the Region IA report is due by the last working day in January.*
  - Added: *The State Materials Laboratory Quality Systems Manager will submit the WSDOT annual IA report to the FHWA by the last working day in February unless other arrangements are made with the FHWA. 9-5.7C Independent Assurance Report.*
- **9-7 Field Operating Procedures and other Related Test Methods**
  - Added: *AASHTO R 100, AASHTO R 97*

HQ Construction is working on a spring 2023 Construction Manual update that should be available by the end of April.

# Questions?

**Thank You!**

Donny Henderson  
Materials Quality Assurance Engineer  
[henderd@wsdot.wa.gov](mailto:henderd@wsdot.wa.gov)  
360-522-6191



- **Quality Assurance Requirements**
- **Tidbits & Tips Newsletter**
- **2022 SAO Audit Recap**

# Quality Assurance Requirements

- Title 23, Code of Federal Regulations, Part 637
  - Policy
    - Quality Assurance Program
    - Personnel Qualified for Sampling and Testing
    - Independent Assurance Program
    - Random Sampling
    - Verification Sampling
    - Adequate / Qualified DOT Staff



Construction Manual: Our agreement with FHWA on how we run our construction program including materials

# Federal Requirements through FHWA

- Construction Manual: Our agreement with FHWA on how we run our construction program including documentation of:
- Materials Approval
- Acceptance
- Field Verification Documentation
- We are here to help you succeed in this! Please utilize our Section with any questions you have.



# QA/QC in Design–Bid–Build Delivery

## Quality Assurance (QA)

### WSDOT Project Office's;

- Certified Inspectors, inspect to field verify plan and specification compliance.
- Qualified testers, test to verify specification compliance or deficiency.
- Sample randomly by established frequency tables.

## Quality Control (QC)

### Contractor's and Supplier–Manufacturer's;

- Control the construction process or end product

This Presentation will cover Design-Bid-Build documentation.

Design-Build processes will not be covered here.

# What do we mean by this?

PEO and Field Inspectors have awareness and documentation of the “three step” process of:

**Approval** – The “possible” materials to be used by the Contractor have the potential of meeting WSDOT requirements.

**Acceptance** – The “actual” materials being delivered to be placed on the jobsite do meet WSDOT requirements.


**Field Verification** – The materials that were placed on the jobsite in fact had proper Approval and Acceptance performed.



# Tidbits & Tips Monthly Newsletter

- The Tidbits and Tips newsletter contains updates on common issues that are brought to light through QA Audits, ASA evaluations, New Products evaluations, QPL evaluations, RAM processing, and ROM building.
- Please feel free to forward this to others.
- <\\mltumfile12vm\Public\QA Materials Newsletter>

# Tidbits & Tips Newsletter

August 2022

## Materials QA Section Tid Bits & Tips

**WHAT'S IN THIS MONTH'S ISSUE:**

- RAM Processing
- Concrete Mix Designs
- Transmittals in MATS

### Request for Approval of Material (RAM) Processing

RAM processing is currently occurring by emailing through Outlook and by utilizing Unifier. Please review your contract to see if Unifier is to be utilized for the contract you are working on. All communications for RAMs processed through Unifier should occur in Unifier. Please upload a copy of communications or documents into Unifier that are pertinent regarding the material evaluation.

Construction Manual 9-1.3B(1) – Project Engineer’s Office Approval Coding documents when and how the Project Engineer Office can process their own RAM. The PEO is to submit the RAM to the RAM Engineer when unable to process the RAM per CM 9-1.3B(1). Special attention is required for electrical items to list all components including specific model numbers on the RAM. All items within the RAM submittal package shall be listed on the RAM.

Allow 10 working days after submitting the RAM before asking the status. Please contact the RAM Engineer if the RAM needs to be expedited.

### Concrete Mix Design - Structural Concrete vs. Commercial Concrete

The Contractor shall provide a mix design in writing to the Engineer for all classes of concrete specified in the Plans except for lean concrete, commercial concrete and concrete class EA. The Contractor’s submittal of a mix design shall be on WSDOT Form 350-040 and shall provide a unique identification for each mix design. The unique identifier is a combination of the Mix Design Number and the Plant Number. If you have multiple plants, then you will need multiple Mix Designs. See Std Spec 6-02.3(2)A for further details.

Commercial Concrete does not require mix design or source approvals for cement, aggregate, and other admixtures. Commercial Concrete can be used where Concrete Class 3000 is specified for certain applications. Commercial Concrete shall have a minimum compressive strength at 28 days of 3,000 psi in accordance with AASHTO T 22. Commercial Concrete placed above the finished ground line shall be air entrained and have an air content from 4.5 percent to 7.5 percent in accordance with FOP for AASHTO T 152. See Std Spec 6-02.3(2)B for further details.

Contact the Materials Quality Assurance Engineer with further Concrete Mix Design questions.

## Transmittals in Materials Testing System (MATS)

Transmittals are required to be accompanied with samples sent for testing to the State Materials Lab. Clicking "Send to Lab" in MATS does not generate an email. Laboratory personnel are not notified if a transmittal for a material is created or edits have been made to a transmittal.

* Lab	Date Sent	Mode of Shipment	
HQ Lab	07/25/2022	Supplier to deliver	Send To Lab
Date Received		Please, click "Send to Lab" button to send the sample to the	
07/25/2022		Received At Lab	

This button is decorative

## CONTACTS

### CONTACT INDIVIDUALS FOR QUESTIONS AND CONCERNS

**Materials Quality Assurance Engineer**  
Donny Henderson      HenderD@wsdot.wa.gov      (360) 522-6191

**Assistant Materials Quality Assurance Engineer**  
Pat Norton      NortonP@wsdot.wa.gov      (360) 764-0396

**RAM Engineer**  
Suzanna Dethlefs      DethleS@wsdot.wa.gov      (360) 515-6587

**ROM Engineer**  
Matt Johnson      JohnMe@wsdot.wa.gov

**QPL/ASA Engineer**  
[VACANT]

**Assistant QPL/ASA Engineer**  
John Emerick      EmeriJC@wsdot.wa.gov      (360) 584-2031

**Construction Quality Audit/New Product Engineer**  
Erica Legaspi      LegaspE@wsdot.wa.gov      (360) 764-6759

# 2022 Department of Transportation - SAO Audit

- The Federal Department of Transportation commissioned the Washington State Auditors Office (SAO) to perform an Audit in 2022 for the fourth year in a row.
- 57 material items were randomly selected and sampled from 31 contracts throughout the state. These items were taken off the Record of Materials (ROM).
- Each item was reviewed to determine if the ROM was maintained, Approval, Acceptance, Field Verification documentation, Qualified Samplers / Testers, CMOs, WSDOT procedures and practices including the Construction Manual and other Materials Documentation met requirements.
- Areas of deficiencies included;
  - Verification of Sampler / Tester qualifications.
  - Properly Maintaining the ROM.
    - Status Check Boxes not utilized.
    - Planned, Paid, and Field Verified Quantities not updated.
  - Proper sampling and testing.



# Questions?

**Thank You!**

Pat Norton  
Assistant Quality Assurance Engineer  
[nortonp@wsdot.wa.gov](mailto:nortonp@wsdot.wa.gov)  
360-764-0396

# Construction Quality Audit Program

**Presented by: Erica Legaspi**  
Construction Quality Audit Engineer  
State Materials Laboratory  
March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# State Materials Lab

## QA Materials Quality Audits

- Over 20 years ago the State Materials Lab QA Materials Section performed all Project Materials Certification for every construction project throughout the state and retained all permanent Materials files for Maintained Record of Materials, Approval, Acceptance, Field Verification and CMOs. The Section would issue 80% and 100% deficiency letters to the PEO that Administered the contract.
- With an agreement with FHWA, WSDOT set up a new program that had each PEO performing the contract administration to maintain the permanent Materials files and at the end of each contract perform a 100% audit for conformity with the WSDOT Contract documentation requirements. Each Region would perform a spot check on each contract being Certified. The State Materials Lab would perform on QA Materials Audit on each PEO once every three years.

# State Materials Lab

## QA Materials Quality Audits

In addition to general audit deficiencies found the following are audit performance measures:

- Record of Materials: Accuracy maintained with less than 10 percent errors.
- Materials Approval: Accuracy maintained with less than 10 percent errors.
- Materials Acceptance: Accuracy maintained with less than 10 percent errors.
- Field Verification: Accuracy maintained with less than 10 percent errors.
- Materials Testing Frequencies: Within 10 percent of minimum required frequencies.

Audit areas with less than 10 percent deficiency are exit items, while audit areas that exceed 10 percent are audit findings.

# State Materials Lab

## QA Materials Quality Audits

Defined Audit exit items and general audit deficiencies to be:

- Audit exit items are areas for the Project Engineer to make improvements to processes and can require corrective action be taken to resolve the issue.
- General audit deficiencies and audit findings are more serious and require a corrective action plan to document the project engineer office process improvements.

These two terms were previously not used in this section.

# Audits – Internal & External

## Internal Audits

- Why Internal Audits?
  - Internal Audits are required in the Construction Manual
  - Identify potential findings before external audits
  - Identify processes that can be improved
  - Low risk
- Materials Lab & State Construction Office
  - Mats Lab reviews material documentation
  - State Construction Office reviews Division 1 Requirements
  - Issues letters with audit results
- WSDOT Internal Audit Office
  - WSDOT Employees
  - Chooses audit topics based on risk to the Agency
  - Issues letters with audit results with suggestions

# Audits – Internal & External

## External Audits

- State Auditors Office
  - Separate Agency – not WSDOT employees
  - Tasked with auditing our Programs normally once every three years, but have been annually every year for the last four years.
  - Issue Findings that require an Agency Corrective Action response
    - WSDOT was issued findings with the most recent audit
  - Will perform audits every year until no findings issued
  
- Federal Highway Administration (FHWA)
  - Retains the right to look at any of our project records if federally funded
  - Performs a variety of audits
    - Compliance Assessment Program (CAP) Reviews
    - Improper Payment Elimination and Recovery Act (IPERIA)
    - Financial Integrity Review and Evaluation (FIRE) - Billing Reviews
  - Can require re-payment of federal funds
  
- Dept. of Revenue and Labor & Industries
  - Can audit our projects, but usually go contact the Prime

# Questions?

**Thank You!**

Erica Legaspi  
Quality Assurance Audit Engineer  
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# Record of Materials (ROM)

ITEM NO.	PLAN QUANTITY	ITEM DESCRIPTION (STANDARD ITEM NUMBER)	PRICE PER UNIT DOLLARS	TOTAL AMOUNT DOLLARS
<b>HOT MIX ASPHALT</b>				
12	92.87	CRACK SEALING-CH CINTERLIN ME (5701)	AT PER. CINTERLIN MO*	•
13	57,120	PLANING BITUMINOUS PAVEMENT (5711)	AT PER. SQ. YD. •	21
14	2,495.8	IMA FOR PRELEVELING CL. 3/8 IN. PG 648-28 (5716)	AT PER. TON •	22
15	1,075.	IMA FOR PAVEMENT REPAIR CL. 3/8 IN. PG 648-28 (5738)	AT PER. TON •	23
16	4,462.5	IMA CL. 3/8 IN. PG 648-28 (5764)	AT PER. TON •	24
17	CALCULATED	JOB MIX COMPLIANCE PRICE ADJUSTMENT (5830)	CALCULATED	25
18	CALCULATED	COMPACTION PRICE ADJUSTMENT (5835)	CALCULATED	26
19	CALCULATED	ASPHALT COST PRICE ADJUSTMENT (5837)	CALCULATED	27
20	48.	IMA CORE-ROADWAY (6885)	AT PER. EACH •	28
21	52.	ION SMCUT AND SEAL (6911)	AT PER. LIN. FT. •	29
22	ESTIMATED	FURGE ACCOUNT ROADWAY REPAIR (7315)	ESTIMATED	30
<b>EROSION CONTROL AND ROADSIDE PLANTING</b>				
23	31.	SEC LEAD (6403)	AT PER. DAY •	31
24	ESTIMATED	EROSION/WATER POLLUTION CONTROL (6490)	ESTIMATED	32

**Division 5  
Surface Treatments and Pavements**

**Bituminous Surface Treatment**

**Description**

**Seal Coats**

Section 5-02.1(2) is supplemented with the following:

(\*\*\*\*\*)

All bituminous surface treatment Seal Coats shall consist of the placement of emulsified asphalt followed by two applications of aggregate, of the following aggregate size:

- 3/8 to No. 4
- No. 4 to 0

**Materials**

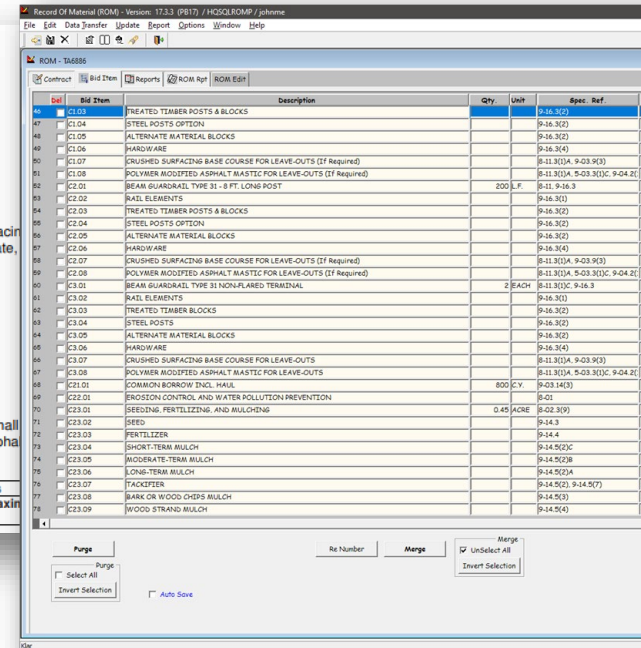
Section 9-02.1(6)A is supplemented with the following:

(\*\*\*\*\*)

**Polymerized Cationic Emulsified Asphalt CVRS-2P**

CVRS-2P shall be a polymerized cationic emulsified asphalt. The polymer shall be into the asphalt or emulsion during the manufacturing of the emulsified asphalt. The polymer shall meet the following requirements:

CVRS-2P Emulsion	AASHTO Test Method	Specifications	
		Minimum	Maximum



Bid Item	Description	Qty	Unit	Spec. Ref.	Code
C1.03	TREATED TIMBER POSTS & BLOCKS			P-16.3(2)	107
C1.04	STEEL POSTS OPTION			P-16.3(2)	63
C1.05	ALTERNATE MATERIAL BLOCKS			P-16.3(2)	21
C1.06	ROADWARE			P-16.3(4)	146
C1.07	CRUSHED SURFACING-BASE COURSE FOR LEAVE-OUTS (If Required)			P-11.3(1)A, 9-03.9(3)	2
C1.08	POLYMER MODIFIED ASPHALT MASTIC FOR LEAVE-OUTS (If Required)			P-11.3(1)A, 5-03.3(1)C, 9-04.2(1)	63
C2.01	BEAM GUARDRAIL TYPE 31 - 8 FT. LONG POST	200	LF	P-11.9-6.3	63
C2.02	RAIL ELEMENTS			P-16.3(1)	63
C2.03	TREATED TIMBER POSTS & BLOCKS			P-16.3(2)	107
C2.04	STEEL POSTS OPTION			P-16.3(2)	63
C2.05	ALTERNATE MATERIAL BLOCKS			P-16.3(2)	21
C2.06	ROADWARE			P-16.3(4)	146
C2.07	CRUSHED SURFACING-BASE COURSE FOR LEAVE-OUTS (If Required)			P-11.3(1)A, 9-03.9(3)	2
C2.08	POLYMER MODIFIED ASPHALT MASTIC FOR LEAVE-OUTS (If Required)			P-11.3(1)A, 5-03.3(1)C, 9-04.2(1)	63
C3.01	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL	2	BEACH	P-11.3(1)C, 9-46.3	63
C3.02	RAIL ELEMENTS			P-16.3(1)	63
C3.03	TREATED TIMBER BLOCKS			P-16.3(2)	107
C3.04	STEEL POSTS			P-16.3(2)	63
C3.05	ALTERNATE MATERIAL BLOCKS			P-16.3(2)	21
C3.06	ROADWARE			P-16.3(4)	146
C3.07	CRUSHED SURFACING-BASE COURSE FOR LEAVE-OUTS			P-11.3(1)A, 9-03.9(3)	2
C3.08	POLYMER MODIFIED ASPHALT MASTIC FOR LEAVE-OUTS			P-11.3(1)A, 5-03.3(1)C, 9-04.2(1)	63
C21.01	COMMON BORROW INCL HAUL	800	CY	9-03.14(3)	92
C22.01	EROSION CONTROL AND WATER POLLUTION PREVENTION			P-01	225
C23.01	SEEDING, FERTILIZING, AND MULCHING	0.45	ACRE	P-02.3(9)	107
C23.02	SEED			P-14.3	107
C23.03	FERTILIZER			P-14.4	107
C23.04	SHORT-TERM MULCH			P-14.5(2)C	107
C23.05	MODERATE-TERM MULCH			P-14.5(2)B	107
C23.06	LONG-TERM MULCH			P-14.5(2)A	107
C23.07	TACKIFIER			P-14.5(2), 9-14.5(7)	107
C23.08	BARK OR WOOD CHIPS MULCH			P-14.5(3)	107
C23.09	WOOD STRAND MULCH			P-14.5(4)	111

Presented by: **Matt Johnson**  
 ROM Engineer  
 State Materials Laboratory  
 March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# What is a ROM?

- A ROM Identifies the kinds and quantities of permanently incorporated items deemed to require quality assurance testing and documentation.
- A ROM is not contractually binding and is a tool for the Project Office to track materials.
- A ROM is an outline of the permanent materials used on the Project, with as much depth as time and workload allows.
- **93** Local Agency ROMs built on Average per year.
- **126** State ROMs built on Average per year.
- **39,361** total lines on Average per year.
- Project Office is encouraged to expand the ROM with additional materials

# How an Initial ROM is Created:

(Project Bid Proposal)

ITEM NO.	PLAN QUANTITY	ITEM DESCRIPTION (STANDARD ITEM NUMBER)	PRICE PER UNIT DOLLARS	TOTAL AMOUNT DOLLARS
<b>HOT MIX ASPHALT</b>				
12	92.87 CENTERLN MI	CRACK SEALING-CM (5701)	AT PER. CENTERLN MI ●	•
13	57,120. SQ. YD.	<del>PLANING BITUMINOUS PAVEMENT (5711)</del>	AT PER. SQ. YD. •	•
14	2,495.8 TON	HMA FOR PRELEVELING CL. 3/8 IN. PG 64H-28 (5716)	AT PER. TON •	•
15	1,075. TON	HMA FOR PAVEMENT REPAIR CL. 3/8 IN. PG 64H-28 (5718)	AT PER. TON •	•
16	4,462.5 TON	HMA CL. 3/8 IN. PG 64H-28 (5766)	AT PER. TON •	•
17	CALCULATED	<del>SOB MIX COMPLIANCE PRICE ADJUSTMENT (5830)</del>	CALCULATED	21,620.00
18	CALCULATED	<del>CONSTRUCTION PRICE ADJUSTMENT (5835)</del>	CALCULATED	15,180.00
19	CALCULATED	<del>ASPHALT COST PRICE ADJUSTMENT (5837)</del>	CALCULATED	21,365.00
20	48. EACH	<del>HMA CORE-ROADWAY (6885)</del>	AT PER. EACH •	•
21	52. LIN. FT.	HMA SAWCUT AND SEAL (6511)	AT PER. LIN. FT. •	•

(1.) Any Bid Items not containing permanent materials are removed (with exceptions for some temporary items).

(2.) The remaining Bid Items are transferred into the ROM Building Program.

del	Bid Item	Qty.	Unit	M	Std. Item #	Std. Item Desc
<input checked="" type="checkbox"/>	012	774688	L.S.		5701	CRACK SEALING - CM
<input type="checkbox"/>	014	19190	L.S.		5716	HMA FOR PRELEVELING CL. 3/8 IN. PG
<input type="checkbox"/>	015	882	S.Y.		5738	HMA FOR PAVEMENT REPAIR CL. 3/8 I
<input type="checkbox"/>	016	932	L.F.		5766	HMA CL. 3/8 IN. PG
<input type="checkbox"/>	021	19	L.F.		6511	HMA SAWCUT AND SEAL

(3.) The remaining Bid Items are transferred to the ROM Building Program and matched with their Standard Item Lists

**Note:** Standard Item Lists are composed of sub-items that are preprogrammed into the ROM Building Program:

Sub Item	Unit Of Measure	Item Description	Std Spec Major
1	CM	CRACK SEALING - CM	5-04.3(4)A, 5-03.3
2		SAND SLURRY SEALANT	9-04.2(1)B
3		POLYMER MODIFIED ASPHALT MASTIC	9-04.2(1)C
4		HOT POURED SEALANT (If Used/Required)	9-04.2(1)A2

Sub Item	Unit Of Measure	Item Description	Std Spec Major
1	TON	HMA FOR PRELEVELING CL. 3/8 IN. PG	5-04.3(9)
2		PAVING ASPHALT	9-02.1(4)
3		MINERAL AGGREGATES	9-03.8
4		RECYCLED ASPHALT PAVEMENT OR SHINGLES (RAP/RAS) (If Used)	9-03.21(1)
5		ASPHALT FOR TACK COAT	5-04.3(4), 9-02.1(4)

**Note:** Many Bid Items do not have a Standard Item List. For these we create lists from scratch or “dummy” lists and individually enter in the sub-items, appropriate Specification Sections, and Acceptance requirements

(4.) Standard Item Lists & dummy lists are merged into the working ROM, and you end up with this:

Bid Item	Description	Qty.	Unit	Spec. Ref.	Code	Requirement
012.01	CRACK SEALING - CM	92.87	CM	9-04.3(4)A, 9-03.3(2)		
012.02	SAND SLURRY SEALANT			9-04.2(1)B	92	Visual Acceptance per Const. Manual 9-1.4C
012.03	POLYMER MODIFIED ASPHALT MASTIC			9-04.2(1)C	63	Mfr. Certificate of Compliance per Stnd. Spec. 1-06.3
012.04	HOT POURED SEALANT (If Used/Required)			9-04.2(1)A2	67	Satisfactory test report from State Materials Laboratory for each lot
014.01	HMA FOR PRELEVELING CL. 3/8 IN. PG 64H-28	2495.8	TON	5-04.3(9)	89	Visual Inspection per Std. Spec. 5-04.3(9)D: Sampling and Testing at the Option
014.02	PAVING ASPHALT			9-02.1(4)	87	Supplier's Cert. of Comp. Incorporated Into Bill of Lading per 9-02.2, Sampling
014.03	MINERAL AGGREGATES			9-03.8	182	Sampling and testing at the option of the Project Engineer.
014.04	RECYCLED ASPHALT PAVEMENT OR SHINGLES (RAP/RAS) (If Used)			9-03.21(1)	176	Toxicity Test Report and Certification per Std. Spec. 9-03.21(1) Dated no older
014.05	ASPHALT FOR TACK COAT			5-04.3(4), 9-02.1(6)	82	Supplier's Cert. of Compliance Incorporated Into Bill of Lading per Std. Spec. 9
015.01	HMA FOR PAVEMENT REPAIR CL. 3/8 IN. PG 64H-28	1075	TON	5-04.3(9)	89	Visual Inspection per Std. Spec. 5-04.3(9)D: Sampling and Testing at the Option
015.02	PAVING ASPHALT			9-02.1(4)	87	Supplier's Cert. of Comp. Incorporated Into Bill of Lading per 9-02.2, Sampling
015.03	MINERAL AGGREGATES			9-03.8	182	Sampling and testing at the option of the Project Engineer.
015.04	RECYCLED ASPHALT PAVEMENT OR SHINGLES (RAP/RAS) (If Used)			9-03.21(1)	176	Toxicity Test Report and Certification per Std. Spec. 9-03.21(1) Dated no older
015.05	ASPHALT FOR TACK COAT			5-04.3(4), 9-02.1(6)	82	Supplier's Cert. of Compliance Incorporated Into Bill of Lading per Std. Spec. 9
016.01	HMA CL. 3/8 IN. PG 64H-28	4462.5	TON	5-04	3	1 Acceptance Sample per 1000 Tons
016.02	PAVING ASPHALT			9-02.1(4)	43	1 Sample for every other mix sample and Supplier's Cert. of Compliance Incorpo
016.03	CL. 3/8 IN. MIN. AGG.			9-03.8	2	1 Acceptance Sample per 2000 Tons
016.04	RECYCLED ASPHALT PAVEMENT OR SHINGLES (RAP/RAS) (If Used)			9-03.21(1)	176	Toxicity Test Report and Certification per Std. Spec. 9-03.21(1) Dated no older
016.05	ASPHALT FOR TACK COAT			5-04.3(4) & 9-02.1(6)	85	Supplier's Cert. of Comp. Incorporated Into Bill of Lading per Std. Spec. 9-02.2
021.01	HMA SAWCUT AND SEAL	52	L.F.	6-08.3(11), 5-03.3(2)C, WSDOT		
021.02	HOT POURED JOINT SEALANT FOR BITUMINOUS PAVEMENT			9-04.2(1)A2	67	Satisfactory test report from State Materials Laboratory for each lot

**Note:** The bulk of the time spent building a ROM is adding and removing materials to match what's shown in the Special Provisions and Plans, especially for non-standard items.

(5.) Once the Initial ROM is finalized and double-checked, it is uploaded to the Online ROM Program for the PEO's use.

# Highlights of CM 9-1.2C (Record of Materials)

## Important Highlights of Section 9-1.2C include:

- ✓ Emergency, Facilities, and other projects specifically identified by the Materials Quality Assurance Section are NOT required to be built by the MQAS
- ✓ Specifically states that the ROM is not a payment or purchasing document.
- ✓ Some temporary Items may need to be included in the ROM. (When the contract documents contain temporary material requirements)
- ✓ Defines “Maintained ROM” for the Project Offices and gives a 30-day requirement after materials payment for maintenance of each lined item in the Online ROM Program (Formerly called the MTP).
- ✓ Clarifies that the “Work Completed (WC)/Documentation Complete (DC) /Not Used (NU)” fields be filled out in the program. That was not a requirement before.

# Record of Materials (ROM)

## Emergency Projects

- ✓ PEO may request a ROM be built from the MQAS.
- ✓ Not usually advertised through Contract Ad & Award Office and often the ROM Engineer is not aware of the Contract.
- ✓ Must send Project Plans and Specials to ROM Engineer
- ✓ ROM Engineer will attempt to make Emergency Projects a priority once received

## Temporary Materials

- ✓ When the Contract Specials or Plans state that a temporary material shall meet the requirements of a stated material Specification, Standard Specification, or if the temporary material is included in the Construction Manual as requiring either Approval or Acceptance – then that temporary material must be tracked on the Maintained ROM.
- ✓ ROM Engineer will do their best to include these materials on the Initial ROM.

PEO is encouraged to contact the ROM Engineer/MQAS for assistance with questions on materials documentation requirements.

# Modifying the Initial Record of Material

The Project Office has the option to modify the Acceptance requirements listed on the Initial ROM, **if the material is:**

- ✓ Listed in CM 9-1.1D (Optional Approval/Acceptance)
- ✓ Listed in CM 9-1.3C (Low Risk Materials)
- ✓ Small Quantities as defined in CM 9-1.1A
- ✓ Other items as designated in the Contract Special Provisions, Construction Manual, or Standard Specifications.



# Common Questions

- Does the MQAS build Initial ROMs for Developer Projects (Contract Prefix: JD)?
  - ✓ Yes, although an Initial ROM from the MQAS is not required, one can be requested.
  - ✓ Developer Project ROM requests will be put in queue with State Project ROMs when received.
  - ✓ Depending on the project timeline it may be quicker for the PEO to develop the initial ROM.
- Does the MQAS build Initial ROMs for Emergency Projects?
  - ✓ Yes. Again, an Initial ROM from the MQAS is not required but can be requested.
  - ✓ Emergency Project ROM requests will be given priority when received.
- Why is the QPL Acceptance requirement not matching the ROM or Construction Manual Acceptance Requirement?
  - ✓ The QPL Acceptance requirement reflects the nature of having a pre-approved, qualified product.
  - ✓ The product has been thoroughly reviewed for compliance to WSDOT Standard Specifications and a lower level of Acceptance is often established for QPL items.

# Questions?

E-mail: [mlrom@wsdot.wa.gov](mailto:mlrom@wsdot.wa.gov)

- ✓ Questions, comments, or feedback on an Initial ROM or Working ROM
- ✓ Suggestions for future changes
- ✓ Feedback or guidance on additional items you want to add or remove from your Working ROM
- ✓ Questions about the status of an Initial ROM in progress

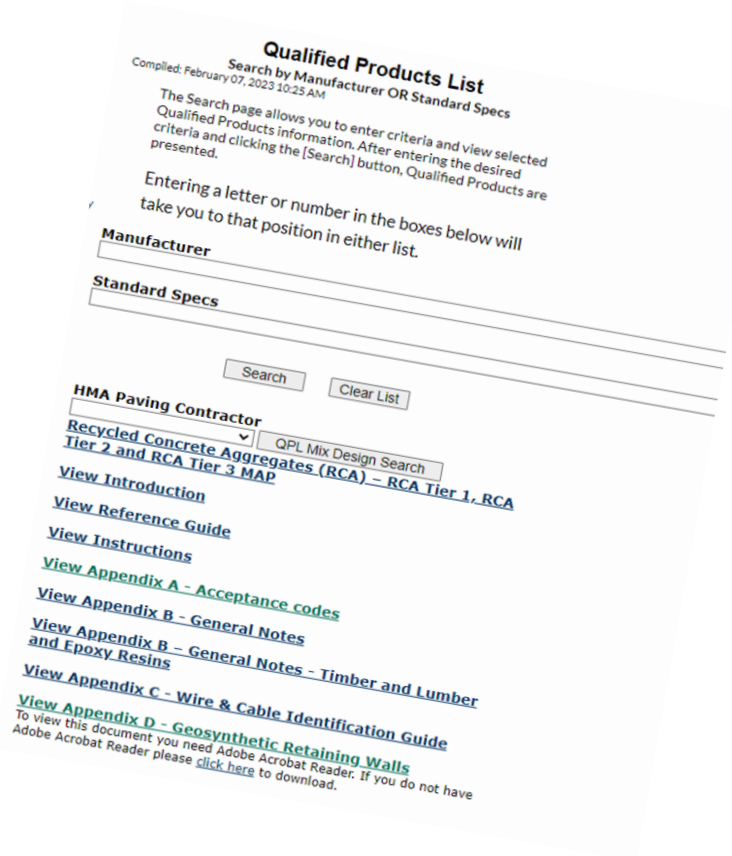
Thank you

Matt Johnson –  
ROM Engineer  
[johnme@wsdot.wa.gov](mailto:johnme@wsdot.wa.gov)  
564-669-3623 Cell

# Break – 9:00 am to 9:10 am



# Qualified Product List (QPL)



**Qualified Products List**  
Search by Manufacturer OR Standard Specs  
Compiled: February 07, 2023 10:25 AM

The Search page allows you to enter criteria and view selected Qualified Products information. After entering the desired criteria and clicking the [Search] button, Qualified Products are presented.

Entering a letter or number in the boxes below will take you to that position in either list.

**Manufacturer**

**Standard Specs**

Search Clear List

**HMA Paving Contractor**

QPL Mix Design Search

**Recycled Concrete Aggregates (RCA) - RCA Tier 1, RCA Tier 2 and RCA Tier 3 MAP**

[View Introduction](#)

[View Reference Guide](#)

[View Instructions](#)

[View Appendix A - Acceptance codes](#)

[View Appendix B - General Notes](#)

[View Appendix B - General Notes - Timber and Lumber and Epoxy Resins](#)

[View Appendix C - Wire & Cable Identification Guide](#)

[View Appendix D - Geosynthetic Retaining Walls](#)

To view this document you need Adobe Acrobat Reader. If you do not have Adobe Acrobat Reader please [click here](#) to download.

Presented by: John Emerick  
QPL/ASA Engineer  
State Materials Laboratory  
March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# QPL Topics

- Basic QPL
- Initiating a QPL
- How to read a QPL page
- Acceptance Codes
- Getting a “Lot” on the QPL
- Electrical Materials



## Product List

# QPL Basics

- The Qualified Product List or QPL for short, is a database of products that have been reviewed or tested and approved for use on WSDOT Construction Projects.
- Each individual product is listed under the Specifications, Manufacturer/Fabricator/Producer, location produced, Product Name and Model/Formula and the Acceptance Code.
- Products that arrive in the field must be exactly as listed on the QPL.
- You can either search by Standard Spec. or known manufacturer.
- The QPL lists the approved materials that meet the appropriate Standard Specifications, General Special Provisions or Standard Plans.
- Each product has a specific Acceptance Code. That code will tell what is needed to meet the Materials Acceptance Criteria requirements to use on your contract.
- Review the QPL page restrictions and additional notes for use of the product.
- The QPL page may be retained for Approval of Materials Documentation per Std. Specifications 1-06.1(1Construction Manual 9-1.3A(2). If the QPL page is retained for Approval of Materials, then everything listed for that item shall be verbatim as listed in the QPL. The QPL can be used to approve the submitted RAM as long as CM 9-1.3B(1) is adhered to.

# Initiating a product for QPL

QPL initiation can be done by 3 ways:

## 1. Directly from the manufacturer

- A manufacturer representative contacts the QPL department to initiate an application for their product and/or Recycled Concrete Aggregate source\* – a QPL number is assigned.
- Full evaluation can only take place after the application completed and returned, a Work Order is set up and active, and all documents, test reports or samples and been received.
- Pending results, the product will be listed in the QPL database if found to meet the most updated WSDOT Specifications.

\*For Recycled Concrete Aggregate (RCA), a Source ID number is created in the ASA Database to connect source approval with the RCA/QPL approval.

**HMA Mix Designs applications are now handled by the HQ Bituminous Lab.**

# Qualified Product List

2. Requested through Request for Approval of Materials (RAM) process
  - Materials, **excluding RCA**, submitted on RAMs and on multiple projects that deemed meeting WSDOT Specifications, the RAM Engineer, in coordination with the Subject Matter Experts (SME), will contact the QPL Engineer and request adding the designated material(s) to the QPL Database – Manufacturer does not pay for this process.
3. Requested through Subject Matter Expert (SME) process
  - The SME will request adding designated materials to the QPL Database by submitting a SME Application to the QPL Engineer – Manufacturer does not pay for this process.



# Reading a QPL page

- Manufacturer
- Product name
- Standard Spec
- Product Description
- Product Restriction
- Acceptance Code
- Code Description
- Notes
- Last Updated

## Qualified Product List

### Product Information

**Manufacturer:** [W.R. Meadows - Hampshire, IL](#)

**Product Name :** 1300-Clear

**Standard Spec :** 9-23.2, Concrete Curing - Liquid Membrane-Forming Curing Compounds

**Product Description :** Curing compound: Water base, wax base; Type 1, Class A; clear or translucent; Approved lot number (approved lots will be purged from the QPL Database at the end of the calendar year) - 2BJ010, 9BH012, 1BL003, 9BH012

**Product Restriction :**

**Acceptance Code :** 1115

**Code Description :** Receipt of a satisfactory Test Report from WSDOT Materials Laboratory is required indicating the lot(s) of material meets the requirements of the specifications under which it is listed. The Test Report must be received prior to incorporating the material into the project. Samples must be submitted to the State Materials Laboratory a minimum of 10 days prior to use.

**Note 4 :** Approved lots do not require samples to be submitted.

**Last Updated :** Feb 23, 2023

Contractors with WSDOT [Click here for Contractor Product Info Page](#)

# Reading a QPL page cont.

- Clicking the link on the Manufacturer name (W.R. Meadows) will take you the manufacturer location contact information.
  - Address
  - Contact name
  - Phone
  - Fax
  - Email
  - And any comments that might be helpful in the QPL process.

## Qualified Product List

### Manufacturer Location

#### W.R. Meadows

**Address:** 300 Industrial Drive  
Hampshire  
IL, 60140, U.S.A.

**Contact Name:** Scott Cresta

**Phone:** (707) 745-6666 Ext:

**Fax:** (847) 683-4544 Ext:

**Toll:** (800) 342-5976 Ext:

**Email:** [scresta@wrmeadows.com](mailto:scresta@wrmeadows.com)

International  
Phone:  
International  
Fax:

**Comments:** Web site: [www.wrmeadows.com](http://www.wrmeadows.com); Joint filler & epoxy are manufactured at their Hampshire, IL location. Contact Benicia, CA location for technical and sales questions

Please click on the manufacturer name to see other locations.

# QPL – Acceptance Codes

- Acceptance Codes in the 1000's are either from State Materials Lab or Independent Lab and require:
  - Testing
- Acceptance Codes in the 2000's require:
  - Manufacturer's Certificate of Compliance
- Acceptance Codes with 3000's require:
  - Visually Verify
- Acceptance Codes in the 4000's require
  - Document the product delivered to the job site is in the Contract Documents.
- Acceptance Codes in the 5000's require
  - Fabrication Inspection – document fab stamp
- Acceptance Codes in the 6000's require
  - Acceptance is based on submittal of acceptable Catalog Cut sheets showing what the product is and how it's used.
- Acceptance Codes in the 7000's varies – some requirements are
  - Fabrication Inspection
  - Manufacturer's Certificate of Compliance
  - Certificate of Treatment
  - Test Report
  - Making grout cubes

# QPL – Reference Test Report & Getting a “Lot” on the QPL

- [CM 9-1.4\(1\)](#) When a Satisfactory Test Report is required, a Reference Test Report may be used if allowed in Section 9-4 for that specific material.

### 3. Acceptance

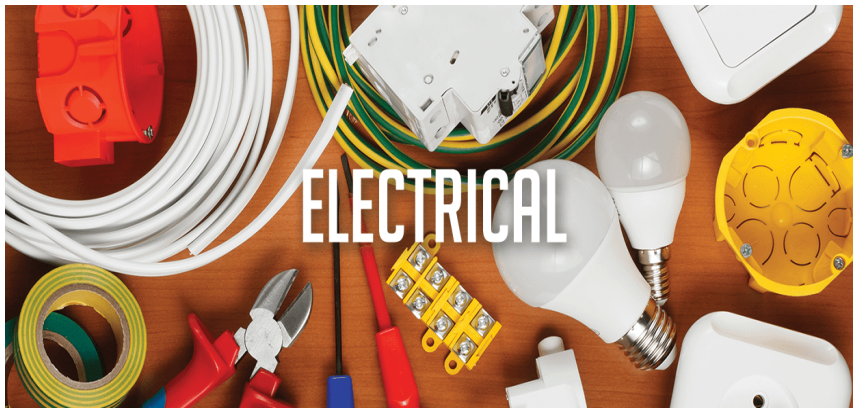
- a. **Flexible Bituminous Pavement Marker Adhesive** – If the lot is listed on the QPL, it may be used without testing on current projects per Section 9-1.4A(1). If the lot is not on the QPL, submit a sample taken by, or in the presence of, an agency representative for each lot. Samples must be submitted for testing 10 days prior to use of adhesive. Samples submitted shall be accepted on receipt of “Satisfactory” test reports from the State Materials Laboratory.

- The use of a test report from another contract is not acceptable as a Reference Test Report.
- Lots listed on the QPL are only for, that calendar year the materials were tested. All lots referenced on the QPL are deleted the 1<sup>st</sup> week of January.

- A test report or a material tested under a specific contract, is good for the life of that contract.
- State Materials Lab testing sections determine how many samples are required to be tested before listing the lot number on the QPL. Presently:
  - Joint Sealant – 1 passing sample.
  - Cure Compound – 1 passing sample
  - Paint – 1 passing sample
  - Hot Applied Flexible Marker Adhesive - 3 passing samples.

# Electrical Materials

- The QPL may have links associated with a QPL material that is listed. These links will bring you to a list of Pre-approved material list with details.



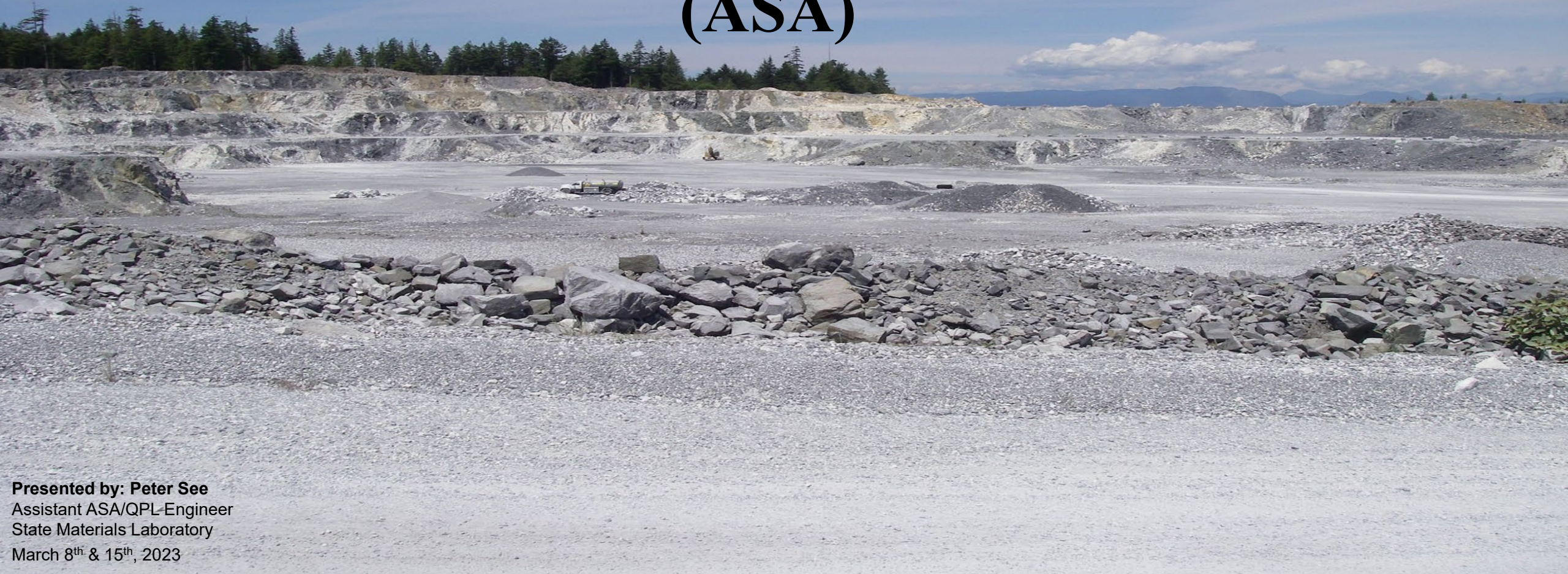
- Current pre-approved equipment includes:
  - Light and Signal Standards
    - Type 1 Light Standards
    - Small Signal Standards (Type PPB, PS, I, RM, and FB Signal Standards)
    - Type II and III Signal Standards
    - Type IV and V Signal Strain Poles
    - Type CCTV Standards
  - LED Luminaires
    - Conventional Roadway (Cobra-Head) Type
    - Wall Mount Type
  - Electrical and Communications Boxes and Vaults
    - Type 1,2,4,5,6 & 8 Junction Boxes
    - Pull Boxes
    - Small Cable Vaults
    - Regular Cable Vaults

# Questions?

**Thank You!**

John Emerick  
QPL/ASA Engineer  
[emerijc@wsdot.wa.gov](mailto:emerijc@wsdot.wa.gov)  
360-584-2031 Cell

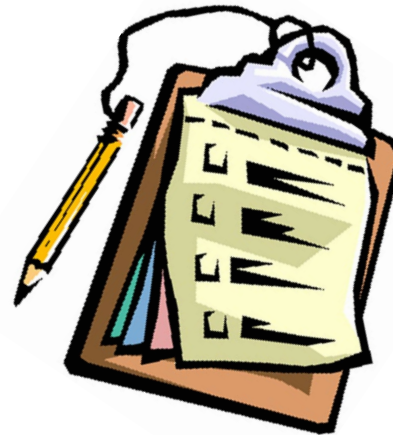
# Aggregate Source Approval (ASA)



**Presented by: Peter See**  
Assistant ASA/QPL-Engineer  
State Materials Laboratory  
March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# Aggregate Source Approval (ASA)

- Basics of ASA
- Approval/Acceptance Details
- Aggregate Types
- Reading the ASA Test Report
- 90day extensions





# Aggregate Source Approval (ASA)

- The Aggregate Source Approval (ASA) program is WSDOT's way to pre-approve aggregate pits and quarries.
- WSDOT source approvals are from one to five years in length. Source approval length is determined in conjunction with the Region Materials Engineer and is based on the source inspection and test history. Sources may be only for "stockpiles" also. Look closely for notes within the ASA Database information.
- Source Approvals length; Mineral Aggregates and Surfacing, Aggregates for Concrete, Streambed Aggregates, Gravel Borrow for Structural Earth Walls all get a 5yr approvals. Riprap, Quarry Spalls, Rock for Rock Wall, Erosion and Scour Protection is a 1yr approval.

# Approval/Acceptance Details

- All sampling and testing shall be performed by qualified WSDOT staff.
- Aggregates are tested and those results are compared to current WSDOT Standard Specifications to determine the approval status.
- The approval status is displayed online at <https://wsdot.wa.gov/biz/mats/ASA/ASASearch.cfm>. The source identification number, current test results, approval status, approval date & expiration date are publicly available through the on-line ASA Report.
- Acceptance criteria must still be met when aggregates are used on contact, but preliminary samples for approval won't need to be tested for the contract.
- The ASA can be referenced while Approving the Request for Approval of Materials per CM 9-1.3B(1)(II) – Project Engineer's Office Approval Coding – Aggregates.

# Aggregate Types



- The ASA Report reports the approval status for five aggregate types:
  - Mineral Aggregate and Surfacing
  - Aggregates for Concrete
  - Riprap, Quarry Spalls, Rock for Rock Wall, Erosion and Scour Protection
  - Streambed Aggregates
  - Gravel Borrow for Structural Earth Walls

# Aggregate Types

Mineral Agg and Surfacing



Concrete Aggregate



Riprap, Quarry Spalls



Gravel Borrow





WSDOT MATERIALS LAB 02/27/2023  
Aggregate Source Approval  
Report

Owner: Ellensburg Cement Products

304

Aggregate Source: PS-S-

Lessee:

Pit

Known as: West Cle Elum

Located in: N 1/2 SE 1/4, S 1/2 NE 1/4, NE 1/4 Section 32 T20N  
R15E

County: Kittitas

Address:

Remarks:

**Mineral Agg. and Surfacing:**

Test Date: 02/27/2023

Expiration Date: 02/27/2028

Absorption: 1.26

Apparent Sp. G.: 2.796

Bulk Sp. G. (SSD): 2.735

Bulk Sp. G.: 2.701

Deg: 40

LA: 16

Remarks:

Currently approved as a source of aggregate for:

ATB

Ballast

BST Crushed Cover Stone

BST Crushed Screenings

Crushed Surfacing Base  
Course

Crushed Surfacing Key Stone

Crushed Surfacing Top  
Course

Gravel Backfill for Foundation  
Class A

HMA Other Courses

HMA Wearing Course

Maintenance Rock

Permeable Ballast

Acceptance tests need to be performed as necessary.

**Aggregates for Concrete:**

Test Date: 04/27/2018

Expiration Date: 04/27/2023

ASR - 14 Day : 0.34

ASR - One Year:

CCA Absorption: 1.93

CCA Sp.G: 2.705

Deg: 47

FCA Absorption: 2.98

FCA Organics: 1

FCA Sp. G: 2.823

LA: 14

Remarks:

Currently approved for:

Coarse Concrete

Aggregates

Fine Concrete Aggregates

# Reading the ASA Report

# Reading the ASA Report

## Top

- Owner
- Lessee
- Location/Address
- Source ID
- Local Name
- County
- Physical Address!!
- Any remarks about the source and/or stockpile.

## Middle - Test Data

- Aggregate type
- Date tested & Expiration date. If expired, date will be in red.
- Test results
- Any remarks about the source and/or stockpile.
- Currently approved / Not approved

WSDOT MATERIALS LAB 02/22/2023

### Aggregate Source Approval Report

---

**Owner:** Frank Rowley **Aggregate Source:** QS-E-349  
**Lessee:** Granite Construction Company **Known as:** Rowley Quarry  
**Located in:** SW 1/4 NW 1/4 Section 6 T13N R19E **County:** Yakima  
**Address:** 99 East Selah Road, Yakima, WA 98901

---

**Remarks:**  
 46.643089294, -120.498840332

---

**Mineral Agg. and Surfacing:** **Test Date:** 12/18/2018 **Expiration Date:** 12/18/2023  
**Absorption:** 1.5 **Apparent Sp. G.:** 2.852 **Bulk Sp. G. (SSD):** 2.776 **Bulk Sp. G.:** 2.735  
**Deg:** 68 **LA:** 15

**Remarks:**  
 Currently approved as a source of aggregate for:

ATB	Ballast	BST Crushed Cover Stone
BST Crushed Screenings	Crushed Surfacing Base Course	Crushed Surfacing Key Stone
Crushed Surfacing Top Course	Gravel Backfill for Foundation Class A	HMA Other Courses
HMA Wearing Course	Maintenance Rock	Permeable Ballast

Acceptance tests need to be performed as necessary.

---

**Aggregates for Concrete:** **Test Date:** **Expiration Date:**  
 ASR - 14 Day : ASR - One Year: CCA Absorption: CCA Sp.G:  
 Deg: FCA Absorption: FCA Organics: FCA Sp. G:  
 LA:

**Remarks:**

---

**NOT approved for:**  
 Coarse Concrete Aggregates Fine Concrete Aggregates

# Reading the ASA Report

## Bottom

- There are 16 aggregates types not requiring ASA approval. There are listed at the bottom of each ASA report.
- ASA approval is not required per the WSDOT Construction Manual.

## ALL OTHER PIT RUN MATERIALS:

Project Engineer may request preliminary samples but Aggregate Source Approval is not required.

## AGGREGATE MATERIALS NOT REQUIRING ASA APPROVAL :

Aggregate for Gravel Base 9-03.10

Gravel Backfill for Foundation Class B 9-03.12(1)B

Gravel Backfill for Walls 9-03.12(2)

Gravel Backfill for Pipe Zone Bedding 9-03.12(3)

Gravel Backfill for Drains 9-03.12(4)

Gravel Backfill for Drywells 9-03.12(5)

Backfill for Sand Drains 9-03.13

Sand Drainage Blanket 9-03.13(1)

Gravel Borrow 9-03.14(1)

Select Borrow 9-03.14(2)

Common Borrow 9-03.14(3)

Native Material for Trench Backfill 9-03.15

Foundation Material Class A and B 9-03.17

Foundation Material Class C 9-03.18

Bank Run Gravel for Trench Backfill 9-03.19

Commercial Concrete Aggregate 6-02.3(2)B

# 90-day Extensions

- A 3-month extension of an aggregate source may only be granted one time for an expiring source.
- The request must come in prior to the aggregate source/material expiration date.
- Either the source owner or the RME may request the extension.
- The QA Materials Section will communicate with the RME about source history, any changes with material production, and their recommendation on approval.
- Once all information is gathered the proposal is submitted to Garrett Webster, The Assistant State Materials Engineer – Materials Quality, for final review.





# Thank You!

(picture is from Iron Mt. Quarry in Granite Falls, WA)



Peter See –  
Assistant QPL/ASA Engineer  
[seep@wsdot.wa.gov](mailto:seep@wsdot.wa.gov)  
360-764-0165 Cell

John Emerick –  
QPL/ASA Engineer  
[emerijc@wsdot.wa.gov](mailto:emerijc@wsdot.wa.gov)  
360-584-2031 Cell

- **Request for Approval of Materials (RAM)**
- **Unifier RAMs**

# Request for Approval of Materials (RAM) Process

- **UNIFIER**
- [DOT Form 350-071 Request for Approval of Material \(wa.gov\)](#)
- **Ensure the RAM is accurate.**
- **Ensure** the RAM the following information is on the submittal. Contract #, if applicable the Federal Aid #, **applicable Std Specification and/or PS #, SP#**, the specific Bid Item #, Product Name, Manufacturer Name and location.
- **Supporting documentation** may assist in expediting the RAM.
  - When Manufacturer Certificates of Compliance, Mill Test Reports or Catalog Cuts are available, please include them with the RAM submittal. **(All supporting documentation should include the applicable bid item number for each document.)**
  - This extra information can prevent the need to return the RAM for additional information.
  - Applicable Bid Item

# Request for Approval of Materials (RAM) Process

Who has the authority to code the RAM?

- The Project Engineer's Office may approve RAMs, Construction Manual 9-1.3B(1).
- Low Risk Materials, Construction Manual 9-1.3C
- Additional Information Regarding Evaluation and Coding of the RAM

## **Proprietary Items**

- **These items must be documented on the RAM.**
  - **Document with detail, confirming it is the proprietary product.**


# Re-evaluation of Materials, Materials Previously Submitted For Evaluation and Not Approved

- Is the RAM being submitted a revision to a previously submitted RAM?
  - Re-evaluation of materials previously reviewed for approval must be submitted on the original RAM.
  - A RAM must accompany all supporting documentation. Although a RAM may have been previously evaluated, please include the RAM.
  - It is helpful to point out or highlight information you want to have considered in reevaluation of the RAM.

# RAM Form 350-071

RAM form, WSDOT 350-071 (Revised 4/2022)

- [DOT Form 350-071 Request for Approval of Material \(wa.gov\)](https://www.wa.gov)
- As stated earlier, all materials entries should be accurate and complete.

 **Washington State Department of Transportation** **Request for Approval of Material**

Contract Number		FA Number		SR	Date		
Section / Title of Project					County		
Contractor					Subcontractor		

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

PE Use	Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	For WSDOT Use Only		
					RAM #	PE/QPL Code	Hqtr./QPL Code

Project Engineer/Representative		Date	State Materials Engineer/Representative		Date
---------------------------------	--	------	---	--	------

**Acceptance Action Codes for use by Project Engineer and State Materials Laboratory**

- Acceptance Criteria: Acceptance based upon "Satisfactory" Test Report for samples of materials to be incorporated into project.
- Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
- Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved  Yes  No
- Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
- Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
- Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
- Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
- Source Approved: \_\_\_\_\_
- Approval Withheld: Submit samples for preliminary evaluation.
- Approval Withheld: \_\_\_\_\_
- Miscellaneous Acceptance Criteria: \_\_\_\_\_

Remarks (PE): \_\_\_\_\_

Remarks (HQ): \_\_\_\_\_

DOT Form 350-071 Revised 03/2021  Project Engineer Distribution  Contractor  Region Operations Engineer  Fabrication Inspection  Region Materials  State Materials Lab - MS 47365

# Electrical RAM Submittals

- **Construction Manual 9-1.3B(1) – Project Engineer’s Office Approval Coding:**
- Documents when and how the Project Engineer Office can process their own RAM. The PEO is to submit the RAM to the RAM Engineer when unable to process the RAM per CM 9-1.3B(1).
- Special attention is required for electrical items to list all components including specific model numbers on the RAM. All items within the RAM submittal package shall be listed on the RAM.

# Proper Electrical RAM Submittal

Washington State Department of Transportation SUBM-0023

### Request for Approval of Material

Contract Number	FA Number	SR	Date
Section / Title of Project		County	
Contractor		Subcontractor	

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

PE Use	Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	For WSDOT Use Only		
					PE/QPL Code	Hdqt./QPL Code	HQ Use
.01	137.15.06	RRFB Control Cabinet SC315-G	Carmanah Technologies Canada, BC	9-29.25 PS253	7	3##	
.02	137.15.05	Flashing Beacon Assembly	Carmanah Technologies Canada, BC	PS253	7	3##	
.03	137.15.07	Push Button Assembly	Polara Engineering, Inc. Corona, CA	9-29.19	7	3##	
.04	137.15.09	PPB Permanent Signs	NW Safety Signs Bellingham, WA	9-28	7	3	
.05	138.02	Type 334L ITS Cabinet	Bobotrex Eagle Traffic Control Systems Davenport, IA	9-29.13(11) SP95-97/SP111-113/PS258-260	7	11***	
.06	139.09.03	CCTV Camera COHU Rise Gen3	COHU Costar, LLC Lincoln, RI, Poway, CA	SP97-98	8*	**	
.07	139.09.06	IP67 RJ45 Coupler	COHU Costar, LLC Lincoln, RI, Poway, CA	SP97-98	8*	**	
.08	139.09.07	Camera Control Cable	COHU Costar, LLC Lincoln, RI, Poway, CA	SP97-98	8*	**	

Project Engineer/Representative \_\_\_\_\_ Date \_\_\_\_\_ State Materials Engineer/Representative \_\_\_\_\_ Date \_\_\_\_\_

**Acceptance Action Codes for use by Project Engineer and State Materials Laboratory**

- Acceptance Criteria: Acceptance based upon "Satisfactory" Test Report for samples of materials to be incorporated into project.
- Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
- Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved  Yes  No
- Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
- Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
- Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
- Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
- Source Approved: \* Proprietary Source SP Pages 97- 98
- Approval Withheld: Submit samples for preliminary evaluation.
- Approval Withheld:
- Miscellaneous Acceptance Criteria.
- Remarks (PE):

Remarks (HQ): ##Approved per notations on the Cat Cut/data sheet.  
 \*\*\*Approved as noted. Acceptance requires a satisfactory shop & field testing per Special Provisions. Please adhere to notations on cat cuts made by the SME. \*\*Approved as noted. The SME made comments regarding some materials. In some cases model numbers or other important information has been notated.

Some data sheets have had comments documented indicating the material has been rejected.

DOT Form 350-071 Revised 04/2022 7/22/22

Project Engineer Distribution  
 Contractor  Region Operations Engineer  Fabrication Inspection  Region Materials  State Materials Lab - MS 47365

Washington State Department of Transportation SUBM-0023

### Request for Approval of Material

Contract Number	FA Number	SR	Date
Section / Title of Project		County	
Contractor		Subcontractor	

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

PE Use	Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	For WSDOT Use Only		
					PE/QPL Code	Hdqt./QPL Code	HQ Use
.01	139.09.10	Pedestal Mount	COHU Costar, LLC Lincoln, RI, Poway, CA	SP97-98	8*	#	
.02	139.01 & 139.06	WSDOT 331L Controller Cabinet	COHU Costar, LLC Lincoln, RI, Poway, CA	9-29.13 PS264-265	8*	#	
.03	139.09.04	High Temp POE Injector	COHU Costar, LLC Lincoln, RI, Poway, CA	SP97-98	8*	#	
.04	139.09.05	POE Surge Protector	Microsemi Pg69 of submittal PgSP97 model 741-2009	SP97-98	8*	#	
.05	139.09.07	Camera Control Cable CAT6	Black Box Pg73 of submittal pgSP97 RJ45	SP97-98	8*	#	

Project Engineer/Representative \_\_\_\_\_ Date \_\_\_\_\_ State Materials Engineer/Representative \_\_\_\_\_ Date \_\_\_\_\_

**Acceptance Action Codes for use by Project Engineer and State Materials Laboratory**

- Acceptance Criteria: Acceptance based upon "Satisfactory" Test Report for samples of materials to be incorporated into project.
- Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
- Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved  Yes  No
- Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
- Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
- Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
- Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
- Source Approved: \* Proprietary Source SP Pages 97- 98
- Approval Withheld: Submit samples for preliminary evaluation.
- Approval Withheld:
- Miscellaneous Acceptance Criteria.
- Remarks (PE):

Remarks (HQ): ##Approved as not on data sheets/cat cuts. Acceptance per verification that any/all comments made by the SME on the attached Cat Cuts have been noted and addressed (note comment on Ruggedcom and Gigatruue CAT6 Cable). 8/3/22

DOT Form 350-071 Revised 04/2022 7/22/22

Project Engineer Distribution  
 Contractor  Region Operations Engineer  Fabrication Inspection  Region Materials  State Materials Lab - MS 47365



# Improper Electrical RAM Submittal

- Electrical items to list all components including specific model numbers on the RAM.
- All items within the RAM submittal package shall be listed on the RAM.

Contract Number	FA Number	SR	Date
Section / Title of Project		County	
Contractor		Subcontractor	

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

For WSDOT Use Only RAM # 13161		
PE/QPL Code	Hdqr./QPL Code	HQ Use
**7	10*	

PE Use	Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference
	29.02	Controller Cabinet with Components	Various - Econolite Portland, OR	9-29.13, SP53, SP65

Project Engineer	Date	State Materials Engineer	Date
------------------	------	--------------------------	------

**Acceptance Action Codes for use by Project Engineer and State Materials Laboratory**

- Acceptance Criteria: Acceptance based upon "Satisfactory" Test Report for samples of materials to be incorporated into project.
- Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
- Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved  Yes  No
- Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
- Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
- Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
- Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
- Source Approved:
- Approval Withheld: Submit samples for preliminary evaluation.
- Approval Withheld:
- Miscellaneous Acceptance Criteria.

Remarks (PE): \*\*7 with catalog cuts & Shop drawing

Remarks (HQ): \*Approval withheld. RAMs should list all components being evaluated. Some items included in this RAM submittal were approved, some require corrections, some were rejected. Please note, the SME has stated on page 3 of this submittal to see individual pages for approval of individual components.

Project Engineer Distribution  
 Contractor  Region Operations Engineer  Fabrication Inspection  Region Materials  State Materials Lab - MG 47365

State Materials Engineer Distribution  General File  Signing Inspection  Other \_\_\_\_\_

# Questions?

**Thank You!**

Suzanna Dethlefs  
RAM Engineer  
[dethles@wsdot.wa.gov](mailto:dethles@wsdot.wa.gov)  
360-515-6587 Cell



# Unifier - Materials

Wendy Stroschein – HQ CN

Ryan Hillam – HQ PMRS

2023



# General Navigation

ORACLE Primavera Unifier

Company Workspace Company Workspace All Projects 009587old2 009896 009728 **009462** 009786 009885 009656

RH Ryan Hillam

All Projects > Headquarters > 009462

## Inspector Daily Reports

+ Create Actions View: All Records

Daily Activity Date	Inspector	Status	Record #	Shift	Creation Date	Report Period	Creator
01/30/2023	Damon Houck	LEAD_INSP_Review	IDR-328	Day	01/30/2023 08:02 AM	Daily	Damon Houck
01/27/2023	Bryce Logerwell	LEAD_INSP_Review	IDR-327	Day	01/27/2023 09:54 AM	Daily	Bryce Logerwell
01/27/2023		Pending	IDR-326	Day	01/27/2023 09:48 AM	Daily	Bryce Logerwell
01/25/2023	Damon Houck	PM_Review	IDR-325	Day	01/25/2023 02:44 PM	Daily	Damon Houck
01/24/2023	Damon Houck	PM_Review	IDR-324	Day	01/24/2023 09:45 AM	Daily	Damon Houck
01/23/2023	Damon Houck	PM_Review	IDR-323	Day	01/23/2023 09:27 AM	Daily	Damon Houck
	Bryce Logerwell	PM_Review	IDR-322	Day	01/19/2023 03:44 PM	Daily	Bryce Logerwell
	Bryce Logerwell	PM_Review	IDR-321	Day	01/19/2023 03:42 PM	Daily	Bryce Logerwell
01/19/2023	Bryce Logerwell	Approved	IDR-320	Day	01/19/2023 01:06 PM	Daily	Bryce Logerwell
01/18/2023	Adam M Dahl	INSP_Revise	IDR-319	Day	01/18/2023 11:18 AM	Daily	Adam M Dahl
01/18/2023	Adam M Dahl	Pending	IDR-318	Day	01/18/2023 11:16 AM	Daily	Adam M Dahl
01/18/2023	Adam M Dahl	Pending	IDR-317	Day	01/18/2023 11:05 AM	Daily	Adam M Dahl
	Bryce Logerwell	LEAD_INSP_Review	IDR-316	Day	01/18/2023 10:12 AM	Daily	Bryce Logerwell
	Bryce Logerwell	LEAD_INSP_Review	IDR-315	Day	01/18/2023 10:11 AM	Daily	Bryce Logerwell
01/18/2023	Bryce Logerwell	LEAD_INSP_Review	IDR-314	Day	01/18/2023 09:30 AM	Daily	Bryce Logerwell
01/18/2023	Adam M Dahl	Pending	IDR-313	Day	01/18/2023 09:19 AM	Daily	Adam M Dahl
01/18/2023	Adam M Dahl	Pending	IDR-312	Day	01/18/2023 09:12 AM	Daily	Adam M Dahl
01/12/2023	Damon Houck	LEAD_INSP_Review	IDR-311	Day	01/12/2023 09:52 AM	Daily	Damon Houck
01/10/2023	Wendy Stroschein	PE_Review	IDR-310	Day	01/10/2023 02:41 PM	Daily	Wendy Stroschein
01/07/2023	Ryan Hillam	PM_Review	IDR-309	Day	01/07/2023 08:46 AM	Daily	Ryan Hillam

009462 - Home

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- Document Manager
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- Communication
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- Group Cat 03-99
- Reports
- Inspector Daily Reports**
- Field Incident Reports
- Field Note Record
- Materials Field Verific...
- Contract Items
- Material Items
- Record of Materials

User Mode Navigator

Business Process

Project Shell (Contract)

User Control Panel (login/out, proxy, notification preferences)

Business Process Log

Record Preview

Self Help

# Unifier Materials Business Processes

**ORACLE Primavera Unifier** Self Help

Company Workspace | Company Workspace | All Projects | 009462 | 009786 | 009906 | 009074 | **009728** | +

009728 - Home | All Projects > Eastern > 009728

Summary | Workspaces | My Dashboard

**Tasks** 0 Active | **Notifications** 0 Total | **Mail** 0 Total

**Image**

Information  
No Image Available.

**Details**

Project Title	Administrator	Status
009728	<a href="#">Company Administrator</a>	Active
Project Number	Hierarchy Path	
F09047Q	/All Projects/Eastern	

**Links**

[Contract Ad & Award](#)

**Navigation Menu (Left):**

- 009728 - Home
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- Inspector Daily Reports**
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- Material Items**
- Record of Materials**

# Non-Workflow BP's

ORACLE Primavera Unifier Self Help

Company Workspace | Company Workspace | All Projects | 009462 | 009786 | 009906 | 009074 | **009728** | +

All Projects > Eastern > 009728

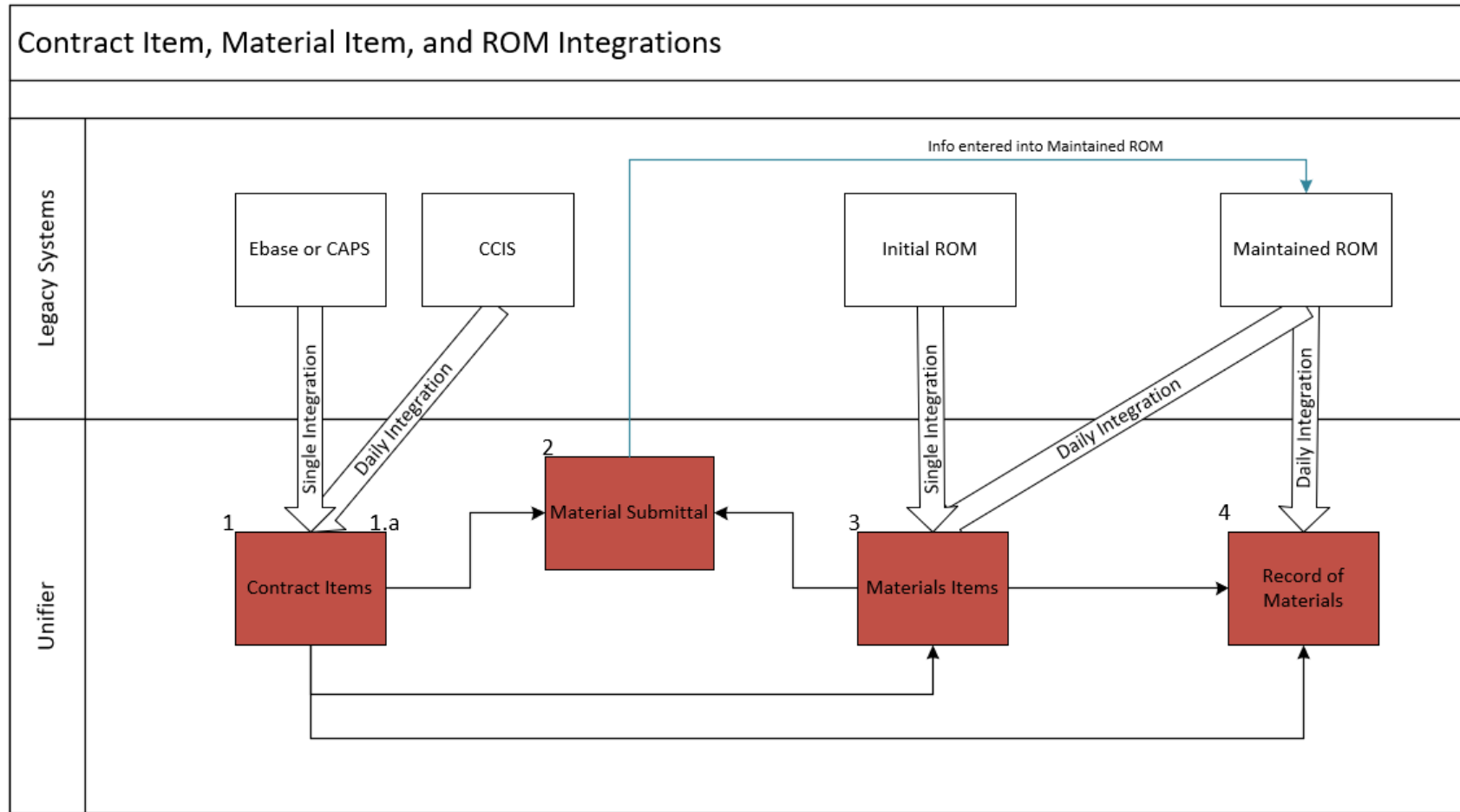
## Contract Items

+ Create    Actions ▾    View : (Modified) All Records ▾    [Edit] [Refresh] [Print] [Search] [List] [Help]

Bid Item	Bid Item Description	Project Number	Record No.	Item Unit Cost	Standard Item Number	Contract Item ID
0001	MOBILIZATION	F09047Q	CLI-0001	1.00		0097280001
0002	REMOVING GUIDE POST	F09047Q	CLI-0002	7.00		0097280002
0003	REMOVING PAINT LINE	F09047Q	CLI-0003	2.30		0097280003
0004	MAINTENANCE ACCESS PAD	F09047Q	CLI-0004	1.00		0097280004
0005	ESC LEAD	F09047Q	CLI-0011	160.00		0097280005
0006	INLET PROTECTION	F09047Q	CLI-0005	200.00		0097280006
0007	EROSION/WATER POLLUTION CONTROL	F09047Q	CLI-0008	1.00		0097280007
0008	SEEDING	F09047Q	CLI-0009	1.00		0097280008
0009	BEAM GUARDRAIL TYPE 31	F09047Q	CLI-0010	84.00		0097280009
0010	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL	F09047Q	CLI-0006	6,450.00		0097280010
0011	BEAM GUARDRAIL ANCHOR TYPE 10	F09047Q	CLI-0007	2,580.00		0097280011
0012	REPAIR TRANSPORTABLE ATTENUATOR	F09047Q	CLI-0016	1.00		0097280012
0013	FLEXIBLE GUIDE POST	F09047Q	CLI-0017	55.00		0097280013
0014	GROOVED PLASTIC EDGE LINE	F09047Q	CLI-0018	10.00		0097280014
0015	GROOVED PLASTIC WIDE LANE LINE	F09047Q	CLI-0012	15.00		0097280015
0017	GROOVED PLASTIC DOTTED EXTENSION LINE	F09047Q	CLI-0013	8.00		0097280016
0017	GROOVED PLASTIC STOP LINE	F09047Q	CLI-0015	37.00		0097280017
0018	PERMANENT SIGNING	F09047Q	CLI-0014	1.00		0097280018
0026	PORT RD TDA	F09047Q	CLI-0026	1.00		0097280019
0019	2 CCTV CABINET	F09047Q	CLI-0019	1.00		0097280020

Brought in from CAPS/Ebase → Contract Items  
Brought in from Initial ROM → Contract Items  
Brought in from Maintained ROM → Record of Materials

# Unifier Integrations with Legacy Systems



- 1 – Contract Items are loaded into Unifier during project setup. This occurs after the project phase is set to the Construction and a daily integration populates the items (BI # eg. 11) from CAPS or EBASE is CAPS setup has not been completed yet.
- 1.a – Contract Items added by CO are populated in Unifier after the daily integration with CCIS
- 2 – Material info (QPL, RAM) is submitted, reviewed, and approved utilizing the materials submittal BP in Unifier. After approval, the information is entered into the Maintained ROM the same way it has been done in the past.
- 3 – Materials Items are then populated in Unifier by integration with the Initial ROM (Material Item # eg. 11.06).
- 4 – The Record of Materials populates in Unifier after the daily integration with the Maintained ROM (eg. 11.06.01)

Note: This process is temporarily in place until the legacy systems can be modernized and replaced by either Unifier or another system.

# User Defined Reports (UDR's)

ORACLE Primavera Unifier Self Help RH Ryan Hillam

Company Workspace | Company Workspace | All Projects | 009462 | 009786 | 009906 | 009074 | 009728 | 009873 | 009604

009604 - Home | All Projects > Eastern > 009604

### User-Defined Reports

Create | Actions | View: All Reports

Name	Description
Active Tasks (Contractor)	Contractor's Active Ta
Active Tasks (Project Office)	Add Description as ne
Active Tasks (Project Office)	Project Office Active T
Active Tasks (Project Office)	Project Office Active T
All Project Users	
Diary Search	Searches diary for wor
E/C Work Risk Detail	
<b>IDR - Materials-with Description</b>	<b>IDR report that shows</b>
IDR - Wthr, Subs, Wrk Act w-DBE Info	IDR report that shows
IDR GWS TEST	
New IDR RFI SBR TRN	Report that looks for r
RFI's	
Template Active Tasks	
Template-IDR - Materials	IDR report that shows

**Select report and click gear icon to run**

### IDR - Materials-with Description

**Query and Format**

Report Format  
 HTML  CSV  Excel  PDF  XML

Record count for UDR  
Select

Time Zone  
(UTC-08:00) Pacific Time (US)

**Report Query Parameters**

Daily Activity Date  
Value: between 01/01/2020 and 03/02/2023  
**Select date range**

Inspector Daily Reports Line Item / Short Description  
Value: contains IDR Materials Line Item

Inspector Daily Reports Line Item / Bid Item No.  
Value:   
**Input specific Bid Item if desired**

**Run when ready**

Report Location  
Workspaces  
Notes

Reset Cancel **Run Report**



# User Defined Reports (UDR's)

## IDR - Materials with Description

Project Name: 009604

Daily Activity Date	Record No.	Status	Materials Information	Bid Item No.	Bid Item Description	Material Name	Description	Method of Acceptance	Item Quantity	Unit of Measure	Location	Remarks
05/10/2022	IDR-368	Approved	90C 600V - Advanced Digital Cable - Not approved #14 5C IMSA 20-1 600V - Advanced Digital Cable - Not approved Use-2 conductors - omni (Ram58) Crafco Mastic One W26386 - RAM107 Potters ThermalDrop (used for grooved plastic line) Potters glass beads - QPL59 Ennis-Flint Thermoplastic primer (used for grooved plastic line) Terminal Cabinet on type 3 standard with hardware. (RAM 73) 3C 20 AWG 3C	0066	GROOVED PLASTIC LINE	Potters Thermodrop	Potters not on approved list of materials. PSC said ennis-flint bought potters and that they got it approved. Told PSC I have not seen this as approved.	QPL Acceptance (QPA), Visual Inspection	2,367.00	L.F.	RAB - EB	MK5 - 1, 17, 18, 15, 2, 3, 25, 27, 20, 4, MK4-4.
05/10/2022	IDR-368	Approved	90C 600V - Advanced Digital Cable - Not approved #14 5C IMSA 20-1 600V - Advanced Digital Cable - Not approved Use-2 conductors - omni (Ram58) Crafco Mastic One W26386 - RAM107 Potters ThermalDrop (used for grooved plastic line) Potters glass beads - QPL59 Ennis-Flint Thermoplastic primer (used for grooved plastic line) Terminal Cabinet on type 3 standard with hardware. (RAM 73) 3C 20 AWG 3C	0066	GROOVED PLASTIC LINE	Crafco Mastic One		Catalog Cuts, Visual Inspection	279.00	L.F.	MK4-4	Used as repair for double grooved center line. Ram 107
05/10/2022	IDR-368	Approved	90C 600V - Advanced Digital Cable - Not approved #14 5C IMSA 20-1 600V - Advanced Digital Cable - Not approved Use-2 conductors - omni (Ram58) Crafco Mastic One W26386 - RAM107 Potters ThermalDrop (used for grooved plastic line) Potters glass beads - QPL59 Ennis-Flint Thermoplastic primer (used for grooved plastic line) Terminal Cabinet on type 3 standard with hardware. (RAM 73) 3C 20 AWG 3C	0086	ITS #2 - EB LOOP RAMP METER	Terminal Cabinet	Terminal cabinet and hardware.		1.00	L.S.	Type 3 standard EB loop Ramp	Ram 73.4, Bid Item 86.20.06
05/10/2022	IDR-368	Approved	90C 600V - Advanced Digital Cable - Not approved #14 5C IMSA 20-1 600V - Advanced Digital Cable - Not approved Use-2 conductors - omni (Ram58) Crafco Mastic One W26386 - RAM107 Potters ThermalDrop (used for grooved plastic line) Potters glass beads - QPL59 Ennis-Flint Thermoplastic primer (used for grooved plastic line) Terminal Cabinet on type 3 standard with hardware. (RAM 73) 3C 20 AWG 3C	0086	ITS #2 - EB LOOP RAMP METER	USE-2	Green and black wire	Visual Inspection	0.00	L.S.	Type 3 signal standard	(2) black use 2 conductor from junction box to type 3 signal standard. (1) green use 2 conductor from junction box to type 2 signal standard Wires not spliced yet. Bid item 86.04
05/10/2022	IDR-368	Approved	90C 600V - Advanced Digital Cable - Not approved #14 5C IMSA 20-1 600V - Advanced Digital Cable - Not approved Use-2 conductors - omni (Ram58) Crafco Mastic One W26386 - RAM107 Potters ThermalDrop (used for grooved plastic line) Potters glass beads - QPL59 Ennis-Flint Thermoplastic primer (used for grooved plastic line) Terminal Cabinet on type 3 standard with hardware. (RAM 73) 3C 20 AWG 3C	0086	ITS #2 - EB LOOP RAMP METER	3C 20 AWG 3C 90C 600V	Multi conductor for opticom, Advanced Digital Cable		0.00	L.S.	Type 3 standard	Advanced digital cable not in ROM (1) wire from junction box to type 3 standard
05/10/2022	IDR-368	Approved	90C 600V - Advanced Digital Cable - Not approved #14 5C IMSA 20-1 600V - Advanced Digital Cable - Not approved Use-2 conductors - omni (Ram58) Crafco Mastic One W26386 - RAM107 Potters ThermalDrop (used for grooved plastic line) Potters glass beads - QPL59 Ennis-Flint Thermoplastic primer (used for grooved plastic line) Terminal Cabinet on type 3 standard with hardware. (RAM 73) 3C 20 AWG 3C	0086	ITS #2 - EB LOOP RAMP METER	#14-5C IMSA 20-1 600V	Multi conductor for signal heads		0.00	L.S.	Type 3 Standard	(2) installed from junction box to type 3 standard. Not spliced, From Advanced Digital Cable - Not approved item.

# User Defined Reports (UDR's)

## Unifier Active Tasks HQ SME RAMs Assigned (HQ Materials)

Project Name: All Projects

Project Number: AP

02/26/2023

Location	Name	Business Process Name	Record Number	Record Title	Sent For	Sent From	Task Start Date	Task Due Date	Task Status	Workflow Start Date	Workflow Due Date	Days from Task Start	Days From WF Start	Task Assignee	Company Name
/All Projects/Eastern	009728	Material Submittals	SUBM-00045	CAT6A Cable	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/02/2023		Not Started	01/27/2023		24	30	Flint Jackson	WSDOT
/All Projects/Eastern	009728	Material Submittals	SUBM-00047	Flashing Beacon Signal Heads	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/05/2023		Not Started	01/31/2023		21	26	Flint Jackson	WSDOT
/All Projects/Eastern	009728	Material Submittals	SUBM-00050	Conductor Clamps	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/06/2023		Not Started	02/01/2023		19	25	Flint Jackson	WSDOT
/All Projects/Eastern	009803	Material Submittals	SUBM-00040	2.14.23 Joint Adhesive	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/25/2023		Not Started	02/14/2023		1	12	Scott Phillips	WSDOT
/All Projects/Eastern	009893	Material Submittals	SUBM-00001	BI 104.01 - Joint Seal	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/24/2023		Not Started	02/17/2023		2	9	Scott Phillips	WSDOT
/All Projects/Eastern	XE3403	Material Submittals	SUBM-00023	RAM - Joint Adhesive	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/24/2023		Not Started	02/22/2023		2	4	Scott Phillips	WSDOT
/All Projects/Northwest	009833	Material Submittals	SUBM-00060	RAM - Polyester Concrete - Combined Construction	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/22/2023		In Progress	02/21/2023		4	5	Steven Landers	WSDOT
/All Projects/Northwest	009850	Material Submittals	SUBM-00040	Column Jacketing Primer	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/06/2023		Not Started	02/06/2023		19	20	Jason Dewey	WSDOT
/All Projects/Northwest	009850	Material Submittals	SUBM-00040	Column Jacketing Primer	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/06/2023		Not Started	02/06/2023		19	20	Marvin Nitta	WSDOT
/All Projects/Northwest	009859	Material Submittals	SUBM-00020	Various Electrical Equipment RAMs -Rev1	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/08/2023		Not Started	01/31/2023		18	26	Flint Jackson	WSDOT
/All Projects/Northwest	009880	Material Submittals	SUBM-00012	025 - Heat Shrink & Mastic Tape (RAM010)	HQ SME Review	Suzanna Dethlefs, wsdotpmdb	02/03/2023		Not Started	01/30/2023		23	27	Flint Jackson	WSDOT

# Query Tabs

ORACLE Primavera Unifier Self Help ↑ 🔊 🔖 🔍 RH Ryan Hillam

Company Workspace Company Workspace All Projects 009462 009786 009906 009074 009728

009728 - Home All Projects > Eastern > 009728

## Contract Items

Record Details Attachments Permissions

Bid Item: 0021 Bid Item Description: ITS - I-90 EB RAMP METER

Contract Items - Project No. F09047Q - Google Chrome

us2.unifier.oraclecloud.com/wsdotpmdb/bp/mod/bp/record/open/uxconli/206/0/0?model=uxconli&a=form.0&b=uxconli&srcid=206&id=206&source=database&project\_id=1058&nfl=0&\_\_uref=u...

Contract Items Edit

Main FNRs ROM **Sub Materials** Sub Construction Material Sub Items Mat Field Verf

Record No.	Total # of Revisions	Submittal Title	Material Submittal Type	Material Submittal Reference	Submittal Description	Bid Item	Bid Item De:	
SUBM-00002	0	Wavetronix RAM	RAM			0021	ITS - I-90 EB	
SUBM-00003	1	Wavetronix RAM	RAM			0021	ITS - I-90 EB	
SUBM-00004	1	Vehicle Heads RAM	RAM			0021	ITS - I-90 EB	
SUBM-00005	1	Service	RAM			0021	ITS - I-90 EB	
SUBM-00009	1	Camera RAM	RAM			0021	ITS - I-90 EB	
SUBM-00012	1	Concrete Mix Designs	RAM		Concrete For Bid Item's...	0021	ITS - I-90 EB	
SUBM-00014	0	PVC and Accessories	QPL			0021	ITS - I-90 EB	
SUBM-00015	0	Rebar	QPL			0021	ITS - I-90 EB	
SUBM-00016	0	Loop Material	RAM			0021	ITS - I-90 EB	
SUBM-00017	1	Vehicle Heads	RAM			0021	ITS - I-90 EB	
SUBM-00019	0	Grout RAM	RAM			0021	ITS - I-90 EB	
SUBM-00020	0	Junction Box QPL	QPL			0021	ITS - I-90 EB	
<b>Total: 22</b>								

Total: 29

009728 12/27/2021 09:32 AM

PIF Interation Status Status

# Master Logs & Search Tools

ORACLE Primavera Unifier Self Help ↑ ↶ ↷ ⌵ RH Ryan Hillan

Company Workspace | Company Workspace | All Projects | 009462 | 009786 | 009906 | 009074 | 009728 | 009873 | 009604 | ▾ +

Current Authorization

- Contracts
- Change Orders
- Overruns/Underruns
- Potential Change Orders
- Pay Estimates
- Payment/Journal Vouchers
- Agreements
- Agreement Changes
- Agreement Overruns/Underruns
- GC-03 Plan/Adj
- GC-04 GC-99 Plan/Adj
- Issues
- Risks
- Submittal Packages
- Submittals
- Submittal Revisions
- Inspector Daily Reports
- Field Incident Reports
- Material Items
- Material Submittals**
- Contract Items
- Record of Materials
- Materials Field Verification
- Construction Submittals
- Field Note Record

## Material Submittals

+ Create    Actions ▾    View : (Modified) All Records ▾   

	Record No.	Project Title	Total # of Re...	Submittal Title	Bid Item Description	Submittal Type	Bid Item	Submittal Description	Status
	<i>Find</i>	<i>Find</i>	<i>Find</i>	<i>Find</i>	<i>Find</i>	<i>Find</i>	<i>Find</i>	<i>Find</i>	<i>Find</i>
	SUBM-00005	009752	0	Barrier Delineator	BARRIER <b>DELINEATOR</b>	QPL	0058	Barrier Delineator	Compl
	SUBM-00020	009752	0	BU 58.04 - Adhesive	BARRIER <b>DELINEATOR</b>	RAM	0058	Barrier Delineator Adhesive	Compl
	SUBM-00003	009776	0	Barrier Delineator	BARRIER <b>DELINEATOR</b>	QPL	0012	Barrier Delineators	Compl
	SUBM-00005	009806	0	Delineators	BARRIER <b>DELINEATOR</b>	QPL	0027		Compl
	SUBM-00012	009776	0	BI 12.04 - Adhesive	BARRIER <b>DELINEATOR</b>	RAM	0012	Barrier Delineator - Adhesive	Compl
	SUBM-00006	009828	0	Submittal No. 008 - Signing for Barrier Delineator	BARRIER <b>DELINEATOR</b>	QPL	0020	Submittal No. 008 - Signing for Barrier Del...	Compl
	SUBM-00051	009801	1	Barrier Delineator	BARRIER <b>DELINEATOR</b>	RAM	0120	Barrier Delineator	Sent_f
	SUBM-00013	009820	0	Delineator	BARRIER <b>DELINEATOR</b>	QPL	0050		Compl
	SUBM-00028	009826	0	QPL BI 034.01	BARRIER <b>DELINEATOR</b>	QPL	0034		Compl
	SUBM-00005	009819	0	Barrier Delineators	BARRIER <b>DELINEATOR</b>	QPL	0018		Compl
	SUBM-00043	009781	1	504-034 BARRIER ADHESIVE	BARRIER <b>DELINEATOR</b>	RAM	0042	BARRIER - ADHESIVE	Compl
	SUBM-00015	009819	0	Adhesive	BARRIER <b>DELINEATOR</b>	RAM	0018		Compl
	SUBM-00031	009843	0	Submittal 029	BARRIER <b>DELINEATOR</b>	QPL	0031	Bid Items 31.01, 31.03 QPL	Compl
	SUBM-00032	009843	0	Submittal 030	BARRIER <b>DELINEATOR</b>	RAM	0031	Bid Items 31.04 RAM	Compl
	SUBM-00032	009826	0	BI 34.02 - 34.04	BARRIER <b>DELINEATOR</b>	RAM	0034		Compl
	SUBM-00036	009828	0	Submittal No. 071 - Barrier Delineator	BARRIER <b>DELINEATOR</b>	QPL	0020	Submittal No. 071 - Barrier Delineator	Compl
	SUBM-00037	009828	0	Submittal No. 072 - Barrier Delineator Adhesive	BARRIER <b>DELINEATOR</b>	RAM	0020	Submittal No. 072 - Barrier Delineator Ad...	Compl
	SUBM-00017	009796	0	Traffic Barrier Delineators	BARRIER <b>DELINEATOR</b>	QPL	0021		Compl
	SUBM-00018	009796	0	Delineator Adhesive	BARRIER <b>DELINEATOR</b>	RAM	0021		Compl
	SUBM-00073	009707	0	060 RAM Storie Barriers	BARRIER <b>DELINEATOR</b>	RAM	0090	Bid Item: 90.04	Compl
	SUBM-00035	009820	0	Adhesive	BARRIER <b>DELINEATOR</b>	RAM	0050		Compl
	SUBM-00007	009846	0	Barrier Delineators and Adhesive	BARRIER <b>DELINEATOR</b>	QPL	0015		Compl
	SUBM-00063	009752	0	BI 58.01 - Barrier Delineator	BARRIER <b>DELINEATOR</b>	Gen Material	0058	Catalog Cuts	Compl
	SUBM-00102	009800	0	Barrier Delineator, Reflective Sheeting, Adhesive	BARRIER <b>DELINEATOR</b>	RAM	0081		Compl

Total: 3740

Page 1 of 4    Display 1000   

Type description to search by

# Questions?

**Thank You!**

Wendy Stroschein  
TTE - Construction  
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360-705-7832 Office

Ryan Hillam  
Statewide Project Management Specialist  
[hillarh@wsdot.wa.gov](mailto:hillarh@wsdot.wa.gov)  
509-324-6029

**Break – 10:15 am to 10:25 am**



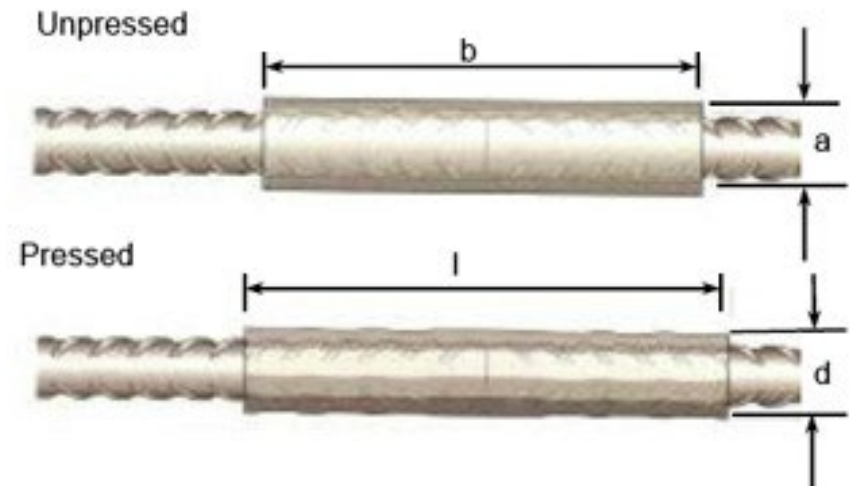
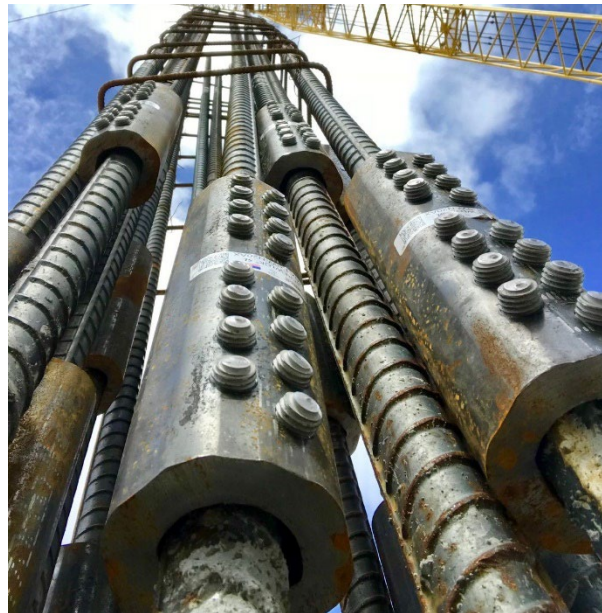
# **Structural Materials Labs Steel & Curing Compounds**

**Presented by: Zach Kane (Structural)**  
State Materials Laboratory  
March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# Structural Materials – Steel

## Reinforcing Bar – Mechanical Splices 6-02.3(24)F

- WSDOT Standard Specification 6-02.3(24)F is for Mechanical Splices. Most of these splices (or couplers) connect two separate pieces of reinforcing bar. As opposed to welded splices, these products are attached through mechanical processes, such as screw-on taper thread, shear screws, or cold-swaged fastening.





# Structural Materials – Steel

## Reinforcing Bar – Mechanical Splices 6-02.3(24)F

- QPL or RAM approved mechanical splices are required to be submitted to the HQ Mats Lab for acceptance testing per the WSDOT Construction Manual.
- In accordance with the submittal guidelines from the Construction Manual, Section 9-4.28 Mechanical Splices, acceptance samples shall meet the following criteria for submittal:
  1. The sample shall be from Contractor's assembled samples taken from the project
  2. A Manufacturer's Certificate of Compliance and other technical data MUST be submitted with the samples
  3. The overall length of the sample shall be 6 feet plus the length of the splice
  4. You need to submit one assembled splice for each size of rebar

NOTE: This is a test of the Contractor's ability to properly assemble the splice as much as it is a test of the quality of the materials. For this reason, the spliced bars must be assembled by the contractor's personnel, witnessed by the inspector and transmitted intact to the State Material Lab for testing.

# Structural Materials – Steel

## Reinforcing Bar – Mechanical Splices 6-02.3(24)F

- When filling out MATS transmittals select the following:

### Header Tab

- Material Type: 9-07 Reinforcing Steel
- Material: Mechanical Splices
- E-mail List: Add any additional e-mail addresses for report distribution
- Add bid item number
- In Transmittal Comments, add any additional information

The screenshot displays the 'Sample Information' window with the 'Header' tab selected. The form contains the following fields and values:

- Work Order#:** 009850
- Section:** BN RR BRIDGE TO PED TRAIL BRIDGE SEISMIC RETROFIT
- Sample ID:** 0000012dbc8
- Local Agency Tracking #:** (empty)
- MEPS Tracking #:** (empty)
- Orgcode:** 412340
- Project Engineer:** Askarian, Mike
- County / City:** (empty)
- SR Number:** (empty)
- Material Type:** 9-07 Reinforcing Steel
- Material:** Mechanical Splices
- Other Material:** (empty)
- Transmittal Comments:** Mechanical Splices on # 11 Rebar.
- Submitted By:** (redacted)
- Phone #:** (redacted)
- Requestor Orgcode:** 412340
- Local Agency Email List:** (empty text area)
- Add Email to List:** (empty text area with 'Add Email' and 'Remove Email' buttons)
- Example:** 'someone@example.com'
- BidItem:** 029.03 MECHANICAL SPLICES (with 'Remove' button)
- Dropdown:** - select a value - (with 'Add' button)
- Note:** (\*) - Mandatory field

# Structural Materials – Steel

## Reinforcing Bar – Mechanical Splices 6-02.3(24)F

### Sample Tab

- Splice Manufacturer and Make
- Lot and Heat numbers from the reinforcing bar
- The Grade of the rebar
  - Grade 60 or 80 are most common
- In the “Size field”, hand-type the rebar size
- The more information provided, the less likely you are to receive a phone call asking for clarification

The screenshot shows a software window titled "Sample Information" with a tabbed interface. The "Sample" tab is active, displaying the following information:

Header	Sample	Test Results	Assign Tests	Destination
Sample ID:	Material Type:	Material: (*) - Mandatory field		
0000012dbc8	9-07 Reinforcing Steel	Mechanical Splices		
Steel Details				
	Specifications:	Type Of Grade:	Size Diameter: Length: (inches)	
Make	* Manufacturer/Fabricator	Supplier	Spec Reference	Used At Station
Lock positional coupler	Dayton Superior	Contractor	6.02.3(24)	
Roll Number	* Heat Number	Reel Number	Cert Number	* Lot Number
	3500028355			3500028355
* Size	Type	Grade	Pit Number	Stockpile Number
11	Taper lock positional cc	80		
Asphalt % Requested				
* Sampled At	* Sampled By	* Date Sampled	Quantity Represented	
Construction Site	Contractor	01/17/2023	1	
Usage:		Survivability:		

# Structural Materials – Steel

## Reinforcing Bar – Mechanical Splices 6-02.3(24)F

### Assign Tests Tab

- ASTM A370 Mechanical Spices test will automatically be assigned

The screenshot shows a software interface for 'Sample Information' with the 'Assign Tests' tab selected. The interface includes fields for 'Sample ID', 'Material Type' (9-07 Reinforcing Steel), and 'Material' (Mechanical Splices). A table lists test procedures, with 'ASTM A370 Mechanical Splices' selected and checked. A 'Geo Technical Test' checkbox is also visible. At the bottom, there is an 'Add Test' dropdown menu and an 'Apply' button.

Test Procedure	
▶ ASTM A370 Mechanical Splices	<input checked="" type="checkbox"/>
* [Redacted]	<input type="checkbox"/>

Geo Technical Test

Add Test [Dropdown] [Apply]

# Structural Materials – Steel

## Reinforcing Bar – Mechanical Splices 6-02.3(24)F

### Destination Tab

- Lab: HQ Lab
- Enter Mode of Shipment (Carrier, Hand-Delivered, etc.)
- Hit the “Send to Lab” button

Sample Information

Header Sample Test Results Assign Tests Destination

Sample ID:  Sample Status  (\*) - Mandatory field

\* Lab  Date Sent  Mode of Shipment

Date Received

Please, click "Send to Lab" button to send the sample to the lab

# Structural Materials – Steel

## Reinforcing Bar – Mechanical Splices 6-02.3(24)F

### Delivery

- Splices should be delivered to the HQ Materials Lab – 1655 S. Second Ave. Tumwater, WA 98512
- Include:
  - 1 assembled splice per rebar size
  - 1 completed MATS transmittal per sample
  - A Manufacturer's Certificate of Compliance and other technical data



# Structural Materials – Steel

## Fasteners (Nuts, Bolts, Washers) – 9-06.5(3) High Strength Bolts

- QPL or RAM approved fasteners (bolts, nuts, and washer) sometimes require samples be sent to the HQ Mats Lab for acceptance testing
- Typically, fasteners sent to the Materials Lab are Non-Fabrication Inspected Items. Section 9-4.24 of the Construction Manual, High Strength Bolts, Nuts, and Washers, requires a test report from the State Materials Lab for the following items:
  - b. **Non-Fabrication Inspected Items:**
    - i. **Fabrication Inspection Sampled** – Acceptance shall be by the Manufacturer’s Certificate of Compliance for each heat number or manufacturing lot per [Section 9-1.4D](#). When the materials are received on the job site stamped “WSDOT Sampled,” the material shall also be accepted by the PEO on receipt of “Satisfactory” test reports from the State Materials Laboratory.
    - ii. **PEO Sampled** – Acceptance shall be by the Manufacturer’s Certificate of Compliance per [Section 9-1.4D](#) for each heat number or manufacturing lot. Acceptance shall also be by a “Satisfactory” test report from the State Materials Laboratory when samples are required for each consignment lot as defined by *Standard Specifications* Section 9-06.5(3). A separate transmittal and materials certification shall accompany each sample of bolts, nuts, and washers.

# Structural Materials – Steel

## Fasteners (Nuts, Bolts, Washers) – 9-06.5(3) High Strength Bolts

- When filling out MATS transmittals select the following:

### Header Tab

- Material Type: 9-06 Structural Steel
- Material: High Strength Bolts – 9-06.5(3) – Spec Year
  - Use this for bolts, nuts, and washers**
- E-mail List: Add any additional e-mail addresses for report distribution
- Add bid item number
- In Transmittal Comments, add any additional information

The screenshot shows the 'Sample Information' window with the 'Header' tab selected. The form contains the following fields and values:

- \* Work Order#**: 009242
- \* Section**: I-405/Renton To Bellevue - Corridor Widening & Etl (Stage 2)
- Sample ID**: 0000012dbc0
- Local Agency Tracking #**: (empty)
- MEPS Tracking #**: (empty)
- Orgcode**: 585361
- Project Engineer**: Lefotu, John
- County / City**: (empty)
- SR Number**: 405
- \* Material Type**: 9-06 Structural Steel
- \* Material**: High Strength Bolts - 9-06.5(3) - 2023
- Other Material**: (empty)
- Transmittal Comments**: (empty text area)
- \* Submitted By**: Ryan McBroom
- \* Phone #**: (360) 522-3516
- \* Requestor Orgcode**: 306211
- E-mail List**: leftouj@wsdot.wa.gov, mcbroor@wsdot.wa.gov
- Add Email List**: (empty text input)
- Bid Item**: (empty dropdown menu)

Buttons: Add Email, Remove Email, Add, Remove.

Example: 'someone@example.com'

(\*) - Mandatory field



# Structural Materials – Steel

## Fasteners (Nuts, Bolts, Washers) – 9-06.5(3) High Strength Bolts

### Sample Tab

- Manufacturer and Supplier
- Lot and Heat numbers
- The Grade
- Under “Type”, if Hot Dip Galvanized, note: “HDG”
- In the “Size field”, select the fastener diameter from the drop-down menu. Not the length.
- The more information provided, the less likely you are to receive a phone call asking for clarification

The screenshot shows a software window titled "Sample Information" with a tabbed interface. The "Sample" tab is active, displaying a form for entering sample details. The form includes fields for Sample ID, Material Type, and Material. Below these are "Steel Details" fields for Specifications, Type Of Grade, Size Diameter, and Length. Further down are fields for Make, Roll Number, \* Size, \* Type, \* Manufacturer/Fabricator, \* Heat Number, \* Supplier, Reel Number, \* Grade, Spec Reference, Pit Number, Used At Station, \* Lot Number, Stockpile Number, Asphalt % Requested, \* Sampled At, \* Sampled By, \* Date Sampled, Quantity Represented, Usage, and Survivability.

Field	Value
Sample ID:	0000012dbc0
Material Type:	9-06 Structural Steel
Material:	High Strength Bolts - 9-06.5(3) - 2023
Specifications:	
Type Of Grade:	
Size Diameter:	
Length: (inches)	
Make	
* Manufacturer/Fabricator	Nucor
* Supplier	Rainier Welding
Spec Reference	
Used At Station	
Roll Number	
* Heat Number	1000115200
Reel Number	
Cert Number	
* Lot Number	475122A
* Size	1"
* Type	HDG
* Grade	A325
Pit Number	
Stockpile Number	
Asphalt % Requested	
* Sampled At	Manufacturer
* Sampled By	Fab Inspection
* Date Sampled	01/23/2023
Quantity Represented	
Usage:	
Survivability:	

# Structural Materials – Steel

## Fasteners (Nuts, Bolts, Washers) – 9-06.5(3) High Strength Bolts

### Assign Tests Tab

- Tests must be manually selected
- From the drop-down, select F606 for Bolts, Nuts, or Washers
- If fasteners are galvanized, select the test: ASTM E376 GALVANIZING

Sample Information

Header Sample Test Results Assign Tests Destination

Sample ID: Material Type: Material:

9-06 Structural Steel High Strength Bolts - 9-06.5(3) - 2023

	Test Procedure	
*		<input type="checkbox"/>

Add Test  Apply

- F606 Threaded Fastners, Washers and Rivits - Bolts
- F606 Threaded Fastners, Washers and Rivits - Nuts
- F606 Threaded Fastners, Washers and Rivits - Washer

Add Test  Apply

- ASTM D792 Specific Gravity
- ASTM E376 GALVANIZING

# Structural Materials – Steel

## Fasteners (Nuts, Bolts, Washers) – 9-06.5(3) High Strength Bolts

### Destination Tab

- Lab: HQ Lab
- Enter Mode of Shipment (Carrier, Hand-Delivered, etc.)
- Hit the “Send to Lab” button

Sample Information

Header Sample Test Results Assign Tests Destination

Sample ID:  Sample Status  (\*) - Mandatory field

\* Lab  Date Sent  Mode of Shipment

Date Received

Please, click "Send to Lab" button to send the sample to the lab

# Structural Materials – Steel

## Fasteners (Nuts, Bolts, Washers) – 9-06.5(3) High Strength Bolts

### Sampling Requirements

The Contractor shall provide Manufacturer's Certificate of Compliance for all bolts, nuts, washers, and load indicators. The Manufacturer's Certificate of Compliance shall include certified mill test reports and test reports performed on the finished bolt confirming that all of the materials provided meet the requirements of the applicable AASHTO or ASTM Specification. The documentation shall also include the name and address of the test laboratory, the date of testing, the lot identification of the bolts and nuts, and coating thickness for galvanized bolts and nuts. Shipping containers (not lids) shall be marked with the lot identification of the item contained therein.

Bolts shall be sampled prior to incorporating into a structure. For the purposes of selecting samples, a lot of bolts shall be the quantity of bolts of the same nominal diameter and same nominal length in a consignment shipped to the project site. The minimum number of samples from each lot shall be as follows:

Lot Size	Sample Size <sup>1</sup>
0 to 50	*
51 to 150	4
151 to 1,200	6
1,201 to 10,000	10
10,001 to 35,000	16
35,001 and over	24

\*Manufacturer's Certificate of Compliance – samples not required.

<sup>1</sup>Nuts, washers, and load indicator devices, and tension control bolt assemblies or devices shall be sampled at the same frequency as the bolts.

All testing of bolts, nuts, washers, and load indicating devices shall be performed on specimens as they are to be installed.

All samples shall include a Manufacturer's Certificate of Compliance for each lot of bolts provided as defined in [Section 1-06.3](#).

The frequency of bolt sampling is based on the length and size of the bolts for each sample size. Fasteners may come from the same lot number, but if they are different lengths each length of bolts needs to have its own samples provided using the Lot Size/Sample Size table.

Please do not assemble the fasteners before they are sent to the Materials Laboratory. Each set of Bolts, Nuts and Washers should be in its own bag with a MATS transmittal included.

Only one set of Nuts and Washers per lot number is necessary to send into the Materials Laboratory.

# Specialty Services – Curing Compounds

## Sampling Requirements

### 9-4.57 Liquid Concrete Curing Compound

1. **Approval of Material** – Approval of materials is required prior to use. Materials will be approved by the Qualified Products List or Request for Approval of Material DOT Form 350-071. Be certain to verify that the product is in fact qualified for its intended use and the product is listed under the appropriate specification.
2. **Preliminary Samples** – A preliminary sample of the material will be required only if coded on the Request for Approval of Material DOT Form 350-071.
3. **Acceptance** – If the lot is listed on the QPL, it may be used without testing on current projects per Section 9-1.4A(1). If the lot is not on the QPL, submit a one-quart sample taken by, or in the presence of, an agency representative for each lot. Samples must be submitted for testing 10 days prior to use of curing compound. Samples submitted shall be accepted on receipt of "Satisfactory" test reports from the State Materials Laboratory.
4. **Field Inspection** – Field verify per [Section 9-1.5](#).
5. **Specification Requirements** – See [Standard Specifications](#) Section 9-23. Review contract documents to determine if supplemental specifications apply.
6. **Other Requirements** – None.



Preferred Shipping Condition

# Specialty Services – Curing Compounds

## Sampling Requirements

- Curing compound submitted shall be:
  - 1) Quart quantity (no 5-gallon buckets)
  - 2) Non-reactive container (plastics)
  - 3) Sealing screw-on lid
  - 4) Double-sealed with electrical tape
  - 5) Labeled with the make, type, and lot number
  - 6) Accompanied with form 350-056 or MATS Transmittal
- Note:
  - If you submit a 5-gallon container, we will not test it
  - Include e-mail addresses for test report recipients in MATS
  - We can not test the material without an active Contract or Work Order number that's been established with our Fiscal Office.



Non-Preferred Shipping Condition

# Specialty Services – Curing Compounds



## QPL Lot Verification

When determining when a sample should be tested or not, refer to the “Product description” section in the QPL to determine whether the lot number is present.

### Qualified Product List

#### Product Information

**Manufacturer :** W.R. Meadows, Hampshire - IL

**Product Name :** 1300-Clear

**Standard Spec :** 9-23.2, Concrete Curing - Liquid Membrane-Forming Curing Compounds

**Product Description :** Curing compound: Water base, wax base; Type 1, Class A; clear or translucent; Approved lot number (approved lots will be purged from the QPL Database at the end of the calendar year) - 7BB002, 7BL017, 7BJ007, 7BJ004, SBF007

**Product Restriction :**

Approved lots do not require samples to be submitted

**Acceptance Code :** 1115

**Code Description :** Receipt of a satisfactory Test Report from WSDOT Materials Laboratory is required indicating the lot(s) of material meets the requirements of the specifications under which it is listed. The Test Report must be received prior to incorporating the material into the project. Samples must be submitted to the State Materials Laboratory a minimum of 10 days prior to use.

**Last Updated :** Feb 1, 2019

**Contractors with WSDOT** [Click here](#) for Contractor Product Info Page

# **Structural Materials Labs**

## **Geotextile and Geogrid Samples**

**Presented by: Sam Wade (Soils Lab)**

State Materials Laboratory

March 8<sup>th</sup> & 15<sup>th</sup>, 2023



# Sampling Requirements

## WSDOT Test Method SOP 914

### Practice for Sampling of Geosynthetic Material for Testing

#### 1. Scope

- a. This practice covers the procedure for sampling Geosynthetic Material for testing.

#### 2. Definitions

- a. Geogrid – A regular network of integrally connected polymer tensile elements with an aperture geometry sufficient to permit mechanical interlock with the surrounding backfill.
- b. Geosynthetic Material – general term which includes all geotextiles, geogrids, and prefabricated drainage mats.
- c. Geotextile – Any permeable textile used with foundation, soil, rock, earth, or any other geotechnical material, as an integral part of a manmade product, structure, or system.
- d. Lot – All geosynthetic material rolls within a consignment (i.e., all rolls sent to the project site) which were manufactured at the same manufacturing plant having the same product name and specifications, style, or physical characteristics of a particular geosynthetic material product.
- e. Lot Sample – Sample(s) from one or more geosynthetic material rolls taken at random to represent an acceptance sampling lot and used as a source of laboratory samples.
- f. Production Unit – As referred to in this practice, it shall be considered to be synonymous with the geosynthetic material roll as shipped by the manufacturer. Two or more geosynthetic material rolls joined together by sewn seams shall be considered as separate rolls.
- g. Minimum Average Roll Value – The test results of any sampled roll in a lot shall meet or exceed the minimum values specified.

#### 3. Significance and Use

- a. Sampling is an important part of testing and the sampler should make every effort to obtain samples that will show the nature and condition of the materials they represent.
- b. This sampling procedure will provide a representation of the lot which is adequate to establish minimum average roll values as defined by this practice.

#### 4. Procedure

- a. Divide the shipment or consignment into lots as defined in 2.d.
- b. Determine the number of rolls in the shipment or consignment to be sampled using Table 1.

Table 1 Number of Rolls to be Selected as Lot Sample

Number of Rolls in Lot	Number of Rolls to be Selected for Lot Sample
1 to 24	1
25 to 49	2
50 to 99	3
100 to 125	5
125 to 216	6
217 to 343	7
344 to 512	8
513 to 729	9
730 to 1,000	10

#### c. Laboratory sample selection.

- (1) Obtain a laboratory sample from each roll in the Lot Sample. The sample shall be a minimum of 6 feet long by the full width of the geosynthetic material roll with a total area greater than or equal to 6.0 yd<sup>2</sup>.
- (2) The laboratory sample should not be taken from the outer wrap of the roll nor the inner wrap of the core (i.e., do not take the sample from the very ends of the roll).
- (3) Protect the sample from exposure to Ultraviolet light.

#### 5. Sample Submittal

- a. All geotextile samples submitted to the State Material Laboratory are to be prepared and shipped as follows:

Roll sample around a 4 in diameter minimum, tube such as PCV pipe or cardboard mailing tube and wrap to protect sample from shipping damage and ultraviolet light (UV) exposure.

- b. If sample is for Acceptance of Lots used on project, the following information must be submitted with the sample:

- (1) Manufacturer's name and current address.
- (2) Full product name.
- (3) Roll number(s).
- (4) Proposed use(s).
- (5) Certified test results from the manufacturer.
- (6) The Lot Number being submitted for acceptance. In lieu of a manufacturer provided Lot Number, the Bill of Lading Number can be used.

Testing by the State Materials Laboratory will not begin until all of the required information is received.

<https://wsdot.wa.gov/publications/manuals/fulltext/M46-01/SOP914.pdf>

## QPL Sample Code Clarification

When determining when a sample should be tested or not refer to Standard Specification Section 9-33.4(4). The only samples that require a test sample conforming to T-914 and 9-33.4(4) are samples used for underground drainage (see code description A). Samples for underground drainage that are less than or equal to 100 sq yds or for soil stabilization, separation, permanent erosion control and prefabricated drainage mat may be accepted on Manufacturer's Certificate of Compliance.



### Qualified Product List

#### Product Information

**Manufacturer :** Tensar International Corporation, Alpharetta - GA

**Product Name :** Tensar Series see series numbers below

**Standard Spec :** 9-33.2(2), Geotextile - Retaining Walls and Reinforced Slopes

**Product Description :** Retaining walls and reinforced slopes: Class 1 and 2; Tensar: Series UX1100MSE, UX1400MSE, UX1500MSE, UX1600MSE, UX1700MSE. Secondary applications only: BX1100, BX1120, BX1200; See Appendix (D)

**Product Restriction :**  
Tensar Series

**Acceptance Code :** 7021

**Code Description :** A - Acceptance of geotextile for underground drainage in quantities greater than 100 sq. yards, and all quantities of permanent Geosynthetic Retaining Walls and Reinforced Slopes shall be based on receipt of a satisfactory test report from WSDOT Materials Laboratory indicating that the roll(or rolls) of material meets the requirements of the specifications under which it is listed. Samples shall include the listed information in 9-33.4(4). Samples must be submitted to the State Materials Laboratory a minimum of 30 days prior to use. B - Acceptance of geotextile for underground drainage in quantities less than or equal to 100 sq. yards, and all quantities of geotextile for soil stabilization, separation, permanent erosion control and prefabricated drainage mat shall be an acceptable Manufacturer's Certificate of Compliance conforming to WSDOT Standard Specification 1-06.3 with each delivery. Samples shall include the listed information in 9-33.4(4).

**Last Updated :** Sep 25, 2018

**Contractors with WSDOT** [Click here](#) for Contractor Product Info Page

# Standard Specification Reference 9-33.4(4)

## 9-33.4(4) Acceptance by Certificate of Compliance


When the quantities of geosynthetic proposed for use in each geosynthetic application are less than or equal to the following amounts, acceptance shall be by Manufacturer's Certificate of Compliance:

Application	Geosynthetic Quantity
Underground Drainage	100 sq. yd.
Soil Stabilization and Separation	All quantities
Permanent Erosion Control	All quantities
Prefabricated Drainage Mat	All quantities

The Manufacturer's Certificate of Compliance shall include the following information about each geosynthetic roll to be used:

- Manufacturer's name and current address,
- Full product name,
- Geosynthetic structure, including fiber/yarn type,
- Geosynthetic Polymer type (for all temporary and permanent geosynthetic retaining walls only),
- Geosynthetic roll number(s),
- Geosynthetic lot number(s),
- Proposed geosynthetic use(s), and
- Certified test results.

# All samples should have MCC's reflecting the lot and roll number associated with the sample



**Sales Receipt**

Shipper ID S0321628  
 Sales Order No. W0116869  
 Order Type Woodville Sales Order  
 Customer ID KLB100

PAGE 1

**BILL TO:**

KLB CONSTRUCTION  
 PO BOX 158  
 MUKILTEO, WA 98275

**SHIP TO:**

Lucas (425) 921-0614  
 KLB CONSTRUCTION  
 8271 148th St. SW  
 JBLM Site  
 Lewis-McChord, WA

F.O.B. POINT	SHIP VIA	ORDERED BY	PHONE NUMBER	CUSTOMER P.O. NO.
	OUR TRUCK	Lucas	(425) 355-7335	033
ORDER DATE	TERMS	SALES PERSON	SITE	SHIP COMPLETE
1/28/2019	Net 60 Days	Ben Nelson	TAC	Yes

LINE	PART NUMBER	QUANTITY	UNITS	QTY SHIPPED	QTY TO	BIN LOCATION	BIN QTY
00001	121162160	5.00	ROLL	5.00	0.00	MAIN	5.00

Mirafi 180N Nonwovens, 15' x 300'

Notes: Deliver on Monday 1/28  
 Record roll numbers - forward certs to lucas.somera@kibconstruction.com


J10306369

J10319091


J10306372

J10319083

J10306368




\*J10306368\*

RECEIVED BY: 

**We appreciate your business.**

\*Receiving Document only - Invoice to follow \*\*All returns must be approved and are subject to restocking fee\*



**MIRAFI 180N Certification**

ACF WEST  
 ANNA RUIZ  
 E-mail: ANNA.RUIZ@ACFWEST.COM  
 E-mail: BEN.NELSON@ACFWEST.COM  
 E-mail: MELISSA.HURLEY@ACFWEST.COM

TenCate Geosynthetics Americas  
 Page: 1

BDL#: 2211191  
 Order#: 1117156-000  
 PO#: 057834

This is to certify that Mirafi® 180N is a needlepunched nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. Mirafi® 180N is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids. Mirafi® 180N meets Aashto M288 Class 1 for nonwovens used in Subsurface Drainage, Stabilization, Separation, and Permanent Erosion Control. Mirafi® 180N is sampled per ASTM D4354 and meets ASTM D4759. NTPEP Listed

Mechanical Properties	Test Method	Minimum Average Roll Value			
GRAB TENSILE STRENGTH (MD)	ASTM D4632	205	LBS	912	N
GRAB TENSILE STRENGTH (CD)	ASTM D4632	205	LBS	912	N
GRAB ELONGATION (MD)	ASTM D4632	50	%		
GRAB ELONGATION (CD)	ASTM D4632	50	%		
TRAP TEAR STRENGTH (MD)	ASTM D4533	80	LBS	356	N
TRAP TEAR STRENGTH (CD)	ASTM D4533	80	LBS	356	N
CBR PUNCTURE STRENGTH	ASTM D6241	500	LBS	2225	N

Mechanical Properties	Test Method	Minimum Roll Value			
WATER FLOW RATE	ASTM D4491	95	GPM/FT2	3870	L/MIN/M2
PERMEABILITY	ASTM D4491	1.4	SEC-1		

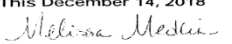
Mechanical Properties	Test Method	Minimum Test Value	
UV RESISTANCE @ 500 HOURS	ASTM D4355	70	%

Mechanical Properties	Test Method	Maximum Opening Size	
APPARENT OPENING SIZE - SIEVE	ASTM D4751	80	#
APPARENT OPENING SIZE - MM	ASTM D4751	180	MM

Certification reflects test results at time of manufacturing and shipment. TenCate Geosynthetics is not responsible for environment or other factors which could alter the physical properties. ASTM D4491 - Tested according to Constant Head procedure.

\* \* \* END OF REPORT \* \* \*

This December 14, 2018



**Melissa Medina, Quality Manager**


Accreditation # CAL-LAP-25-97  
 Copyright © 2013 Nicolon Corporation. All Rights Reserved  
 1288 Old Cleveland Road  
 Cornelia, GA 30531

Tel: 706 778 9794  
 Tel: 866 795 0808

Fax: 706 894 3836  
 www.tencate.com

CERT#: 2211191-001

Unless specified separately in writing, material results apply only to items tested. No portion of this document may be reproduced whole or in part without the expressed written consent of TenCate. TenCate warrants our products and services to be free from defects in material and workmanship when delivered to TenCate's customers and that our products meet our published specifications. Actual test data supplied is for the full width of the tested master roll.



# Certified test results that reflect the same lot and roll number of the sample



TENCATE GEOSYNTHETICS  
NORTH AMERICA

GEOSYNTHETICS PROPERTIES FOR PRODUCT - MIRAFI 180N

Order#: 1117156-000 BOL#: 2211191 PO#: 057834

PAGE 1

### Geotextile Properties

AOS U. S. SIEVE ASTM D4751	CBR PUNC TURE ASTM D6241	ELONG ATION (CD) ASTM D4632	ELONG ATION (MD) ASTM D4632	WATER FLOW RATE ASTM D4491	GRAB TENSILE (CD) ASTM D4632	GRAB TENSILE (MD) ASTM D4632	PERMI T TIVI TY ASTM D4491	TRAP TEAR (CD) ASTM D4533	TRAP TEAR (MD) ASTM D4533	
#	LBS	%	%	GPM/FT2	LBS	LBS	SEC-1	LBS	LBS	
J10306355	100	540	92	62	125	226	245	1.7	87	87
J10306358	100	540	94	61	125	219	229	1.7	81	87
J10306359	100	540	94	61	125	219	229	1.7	81	87
J10306360	100	540	94	61	125	219	229	1.7	81	87
J10306364	100	540	94	61	125	219	229	1.7	81	87
J10306365	100	540	94	61	125	219	229	1.7	81	87
J10306366	100	540	94	61	125	219	229	1.7	81	87
J10306367	100	540	94	61	125	219	229	1.7	81	87
J10306368	100	540	94	61	125	219	229	1.7	81	87
J10306369	100	540	94	61	125	219	229	1.7	81	87
J10306371	100	540	94	61	125	219	229	1.7	81	87
J10306372	100	540	94	61	125	219	229	1.7	81	87
J10306374	100	540	94	61	125	219	229	1.7	81	87
J10307739	80	519	95	65	105	230	234	1.4	92	90
J10307744	80	519	95	65	105	230	234	1.4	92	90
J10307745	80	519	95	65	105	230	234	1.4	92	90
J10307746	80	519	95	65	105	230	234	1.4	92	90
J10307755	80	519	95	65	105	230	234	1.4	92	90
J10307763	80	519	95	65	105	230	234	1.4	92	90
J10307771	80	519	95	61	113	214	234	1.5	90	92
J10307775	80	519	95	61	113	214	234	1.5	90	92
J10307777	80	519	95	61	113	214	234	1.5	90	92
J10307799	80	519	95	61	113	214	234	1.5	90	92
J10307802	80	519	95	61	113	214	234	1.5	90	92
J10307803	80	519	95	61	113	214	234	1.5	90	92
J10307804	80	519	95	61	113	214	234	1.5	90	92

Final "put-up" rolls taken from a single master roll and having identical properties and test data. Results may only be available for tested rolls. Unless specified separately in writing, material results apply only to items tested. No portion of this document may be reproduced whole or in part without the expressed written consent of TenCate. TenCate warrants our products and services to be free from defects in material and workmanship when delivered to TenCate's customers and that our products meet our published specifications.

# MATS Sample Information: Project info, select proper material type: 9-33 Construction Geotextile and Material: Select from list.

The screenshot displays the 'Sample Information' form with the following fields and values:

- Header:** Sample | Test Results | Assign Tests | Destination
- \*Work Order#:** IR0443
- \*Section:** HQ Materials Lab 21-23
- Sample ID:** [Empty]
- Local Agency Tracking #:** [Empty]
- MEPS Tracking # (ASA/QPL/HMA Number):** [Empty]
- Orgcode:** 306500
- Project Engineer:** [Empty]
- County / City:** [Empty]
- SR Number:** [Empty]
- \*Material Type:** 9-33 Construction Geotextile
- \*Material:** Underground Drainage, Moderate Survivability Class B Woven - 9-33.1 - 2023
- Other Material:** [Empty]
- Transmittal Comments:** [Empty text area]
- \*Submitted By:** Samuel Wade
- \*Phone #:** (360) 709-5426
- \*Requestor Orgcode:** [Empty]
- Please enter the email address of any local agency personnel who you wish to get a copy of the materials test reports:** [Empty text area]
- Add Email to List:** [Empty text input] [Add Email] [Remove Email]
- Example:** 'someone@example.com'
- Bid Item:** [Empty list area] [Remove] [Add] (\*) - Mandatory field

# For Geogrid samples select the material type: 9-33 Construction Geotextiles, Material: other and Other Material: Geosynthetic or Geogrid for Retaining Wall

Sample Information

Header | Sample | Test Results | Assign Tests | Destination

\* Work Order# IR0443    \* Section HQ Materials Lab 21-23    Sample ID:    Local Agency Tracking #    MEPS Tracking # (ASA/QPL/HMA Number)

Orgcode 306500    Project Engineer    County / City    SR Number

\* Material Type 9-33 Construction Geotextile    \* Material Other    Other Material Geosynthetic or Geogrid for Retaining Wall

Transmittal Comments

\* Submitted By Samuel Wade    \* Phone # (360) 709-5426    \* Requestor Orgcode

Please enter the email address of any local agency personnel who you wish to get a copy of the materials test reports

Add Email to List    Add Email    Remove Email    Example: 'someone@example.com'

BidItem    Remove    Add

(\*) - Mandatory field

# Questions?

## Thank You!

Steve Landers  
Structural Materials Engineer  
[LanderS@wsdot.wa.gov](mailto:LanderS@wsdot.wa.gov)  
360-709-5446

Rob Molohon  
Assistant Structural Materials Engineer  
[molohor@wsdot.wa.gov](mailto:molohor@wsdot.wa.gov)  
360-709-5447

Zach Kane  
Structural Materials  
[kaner@wsdot.wa.gov](mailto:kaner@wsdot.wa.gov)  
360-709-5448

Sam Wade  
Structural Materials (Soils)  
[wadesa@wsdot.wa.gov](mailto:wadesa@wsdot.wa.gov)  
360-709-5426



# Specialty Testing Labs

**Presented by: Katie Dafoe**  
Specialty Testing Lab Manager  
State Materials Laboratory  
March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# DOCUMENTATION ENGINEER TRAINING

## Brought to you by your friendly neighborhood chemists

- **Contractor/Manufacturer sends sample to PEO → PEO creates transmittal in MATS → PEO sends sample AND transmittal to MATS lab**
- Deviations in this route/process require ample communication in order to keep frustration and testing delays minimal
- Approval of materials is required prior to use. Materials will be approved by the Qualified Products List or Request for Approval of Material. Be certain to verify that the product is in fact qualified for its intended use and the product is listed under the appropriate specification.

# Epoxy

- Type, grade, class, manufacturer, and lot number(s) specified on transmittals.
- SDS (Safety Data Sheet) for each batch or lot number.
- Minimum of 500mL (17oz) or two pints of epoxy for testing.
- A period of 21 calendar days should be allowed for testing.
- Lot numbers for Dayton Superior products are not the barcode “lot number,” but rather an alphanumeric code, in the form AXXXX, that appears on a sticker on the cartridges or cans, they are working on changing this.
- Samples need to be submitted for EACH LOT of epoxy; with cartridges each unique combination must also be tested. I.E. A(1) B(1) does not equal A(1) B(2).
- Epoxy cannot be shipped via normal shipping methods without a Shipper’s Declaration of Dangerous Goods, it needs to be delivered via a courier or properly shipped as a Dangerous Goods material and according to the associated rules.
- If an epoxy were to be shipped in an unmarked container, and the container was then involved in an accident and spilled, WSDOT would be liable for the hazardous cleanup and likely subject to fines.

# Pigmented Sealer

- If the lot is listed on the QPL, it may be used without testing on current projects.
- If the lot is not listed on the QPL, submit a 1-quart sample.
- Send a drawdown from the manufacturer or third-party testing facility.
- Samples must be submitted for testing 10 days prior to use.
- Good sampling practice is key to getting good test results for pigmented sealers; the bulk container must be mixed, and a representative sample obtained.

# Bridge Paint

- If the lot is listed on the QPL, it may be used without testing on current projects.
- If the lot is not listed on the QPL, submit a 1-quart sample.



# Compression Seal (Elastomeric Expansion Joint Seal)

- If the lot is listed on the QPL, it may be used without testing on current projects.
- If the lot is not listed on the QPL, a minimum of 2 feet of material (per lot) must be sent for testing.
- Samples must be submitted for testing 10 days prior to use of joint seal.



# Hot Poured Joint Sealant

- If the lot is listed on the QPL, it may be used without testing on current projects.
- If the lot is not listed on the QPL, one box of the sample must be sent for testing.
- Samples must be submitted for testing 10 days prior to use of joint sealant.



# Poured Rubber Joint Sealer

- If the lot is listed on the QPL, it may be used without testing on current projects.
- If the lot is not listed on the QPL, a representative sample must be sent for testing. The sample shall consist of an unopened container of each component (kit) from each lot, mixing instructions, and SDS.
- Samples must be submitted for testing 10 days prior to use of joint sealer.



# Bearing Pads (PTFE, Fabric)

- PTFE: two 6" x 6" squares and a Manufacturer's Certificate of Compliance.
- Fabric: one 6" x 6" square and a Manufacturer's Certificate of Compliance.

# Fencing

- Check the contract to make sure the material needs to be submitted for testing. Many times, the materials can be accepted with proof of an acceptable Manufacturer's Certificate of Compliance.
- **If the sample must be sent for testing, a Manufacturer's Certificate of Compliance must be provided AND the following sample size as follows:**
  - *Chain link fabric:* one sample consisting of three wires across full width of fabric from one roll.
  - *Wire mesh:* one 12-inch sample across full width of roll.
  - *Tension wire and barbed wire:* one 3-foot sample from one roll.
- **Grade 1 Post Material:**
  - Rails and grade 1 posts for chain link fence: one post and 12-inch sample from each end of the rail, where appropriate.
  - Corner posts or brace posts: one complete post assembly.
  - Wire fence line posts: one complete post with plate.

# Questions?

- Please let us know if you want excess material when testing is completed. We can send any remaining hot poured joint sealant via interoffice mail. Epoxy and paint can be picked up at the lab.

**Thank You!**

Katie Dafoe  
Specialty Testing Lab Manager  
[DafoeK@wsdot.wa.gov](mailto:DafoeK@wsdot.wa.gov)  
360.709.5537 office  
360.522.2376 cell

# Bituminous Materials Section

**Presented by:**  
**Scott Phillips - Bituminous Engineer**  
**Jason Zimmer – Liquid Asphalt Engineer**  
State Materials Laboratory  
March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# What We Do:

- HMA Mix Designs
- HMA Conformation Samples
- HMA Reference Mix Designs
- HMA Forensic Studies
- PG Binders
- Emulsified Asphalts
- Flexible Adhesives
- Nuclear Electronics Laboratory

# WHAT WE DON'T DO:

- SAM
- MATS Issues
- Construction Functions
- ESALs
- Change Orders

# HMA Reference Mix Designs:

- Must come through MATS
- Everything must match the contract
- If we need additional information, we will ask
- It is the responsibility of the contractor to supply the design for use!
- Checking aggregate source ASA approval is the responsibility of the PEO.

# HMA Reference Mix Designs:

What we are checking:

- Good Production History throughout the design
- All components are current
- Correct Application
- High RAP/RAS Applications



# HMA Reference Mix Designs:

## Common Mistakes

- Wrong Specification Year
- No Reference or submitted after paving takes place
- Referencing the wrong class of mix (ESALs)
- Referencing a High RAP/RAS mix without knowing
- Attempting to reference Commercial HMA

# HMA Reference Mix Designs:

## Frequently Asked Questions

- Do I need a new reference each year?
- Why doesn't the watermark match the year?
- Why do I need a reference design if it's on the QPL?
- What if the design expires before the end of paving?
- What if the contractor needs to make a substitution?

# **HOT MIX ASPHALT**

# Hot Mix Asphalt

## When will the HMA Mix Design be completed and placed on the QPL?

- 1) Communicate with the contractor and request the HMA number: Example HMA2023-022
- 2) Request mix design status from State Materials Laboratory.

## HMA Mix Design Change Orders:

Most common: Binder Grade & Gyration Level.

Forward to State Materials Laboratory.

If seeking approval to make a change, contact construction office.

# Hot Mix Asphalt

## Recycled Materials - Hazardous Materials Certification

- Standard Specification 9-03.21
- Materials from WSDOT projects **Do Not** require Non-Haz Mat Certification.
- Recycled materials imported to the job **will require** testing and certification of toxicity characteristics.
- During the mix design process, Hazardous Materials documentation is required for all mix designs containing RAP and/or RAS.
- There is new RAS toxicity testing requirements. Check 9-03.21.
- Non-Haz Mat certification for your project is the responsibility of the PEO.

# Hot Mix Asphalt

- **HMA Test Sections:**
  - What is needed from the PEO?
    - Advanced notification of the test section date.
    - 2 **full** boxes of mix for each of the 3 samples (total of 6).
    - Transmittals for each sample (3 total).
      - **Delivered with the Samples**
    - **Gmm** for each sample (3 total) **Can Not Begin Testing Without the Gmm.**
    - Contact phone number of person delivering the samples.
  - Materials Laboratory will provide an email with sample delivery information after receiving test section notification.

# Hot Mix Asphalt

- **Commercial Mix Designs:**
  - Contractor submits design to Bituminous Materials office.
  - Mix design submittal review is performed. No testing.
  - Commercial mix Design meets specification?
    - Yes - Mix design placed on QPL for **commercial use only** and report issued to contractor.
    - No - mix design rejected.

# Hot Mix Asphalt

- **Conformation Samples:**
  - No reference or mix design number?
    - Cannot login sample and begin testing without this.
    - If paving is completed without a reference mix design testing will not be performed.
  - **2 full boxes** of mix needed to test Volumetrics, Hamburg and IDT.
    - If only one box available...make a note on the transmittal requesting the test's you would like performed.



# Hot Mix Asphalt

- Popular Transmittal Issues:
  - Field test report sent instead of transmittal.
  - No Mix Design Number.
  - No Gmm – needed for Hamburg and IDT breakdown.
  - No Aggregate Gsb – needed to calculate volumetrics.
  - Gradation sieve weights entered instead of % Passing.
  - No reference mix design issued for the contract.
- Why should I make sure the transmittal is filled out correctly before submitting?
  - Testing cannot begin until all the information is received.
  - Your sample will be moved to the back of the line.
  - Your contract will be charged for any additional time spent on your material.

# Hot Mix Asphalt

- Is the sample a retest?
  - Note “Retest” in bold letters on the transmittal and box of mix.
    - We will automatically move the specimen to rush status.
- To much tape on sample box.

**2023**

# **Documentation Training**

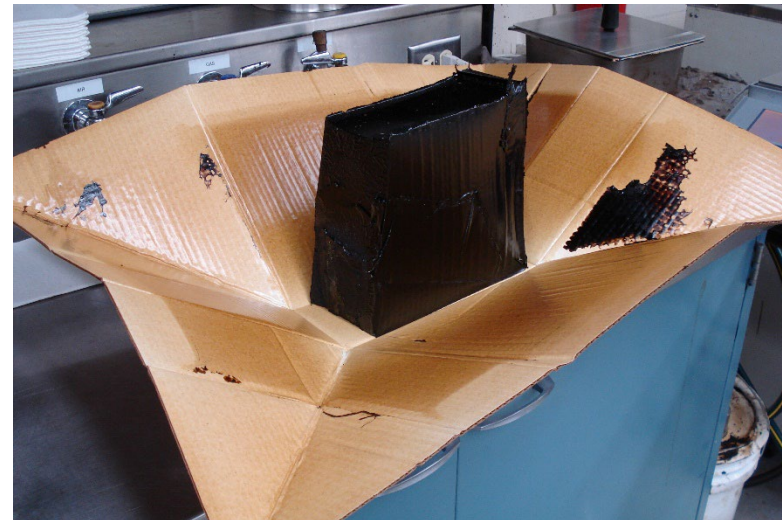
***“Asphalt Laboratory Sample Submittal”***

**Jason Zimmer**

Liquid Asphalt Engineer  
State Materials Laboratory

# Asphalt Laboratory Sample Types

- Performance Graded Asphalt Binder
- Emulsified Asphalt
- Bituminous Marker Adhesive



# Guiding Documentation

- **Contract Plans, Special Provisions, Amendments, and Change Orders**
- **Construction Manual M 41-01**
  - GEN 5-02.3 Inspection and Sampling of Materials (Emulsified Asphalt)
  - 9-3.5C Basis for Acceptance – Performance Graded Asphalt Binder and Emulsified Asphalt
  - 9-3.7 Acceptance Sampling and Testing Frequency Guide
  - 9-4.2 Bituminous Materials
- **Materials Manual M 46-01**
  - FOP for AASHTO R 66 Sampling Asphalt Materials
- **Standard Specifications M 41-10**
  - AASHTO M 320 & M 332 Performance-Graded Asphalt Binder (M 332 MSCR)
  - AASHTO M 208 Cationic Emulsified Asphalt

# Performance Graded Asphalt Binder

- **Review Contract Plans, Special Provisions, Amendments, and Change Orders**
  - Which Standard Spec year is your contract?
  - Does the Binder Specified on the Mix Design agree with the contract requirements?
- **Sampling and Submitting PG Binder**
  - Does the Binder BOL match the Mix Design (Supplier, PG Grade, etc)?
  - Does the sample frequency & numbering comply with Construction Manual (9-3.7)?
    - 1 quart metal cans (2 each), starting with 2<sup>nd</sup> HMA Sample and every other thereafter
    - ❖ ***Binder is tested as an independent material type***



# Performance Graded Asphalt Binder cont...

- Sampling and Submitting PG Binder cont...
  - Use gummed label DOT Form 350-016 for each can and fill out completely
    - Gummed “label maker” versions with same info acceptable

Washington State  
Department of Transportation

Asphalt Emulsion

Certificate No. (Notice of Shipment), ..... \_\_\_\_\_

Asphalt Sample No. .... \_\_\_\_\_

Grade ..... \_\_\_\_\_

Supplier/Brand, ..... \_\_\_\_\_

Contract No. .... \_\_\_\_\_

Project Name \_\_\_\_\_

Date Sampled ..... \_\_\_\_\_

DOT Form 350-016 (Rev. 4/2002)

# Performance Graded Asphalt Binder cont...

- Sampling and Submitting PG Binder cont...

## ➤ Create transmittal in MATS – Header Info

The screenshot shows the 'Sample Information' window in the MATS system. The window has a title bar with standard OS controls and a tabbed interface with 'Header' selected. The form contains the following fields and sections:

- Work Order#:** AD0323 (dropdown)
- Section:** Oregon Cooperative Testing Group (text)
- Sample ID:** (empty text)
- Local Agency Tracking #:** (empty text)
- Orgcode:** 306234 (text)
- Project Engineer:** Rob Molohon (text)
- County / City:** (empty text)
- SR Number:** (empty text)
- Material Type:** 9-02 Bituminous Materials (dropdown)
- Material:** PG 58-34 - 9-02.1(4) - 2019 (dropdown)
- Other Material:** (empty text)
- Transmittal Comments:** (empty text area)
- Submitted By:** Sean McLaughlin (text)
- Phone #:** (360) 709-5429 (text)
- Requestor Orgcode:** 306223 (text)
- Email List:** A list of email addresses: mclaugs@wsdot.wa.gov and molohor@wsdot.wa.gov. Below the list are 'Add Email' and 'Remove Email' buttons. An example email address is provided: 'someone@example.com'.
- BidItem:** A list box containing one item, with 'Remove' and 'Add' buttons next to it.

(\*) - Mandatory field



# Performance Graded Asphalt Binder cont...

- Sampling and Submitting PG Binder cont...
  - Create transmittal in MATS – Sample Info

Sample Information

Header Sample Test Results Assign Tests Destination

Sample ID: Material Type: Material: (\*) - Mandatory field

9-02 Bituminous Materials PG 58-34 - 9-02.1(4) - 2019

Acceptance Sample

Acceptance Sample Number IA Sample Number Soils Material Description:

Make \* Manufacturer/Fabricator \* Supplier Spec Reference Used At Station

OCTG US Oil

Roll Number Heat Number Reel Number \* Cert Number Lot Number

Sample Number 287

Size Type Grade Pit Number Stockpile Number

Asphalt % Requested

\* Sampled At \* Sampled By \* Date Sampled Quantity Represented

US Oil, Tacoma US Oil 02/01/2019

Usage: Survivability:

# Performance Graded Asphalt Binder cont...

- Sampling and Submitting PG Binder cont...
  - Create transmittal in MATS – Assign Tests

The screenshot shows the 'Sample Information' window in the MATS system. The 'Sample ID' field is circled in red and contains the value '00000125076'. The 'Material Type' is '9-02 Bituminous Materials' and the 'Material' is 'PG 58-34 - 9-02.1(4) - 2019'. A table of test procedures is displayed with checkboxes for each:

Test Procedure	Assigned
T48 Flash and Fire Points by Cleveland Open Cup	<input checked="" type="checkbox"/>
T350	<input checked="" type="checkbox"/>
T240 Rolling Thin-Film Oven Test	<input checked="" type="checkbox"/>
T301 Elastic Recovery	<input checked="" type="checkbox"/>
T313 Bending Beam Rheometer (BBR)	<input checked="" type="checkbox"/>

Below the table is an 'Add Test' dropdown menu and an 'Apply' button. To the right of the table is a checkbox for 'Geo Technical Test' which is currently unchecked. At the bottom right of the window, a 'Data Saved' message is circled in red.

# Performance Graded Asphalt Binder cont...

- Sampling and Submitting PG Binder cont...
  - Create transmittal in MATS – Destination Info

Sample Information

Header | Sample | Test Results | Assign Tests | Destination

Sample ID: 00000125076 Sample Status: Sent To Lab (\*) - Mandatory field

\* Lab: HQ Lab Date Sent: 03/01/2019 Mode of Shipment: UPS Send To Lab

Date Received: / / Received At Lab

Receiving Comments

Please, click "Send to Lab" button to send the sample to the lab

Data Saved

# Performance Graded Asphalt Binder cont...

- Sampling and Submitting PG Binder cont...
  - Create transmittal in MATS – Destination Info

Sample Information

Header Sample Test Results Assign Tests Destination

Sample ID: 00000125076 Sample Status: Received At Lab (\*) - Mandatory field

\* Lab: HQ Lab Date Sent: 03/01/2019 Mode of Shipment: UPS Send To Lab

Date Received: 03/11/2019 Received At Lab

Receiving Comments

Please, click "Send to Lab" button to send the sample to the lab

Data Saved

# Performance Graded Asphalt Binder cont...

- Sampling and Submitting PG Binder cont...
  - Shipping –
    - Are lids on tight?
    - Are cans sitting upright?



# Emulsified Asphalt

- **Review Contract Plans, Special Provisions, Amendments, and Change Orders**
  - *Determine if supplemental specifications apply.*
  - Does the material require expedited testing?
- **Sampling and Submitting Emulsified Asphalt**
  - Does the BOL match the Contract requirements (Supplier, Grade, etc)?
  - Does the sample frequency & numbering comply with Construction Manual (9-3.7)?
    - 1 quart wide mouth plastic jars (2 each)
      - BST – Every Other Shipment
      - HMA Tack Coat – 1 Sample per project
  - Allow 1 gallon to flow from sampling location before sample is obtained



# Emulsified Asphalt cont...

- Sampling and Submitting Emulsified Asphalt cont...

- **Sample Completely Filled**

- **Tape Around Lid**

- **Recommend Black Electrical Tape**

# Emulsified Asphalt cont...

- Sampling and Submitting Emulsified Asphalt cont...
  - Use gummed label DOT Form 350-016 for each can and fill out completely
    - Gummed “label maker” versions with same info acceptable

Washington State  
Department of Transportation

Asphalt Emulsion

Certificate No. (Notice of Shipment), ..... \_\_\_\_\_

Asphalt Sample No. .... \_\_\_\_\_

Grade ..... \_\_\_\_\_

Supplier/Brand ..... \_\_\_\_\_

Contract No. .... \_\_\_\_\_

Project Name \_\_\_\_\_

Date Sampled ..... \_\_\_\_\_

DOT Form 350-016 (Rev. 4/2002)



# Emulsified Asphalt cont...

- **Sampling and Submitting Emulsified Asphalt cont...**

WSDOT Errata to FOP for AASHTO R 66

*Sampling Asphalt Materials*

WAQTC FOP for AASHTO R 66 has been adopted by WSDOT with the following changes:

## Containers

Include sentence below:

- Emulsified asphalt: Use wide-mouth plastic jars with screw caps. Protect the samples from freezing since water is a part of the emulsion. The sample container should be completely filled to minimize a skin formation on the sample. Place tape around the seam of the cap to keep the cap from loosening and spilling the contents.

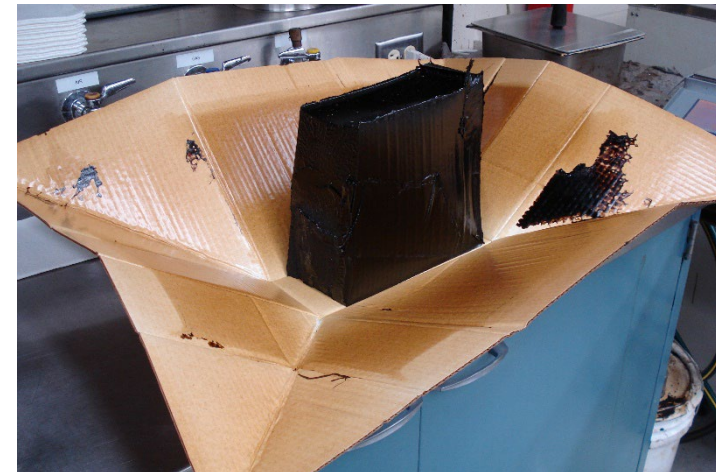


# Emulsified Asphalt cont...

- **Sampling and Submitting Emulsified Asphalt cont...**
  - **Expedite shipping Emulsified Asphalt samples to HQ Lab for testing**
    - **Per AASHTO M 208 Cationic Emulsified Asphalt, 3.1.**
      - Complete testing of sample for emulsified asphalt properties within 14 days of sample date
    - **Check Special Provisions for expedited testing requirements**
      - Example – CVRS-2P (Cationic Very Rapid Set) shall be distilled within 2 days of sample date.

# Flexible Bituminous Marker Adhesive

- **Review Contract Plans, Special Provisions, Amendments, and Change Orders**
- **Sampling and Submitting “Bit Adhesive”**
  - **Construction Manual 9-4.3**
  - Is the Lot already on QPL?
  - Observe sampling or designate agency representative
  - **Submit sample for testing 10 days prior to use**



# Questions?

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Jason Zimmer, Liquid Asphalt Engineer

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# Quality Systems

**Presented by: Kevin Burns**  
Quality Systems Manager  
State Materials Laboratory  
March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# Tester Certification/Qualification

## **CONSTRUCTION MANUAL**

### **9-5 Quality Assurance Program**

#### **9-5.1 General**

The purpose of the WSDOT Quality Assurance Program (QAP) is to ensure that materials incorporated into any highway construction project are in conformity with the approved plans and specifications, including any approved changes. This program also conforms to the criteria in FHWA regulation for Quality Assurance Procedures for Construction (23 CFR 637).

The QAP includes the following:

- WAQTC Testing Technician Qualification Program
- Method Qualified Tester Program
- Equipment Calibration/Standardization/Check and Maintenance Program
- Qualified Laboratory Program
- Independent Assurance (IA) Program

**It is the responsibility of the Project Engineer to ensure that all personnel sampling or testing materials on a project or in a field laboratory are WAQTC Certified or Method Qualified per Sections 9-5.3 and 9-5.4.**

# Tester Certification/Qualification

## 9-5.2 Quality Assurance Program Structure and Responsibilities

Table 9-3 outlines the structure of the quality program for WSDOT.

Table 9-3

### Project Engineering Office Requirements

**Project Engineer** Management of the Project Office QAP which includes:

- **Training of testers**
  - » Provide training opportunities
  - » Provide opportunity for experience in the field
  - » Maintain WAQTC Certified/Method Qualified Testers on projects
  - » Maintain staff of WAQTC Certified/Method Qualified Testers to perform testing on all projects under the management of the Project Engineer
  - » Verify WAQTC Testers are certified in all modules and test methods that are required to test materials on projects by obtaining copies of tester certifications
  - » Maintain paper or digital copies of the WAQTC Tester Certifications and Method Qualified Tester Certifications in the Project Records
- PE Office Contact (appointed by PE as the office contact to the IAI)**
- Track Certified/Method qualification of Testers
- Assist Testers in registering for next certification or method qualification event
- Assist testers in scheduling audits

# Tester Annual IA Audit

## **9-5.4B Independent Assurance**

An Independent Assurance (IA) audit will be performed a minimum of once per year on all active testers performing sampling, acceptance testing or verification testing. A qualified IAI will perform the IA and submit a report of findings to the Project Engineer, Region Materials Engineer and the Quality Systems Manager. Refer to Section 9-5.7 Independent Assurance Program and Section 9-5.7C Independent Assurance Report.

Active Method Qualified Testers must notify the IAI to schedule an IAI visit. Failure to notify the IAI that you are performing sampling acceptance testing or verification testing is an act of Negligence. The IA Annual audits will normally be conducted in person by the IAI. If extenuating circumstances exist that prevent the IAI from observing the tester in-person, then with written approval from the State Materials Laboratory Quality Systems Manager, the IAI may perform the IA audit remotely via camera with the tester in place of the in-person review.



# Qualified Laboratories

## **9-5.6 Qualified Laboratories**

The State Materials Laboratory is an AASHTO Accreditation Program (AAP) accredited laboratory. The State Materials Laboratory will review and qualify testing laboratories performing testing on WSDOT projects. Approval or disapproval will be in accordance with Section 9-5.6A or Section 9-5.6B.

### **9-5.6A Qualification of Region and Private Testing Laboratories**

The State Materials Laboratory Quality Systems Office qualifies WSDOT region testing laboratories and private testing laboratories to perform materials testing in accordance with WSDOT Standard Practice QC 3 Quality System Laboratory Review. The laboratory review will typically be an on-site laboratory review but may be a remote laboratory review at the discretion of the Quality Systems Manager.

A hybrid laboratory review would include a combination of remote review of electronic documentation and on-site performance review of testing. A remote laboratory review would include review of electronic documentation and remote on-site performance review via camera or electronic platform, such as Teams, Zoom or other option approved by the Quality Systems Manager.

Testing laboratories may be qualified for up to two years with the approval of the Quality Systems Manager. The laboratory approval may be extended up to one additional year with approval of the Assistant State Materials Engineer. Interim laboratory reviews of the laboratory may be done at any time at the discretion of the Quality Systems

# Questions?

**Thank You!**

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# Fabrication Inspection

**Presented by: Marvin Nitta & Jason Dewey**

TTEs - Fabrications  
State Materials Laboratory

March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# Fabrication Inspection

- Discuss CM 1-06 Control of Materials
  - SS 1-06.3 Manufacturer's Certificate of Compliance.
  - MCC Checklist requirements and where the information can be located.
  - Internal SOP for Fabrication and Materials inspection office.

**Instructions:** This form is to be completed by the PEO. It is NOT required for concrete delivery tickets, asphalt bill of lading, or admixtures.

Contract Number	SR Number	Section	Date
Project Engineer:		Contractor:	

The attached Manufacturer's Certificate of Compliance for a quantity of \_\_\_\_\_ for Bid Item # \_\_\_\_\_; Material \_\_\_\_\_, has been checked for conformance to Section 1-06.3 of the *Standard Specifications* per the check list shown below.

	YES	NO		YES	NO
1. Is a Mfg. Cert. proper documentation for this item of Material? <i>See Note 1</i>	<input type="checkbox"/>	<input type="checkbox"/>	8. Does the Mfg. Cert. provided show the material conforms to the required specifications? (i.e., WSDOT, AASHTO, ASTM) <i>See Note 4</i>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the certification being provided PRIOR to the material being installed?	<input type="checkbox"/>	<input type="checkbox"/>	9. Is the Mfg. Cert. signed by a corporate official?	<input type="checkbox"/>	<input type="checkbox"/>
3. If the answer to No. 2 above is "NO," attached is a copy of the contractor's approved request for permission to install prior to providing a Mfg. Cert. for acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	10. When more than a single delivery is made, are the lot numbers identified?	<input type="checkbox"/>	<input type="checkbox"/>
4. Has an approved RAM/QPL been received for this item?	<input type="checkbox"/>	<input type="checkbox"/>	11. Is a supporting mill test attached showing the physical and chemical test values meeting applicable specifications? <i>See Note 3.</i>	<input type="checkbox"/>	<input type="checkbox"/>
5. Does this Mfg. Cert. identify the name of the manufacturer and/or fabricator?	<input type="checkbox"/>	<input type="checkbox"/>	<b>Remarks:</b>		
6. Does the Mfg. Cert. identify the quantity of material being certified and/or placed by type, size, lot, or heat number? <i>See Note 2</i>	<input type="checkbox"/>	<input type="checkbox"/>			
6a. Does the material being placed match the certification provided?	<input type="checkbox"/>	<input type="checkbox"/>			
7. Does the Mfg. Cert. identify the applicable contract specification (i.e., WSDOT, AASHTO, ASTM) that the material is to meet? <i>See Note 3.</i>	<input type="checkbox"/>	<input type="checkbox"/>			

**Notes:**

1. Check the Record of Materials (ROM), Special Provisions, or the 'Approved' Request for Approval of Material (RAM).
2. Rebar cut sheets may be used in lieu of bill of lading or invoice.
3. Test values required to be supplied with Manufacturer's Certificate for steel reinforcing bars and structural steel. Manufacturer's Certificate for some steel items, such as steel culvert pipe items, may reference heats used.
4. If answer is "NO," submit Manufacturer's Certificate to State Materials Laboratory for approval.

<input type="checkbox"/> Accepted as proper documentation per Section 1-06.3 of the <i>Standard Specifications</i> .	
<input type="checkbox"/> Manufacturer's Certificate of Compliance submitted to State Materials Laboratory for "Approval Action."	
<input type="checkbox"/> Returned to contractor for correction of "NO" answers recorded in items _____	
Submitted By _____	Date _____

# Fabrication Inspection - continued

- Discuss CM 1-06 Control of Materials
  - SS 1-06.3 Manufacturer's Certificate of Compliance.
  - MCC Checklist requirements and where the information can be located.
  - Internal SOP for Fabrication and Materials inspection office.

## 1-06 Control of Material

### SS 1-06.3 Manufacturer's Certificate of Compliance

All material is to be accepted for use on the project based on satisfactory test results that demonstrate compliance with the contract plans and specifications. All work demonstrating compliance is to be completed prior to the material's incorporation into the work. In many cases, this testing has already been completed in advance by the manufacturer. A Manufacturer's Certificate of Compliance provides a means to utilize this testing in lieu of job testing performed prior to each use of the product. This provides for a timely use of the material upon arrival to the job site without a delay in waiting for the return of test results. The Project Office is required to complete and file a Manufacturer's Certificate of Compliance Check List (DOT Form 350-572). This must be done in a timely manner and is necessary to ensure that the material meets all the requirements of the contract.

*Standard Specifications* Section 1-06.3 describes the procedures for acceptance of materials based upon the Manufacturer's Certificate of Compliance. *Standard Specifications* Division 9 describes those materials that may be accepted on the basis of these certificates. Since a certificate is a substitute for prior testing, it is intended that all certificates be furnished to the Project Engineer prior to use or installation of the material.

However, there are some circumstances where the Contractor may request, in writing, the Project Engineer's approval to install materials prior to receipt and submittal of the required certificate. The Project Engineer's approval of this request must be conditioned upon withholding payment for the entire item of work until an acceptable Manufacturer's Certificate of Compliance is received. Examples of materials that shall not be approved by the Project Engineer for installation prior to the Contractor's submittal of an acceptable certificate are: materials encased in concrete (i.e., rebar, bridge drains); materials under succeeding items where the later work cannot be reasonably removed (i.e., culvert under a ramp to be opened to traffic); etc. The Project Engineer's approval or denial shall be in writing to the Contractor, stating the circumstances that determined the decision. If the requirements of this provision are followed, including the written request by the Contractor and the written approval by the Project Engineer, then the remedy for failure to provide the Certificate is the withholding of 100 percent of the cost of the material and the cost of the work associated with the installation of the material.

# Questions?

**Thank You!**

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# Lunch – 12:00 pm to 12:30 pm



# **MATS / SAM Data Review**

**Presented by: Jeff Gubbe**  
NWR Trainer / IAI Supervisor  
NWR Materials Laboratory  
March 8<sup>th</sup> & 15<sup>th</sup>, 2023



# Review MATS Data Entries

Sample Search

Work Order# 009666 Sample Id 00000 Status Org Code Region Lab Number Agg Source/Pit Number

Lab Material Type Material

Type of dates From date To date MEPS Tracking # Retrieve Reset **SAMPLE SEARCH**

View Sample Info View Test Report 37 Sample(s) found. Print

Sample Id	Acceptance #	Pit Number	Work Order	Material Type	Material	Transmittal Type	St
0000012ad33	1	M281	009666	9-03 Aggregates	Crushed Surfacing Base Course - 9-03.9(3) - 2021	Field Transmittal - HMA/Aggregate	Re
0000012ad34		M272	009666	2-03 Densitv Standards	T606 (Max Densitv) CSBC 1" 1/4 minus	Sample Infomation	Re
0000012adb1						Field Transmittal - HMA/Aggregate	In
0000012adb3						Sample Infomation	Re
0000012ade9						(3) - 2021 Sample Infomation	Re
0000012ae6f						Sample Infomation	Re
0000012aecc	1					Concrete Infomation	Re
0000012aecd	1		009666	6-02 Grout	Grout Type 2 - 9-20.3(2) - 2021	Concrete Infomation	Re
0000012af44			009666	5-04 Hot Mix Asphalt	HMA Class 1/2" - 9-03.8(2) - 2021	Coring Transmittal	Re
▶ 0000012af4c	1	M268	009666	5-04 Hot Mix Asphalt	HMA Class 1/2" - 9-03.8(2) - 2021	Field Transmittal - HMA/Aggregate	Re
0000012af4d	2	M268	009666	5-04 Hot Mix Asphalt	HMA Class 1/2" - 9-03.8(2) - 2021	Field Transmittal - HMA/Aggregate	Re
0000012af4e	3	M268	009666	5-04 Hot Mix Asphalt	HMA Class 1/2" - 9-03.8(2) - 2021	Field Transmittal - HMA/Aggregate	Re
0000012af64	1		009666	6-02 Grout	Grout Type 2 - 9-20.3(2) - 2021	Concrete Infomation	Re
0000012afa2	1	m281	009666	9-03 Aggregates	Streambed Sediment - 9-03.11(1) - 2021	Field Transmittal - HMA/Aggregate	Re
0000012afbb	1	m-281	009666	9-03 Aggregates	Streambed Sediment - 9-03.11(1) - 2021	Field Transmittal - HMA/Aggregate	Re
0000012b03d			009666	9-33 Construction Geotextile	Seperation Nonwoven - 9-33.1 - 2021	Sample Infomation	Re

Click on Test then Double Click to Open

Sample(s) found 37

# Review MATS Data Entries

Field Testing: SampleId: 0000012af4c

Header | Details | Specifications | Assign Tests | T308 (lg. Furnace) | T30 (Gradation) | T166 (HMA Gmb) | T209 (HMA Gmm) | T312 (Gyratory) | T329 (Moisture) | Volumetrics | Logout | Comments

\* Work Order# 009666 Section UNNAMED TRIBUTARY TO PILCHUCK CREEK FISH P, Sample ID 0000012af4c Local Agency# [ ] Archive Undo-Archive

Org Code 412334 Project Engineer Beier, Spencer County/City [ ] SR Number 009

\* Material Type 5-04 Hot Mix Asphalt \* Material HMA Class 1/2" - 9-03.8(2) - 2021 Other [ ]

Transmittal Comments [ ]

Submitted By Dishong Phone # (360) 630-9207 \*Requestor Orgcode [ ]

Bid Items

- 015.01 ~ HMA CL. 1/2 IN. PG 58H-22 [Remove]

BidItem -select a value- [Add]

Review Each Test for Value Review

# Review MATS Data Entries

Materials Management System - [Field Testing: SampleId: 0000012af4c]

File Edit View Sample Search Maintenance Laboratory Summary Reports Applications Windows Help

New Field Testing Save Edit Search Print Preview Print

Header Details Specifications Assign Tests T308 (Ig. Furnace) T30 (Gradation) T166 (HMA Gmb) T209 (HMA Gmm) T312 (Gyratory) T329 (Moisture) Volumetrics Logout Comments

Test Complete

Oven #  Calibration Factor  % Moisture (T329)  **Ignition Furnace**

Mass of Basket Assembly:

Mass of Sample and Basket Assembly:

Mass of Sample (Enter in Furnace Controller):

Furnace Displayed Mass:

Asphalt Binder Content (Printed Ticket):

Corrected Asphalt Binder Content:

Total After Ignition Mass:  
 Total Mass (Basket + Agg.)

After Ignition Mass - Basket Assembly (M f):  
 Aggregate Mass (Total Mass - Mass of Empty Basket)

Lab Tech:  Test Date:

Tech Comments:

.Data retrieved successfully

Ignition Furnace Results

# Review MATS Data Entries

Field Testing: SampleId: 0000012af4c

Header Details Specifications Assign Tests T308 (lg. Furnace) T30 (Gradation) T166 (HMA Gmb) T209 (HMA Gmm) T312 (Gyratory) T329 (Moisture) Volumetrics Logout

### T30 Mechanical Analysis of Extracted Aggregate

Agg. Mass from T308:  (M T30) After Ignition Mass - Basket Assembly:  (M f) Mass Verification Achieved:  Test Complete

Dry Sample Mass After Wash:

||| Add Sieve | Remove Sieve  Grams  Pounds

	Sieve Size	Accumulated Wt.	Retained Wt.	% Passing	Lower Spec	Upper Spec
▶	3/4 in	0.00	0.00	100	99	100
	1/2 in	80.60	80.60	94	90	100
	3/8 in	260.40	179.80	81	79	90
	No. 4	633.20	372.80	55	53	63
	No. 8	873.70	240.50	38	35	43
	No. 16	1042.70	169.00	26		
	No. 30	1148.40	105.70	18		
	No. 50	1234.10	85.70	12		
	No. 100	1290.40	56.30	8		

Pan Weight:  Check Sum Achieved:

Lab Tech:  Test Date:

Tech Comments:

Review Gradation

# Review MATS Data Entries

Field Testing: SampleId: 0000012af4c

Header Details Specifications Assign Tests T308 (lg. Furnace) T30 (Gradation) T166 (HMA Gmb) T209 (HMA Gmm) T312 (Gyratory) T329 (Moisture) Volumetrics Logout Comments

Test Complete

**Bulk Specific Gravity**

Dry Weight:

Weight In Water:

Saturated Weight:

Specific Gravity:

Bulk Density Lbs Cbf:

Specimen Absorption:

**Note:** When "Speciman Absorption" value is greater than 2.0, Please use "T331 CoreLok for BitMix" Test

Lab Tech:  Test Date:

Tech Comments:

# Review MATS Data Entries

Field Testing: SampleId: 0000012af4c

Header Details Specifications Assign Tests T308 (lg. Furnace) T30 (Gradation) T166 (HMA Gmb) T209 (HMA Gmm) T312 (Gyratory) T329 (Moisture) Volumetrics Logout Comments

Test Complete

**Maximum Specific Gravity**

Pycnometer Number:

Tare Weight:

Sample Weight:

Final Weight:

Water Temperature:

Rice Specific Gravity:

Rice Lbs Cbf:  ← Rice Value

Lab Tech:  Test Date:

Tech Comments:

⋮ .Data retrieved successfully

# Review MATS Data Entries

Field Testing: SampleId: 0000012af4c

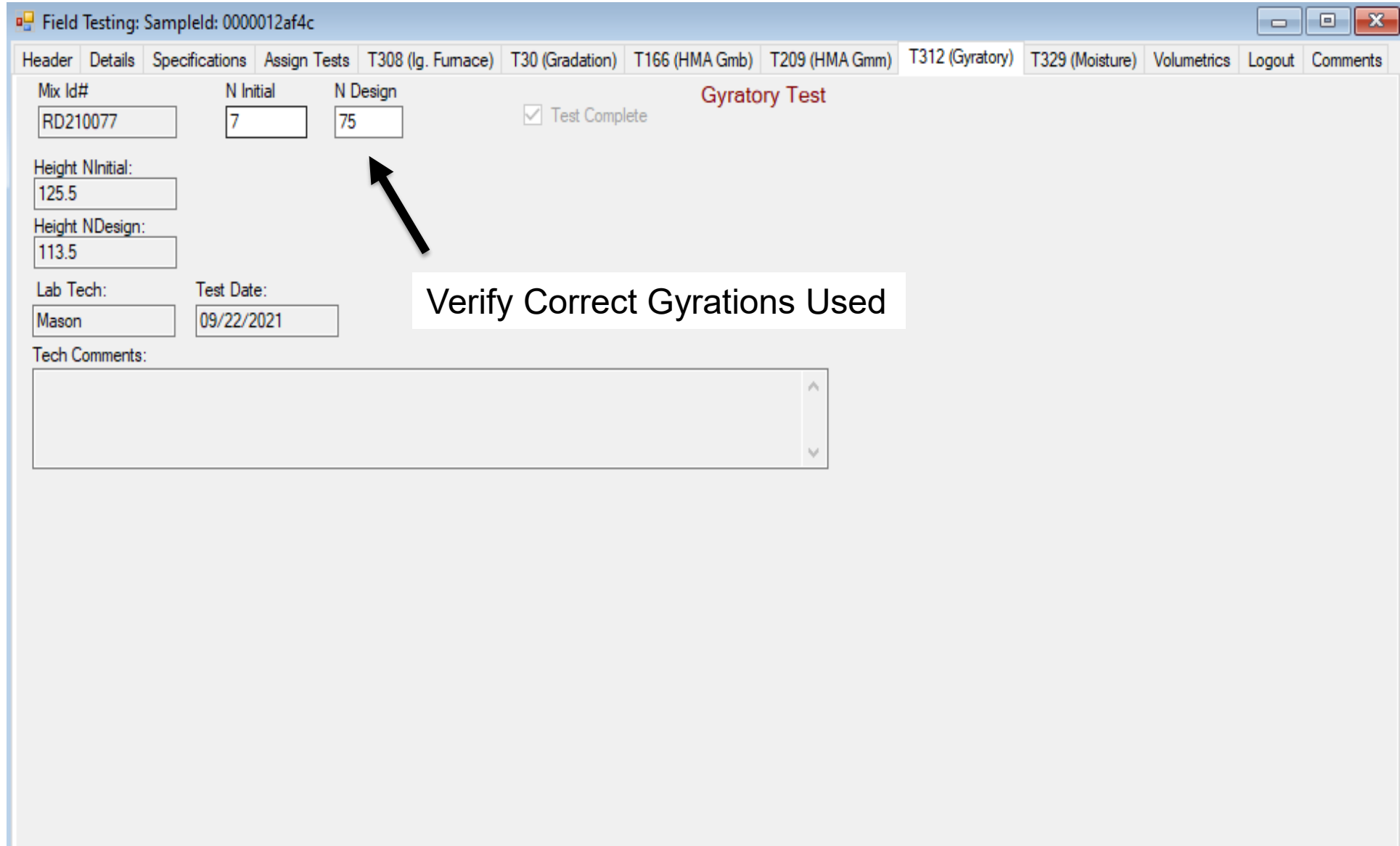
Header Details Specifications Assign Tests T308 (lg. Furnace) T30 (Gradation) T166 (HMA Gmb) T209 (HMA Gmm) T312 (Gyratory) T329 (Moisture) Volumetrics Logout Comments

Mix Id# RD210077 N Initial 7 N Design 75  Test Complete **Gyratory Test**

Height NInitial: 125.5  
Height NDesign: 113.5

Lab Tech: Mason Test Date: 09/22/2021

Tech Comments:



Verify Correct Gyration Used

# Review MATS Data Entries

Field Testing: SampleId: 0000012af4c

Header Details Specifications Assign Tests T308 (lg. Furnace) T30 (Gradation) T166 (HMA Gmb) T209 (HMA Gmm) T312 (Gyratory) T329 (Moisture) Volumetrics Logout Comments

**Moisture in HMA by Oven Method**  Test Complete

Pan Weight:	Temperature Initial:	Pan + Sample Weight Initial:	Time Initial:	Sample Weight Initial:
194.5	255	1225.5	6:25am	1031.0
		1224.9	7:55am	1030.4
		1224.8	8:25am	1030.3
	Final Temperature:		Mass Moisture Lost:	0.70
	255		Percent Moisture:	0.07

Lab Tech: Dishonb Test Date: 09/22/2021

Tech Comments:

⋮ .Data retrieved successfully



# Review MATS Data Entries

Materials Management System - [Field Testing: SampleId: 0000012af4c]

File Edit View Sample Search Maintenance Laboratory Summary Reports Applications Windows Help

New Field Testing Save Edit Search Print Preview Print

Header Details Specifications Assign Tests T308 (lg. Furnace) T30 (Gradation) T166 (HMA Gmb) T209 (HMA Gmm) T312 (Gyratory) T329 (Moisture) Volumetrics Logout Comments

**Volumetrics** Calculate

Test Property	Value	Lower Acceptance Limit	Upper Acceptance Limit
Pct Bind	5.4	5.2	6.1
No. 200	5.6	3.3	7.3
Gb	1.042		
Gsb	2.658		
Gsb Lbs./Cubic Ft.	165.4		
Gmm	2.52		
Gmm Lbs./Cubic Ft.	156.9		
Gmb	2.459		
Gmb Lbs./Cubic Ft.	153.1		
Height @ N Initial	125.5		
Height @ N Design	113.5		
% Gmm @ Nini	88.2		
% Gmm @ Ndes	97.6		
Va	2.4	2.5	5.5
VMA	12.5	13.5	100
VFA	81.0		
Gse	2.743		
Pbe	4.3		
D/A	1.3		
Ps	94.6		

VMA - Spec

Lower Spec Upper Spec

Update VMA - Spec

%Gmm @ N Initial - Spec

Lower Spec Upper Spec

Update %Gmm @ N Initial - Spec

VFA - Spec

Lower Spec Upper Spec

Update VFA - Spec

VA - Spec

Lower Spec Upper Spec

Update VA - Spec

**This Screen Populates when Calculate Button is Clicked**

Note (When Volumetric values are not calculated):  
 In order to calculate the volumetric properties for the sample you will have to enter Pbe, Gsb Blend, and Gb in the transmittal. If there is no Mix Design number entered in the transmittal please do a user define to add the JMF values for Pbe, Gsb Blend, and Gb.

# Review MATS Data Entries

Materials Management System - [Field Testing: SampleId: 0000012af4c]

File Edit View Sample Search Maintenance Laboratory Summary Reports Applications Windows Help

New Field Testing Save Edit Search Print Preview Print

Header Details Specifications Assign Tests T308 (lg. Furnace) T30 (Gradation) T166 (HMA Gmb) T209 (HMA Gmm) T312 (Gyratory) T329 (Moisture) Volumetrics Logout Comments

Sample ID : 0000012af4c Material Type : 5-04 Hot Mix Asphalt Material : HMA Class 1/2" - 9-03.8(2) - 2021 Sample Status : ReportedOut

Billing Code Desc	Billing Code	Test Count
-------------------	--------------	------------

Review Completed  
 Report Out

Create Transmittal (HMA)  
BINDER  
IAI  
CONFORMATION  
AGGREGATE REGION TEST  
RETEST

Date Logged In: 09/23/2021 Log In By: DishonB Report Date: 09/23/2021 Revised

Result Code: Statistically Accepted Approved By: Dishonb

Supervisor Comments

Final Comments

Test Report Email Distribution List

Add Email to List

Example: 'someone@example.com'

Send To MTP: 015.01 ~ HMA CL. 1/2 IN. F Remove

BidItem: -select a value- Add

When Review is Completed,  
Check the Review Completed  
and Report Out Boxes

# Review SAM Data Entries

### Statistical Analysis of Materials

Work Order Info

▶ WORK ORDER ▶ MATERIAL ACCEPTANCE CRITERIA ▶ TEST DATA ▶ ANALYSIS ▶ ACCEPTANCE ▶ HELP

\*Work Order Number: 009666  
\*Section: UNNAMED TRIBUTARY TO PILCHUCK CREEK FISH PASSAGE  
\*Orgcode: 412334  
\*Measurement System: ENGLISH  
Award Date: 4/12/2021  
 DesignBuild

Project Engineer: Beier, Spencer  
\*Contractor Name: Faber Construction  
SR Number: 009  
Spec Version:

Test Labs [Assign Lab](#) [Warm Mix Type](#)  
[Field Lab -- Acceptance](#)  
[HQ Lab -- Acceptance](#)  
[Region Lab -- Acceptance](#)  
[Contractor Lab -- Quality Control](#)

Material ID	Original Material	Material Type	Material
<a href="#">Combined Rock</a>		9-03 Aggregates	Combined Concrete Special Mix
<a href="#">RD210077</a>		5-04 Hot Mix Asphalt	HMA Class 1/2" - 9-03.8(2) - 2021
<a href="#">HMA 1/2" MIN AG</a>		9-03 Aggregates	Min Agg HMA Class 1/2" - 9-03.8(6) - 2021

Click on Material Type to get to the Data

Save Cancel Add New Work Order Add New Material View Deleted Lots



Click on Material Type to get to the Data

# Review SAM Data Entries

Statistical Analysis of Materials

Edit HMA Material Type - HMA Class 1/2" - 9-03.8(2) - 2021

Work Order Number: 009666      Section: UNNAMED TRIBUTARY TO PILCHUCK CREEK FISH PASS/

▶ WORK ORDER
▶ MATERIAL ACCEPTANCE CRITERIA
▶ TEST DATA
▶ ANALYSIS
▶ ACCEPTANCE
▶ HELP

\*Material ID (Mix ID): RD210077      \*Material Type: 5-04 Hot Mix Asphalt      \*Material: HMA Class 1/2" - 9-03.8(2) - 2021      Other Material:

\*Sample Size: 82      \*Unit Of Measure: Tons      Usage Type:       \*Unit Cost: 226.00      Bid Item #: 15      \*Max CPF: 1.05

\*Spec Type: Statistical      \*Compaction Lower Spec: 92      \*Compaction Upper Spec: 100      Compaction Max CPF: 1.05

Comments:      

	Test Properties	JMF %	Lower Spec Limit	Upper Spec Limit	Tolerance Range %	Lower Accept Limit	Upper Accept Limit	Price Adjust Factor
▶	3/4 in	100	99	100	6	99	100	2
	1/2 in	96	90	100	6	90	100	2
	3/8 in	85		90	6	79	90	2
	No. 4	58			5	53	63	2
	No. 8	39	28	58	4	35	43	15
	No. 16	26						
	No. 30	18						

Click on Test Data to get Test Info

# Review SAM Data Entries

**Statistical Analysis of Materials**

Test Results List  
Work Order Number: 009666  
Section: UNNAMED TRIBUTARY TO PILCHUCK CREEK FISH PASS

WORK ORDER MATERIAL ACCEPTANCE CRITERIA TEST DATA ANALYSIS ACCEPTANCE HELP

Upload MATS Data Lot List

\*Material: HMA Class 1/2" - 9-03.8(2) - 2021 \* Original Material ID (Mix ID): RD210077

**Lots**

		Lab Category	Lot #	Date Tested	CPF		
	<a href="#">Edit</a>	QA	1	09/22/2021 - 09/22/2021 (3)	0.92	<a href="#">Report</a>	<a href="#">Worksheet</a>

**Compaction Lots**

		Lab Category	Lot #	Date Tested	CPF	
	<a href="#">Edit</a>	QA	1	09/22/2021 - 09/22/2021 (4)	0.79	<a href="#">Report</a>

Add New Sublot Add New Compaction Sublot

Data from MATS can be uploaded into SAM

# Review SAM Data Entries

**Statistical Analysis of Materials**

Test Results List  
Work Order Number: 009666  
Section: UNNAMED TRIBUTARY TO PILCHUCK CREEK FISH PASS

WORK ORDER MATERIAL ACCEPTANCE CRITERIA TEST DATA ANAL

Upload MATS Data Lot List

\*Material: HMA Class 1/2" - 9-03.8(2) - 2021  
\* Original Material ID (Mix ID): RD210077

**Lots**



	Lab Category	Lot #	Date Tested	CPF		
<a href="#">Edit</a>	QA	1	09/22/2021 - 09/22/2021 (3)	0.92	<a href="#">Report</a>	<a href="#">Worksheet</a>

**Compaction Lots**

	Lab Category	Lot #	Date Tested	CPF		
<a href="#">Edit</a>	QA	1	09/22/2021 - 09/22/2021 (4)	0.79	<a href="#">Report</a>	

Add New Sublot Add New Compaction Sublot

This Screen shows Pay Factor  
Click on Report for Tabulated Data



# Review SAM Data Entries

Page 2 of Report Shows all Test Data and How Each Test Compares to the JMF



## Test Results Report

Date : 8/23/2022

### RD210077 (MD200010)

	3/4 in	1/2 in	3/8 in	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200	Pct Bind	Va	VMA
Approved JMF	100	96	85	58	39	26	18	12	8	5.3	5.6		
Upper Specification Limit	100	100	90	63	43					7.3	6.1	5.5	100
Lower Specification Limit	99	90	79	53	35					3.3	5.2	2.5	13.5

WSDOT Mix Design Evaluation Specific Gravity Test Data			
Gmb	Gmm	Gsb	Gb
2.406	2.504	2.658	1.042

### Production Test Data for RD210077 (MD200010)

Sub Lot	Date Tested	Date Entered	Size	3/4 in	1/2 in	3/8 in	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200	Pct Bind	Va	VMA	VFA	D/A	Pbe	Gmb	Gmm	Gsb	Gb	
001	09/22/2021	09/23/2021	109.81	100	94	81	55	38	26	18	12	8	5.6	5.4	2.4	12.5	81	1.3	4.3	2.459	2.52	2.658	1.042	
002	09/22/2021	09/23/2021	109.81	100	94	84	58	40	27	20	13	9	6.1	5.3	3.1	12.9	76	1.5	4.2	2.444	2.522	2.658	1.042	
003	09/22/2021	09/23/2021	109.81	100	95	80	55	38	26	18	12	8	4.9	5.6	2.5	13.5	81	1	4.7	2.436	2.499	2.658	1.042	
Mean				100	94.3	81.7	56	38.7	26.3	18.7	12.3	8.3	5.53	5.4	2.7	13	79	1.3	4.4	2.446	2.514	2.658	1.042	
Std Deviation				0	0.58	2.08	1.73	1.15	0.58	1.15	0.58	0.58	0.603	0.15	0.38	0.5	2.9	0.25	0.26	0.0117	0.0127	0	0	
Pay Factor				1.01	1.01	1.01	1.01	1.01					1.01	1.01	0.99	0								

# Review SAM Data Entries



## Test Results Report

Date : 9/16/2022

Contract Number : 009755, I-405/Sr 520 Ramps, Sr 527 To I-5 And Sr 92/Lake Dr Vic

Lab Category : Acceptance

Orgcode: 412337

Unit Cost: 130.00

Project Engineer : Scharrer, Amelia

Total Tons : 21000.00

Lot No : 1

CPF :

Material Id : RD220020 (MD220019) HMA Class 1/2" - 9-03.8(2) - 2022

Bonus :

Bid Item:31.01

CPF Value is less than 0.75

Comment : 20% RAP - Lakeside's Vmax design

### Test Property

Test Property Description	Price adjustment factor	Standard deviation	Pay Factor
3/4 in	2	0	1.05
1/2 in	2	1.64	1.04
3/8 in	2	1.55	0.82
No. 4	2	2.84	0.98
No. 8	15	2.65	0.9
No. 16		2.14	
No. 30		1.5	
No. 50		1.28	
No. 100		0.86	
No. 200	20	0.432	1.05
Pct Binder	40	1.45	0
Pct Air Voids (Va)	20	0.86	1.03
Voids in Mineral Aggregate (VMA)	10	4.19	0.8
Voids Filled with Asphalt (VFA)		19.9	
Dust to Asphalt Ratio (D/A)		0.37	
Pbe		1.22	
Gmb		0.0178	
Gmm		0.0103	
Gsb		0.0134	
Gb		0	

If the CPF is blank,  
it is below 0.75

Per Std Spec, reject  
if below 0.75



# Review SAM Data Entries

## RD220020 (MD220019)

	3/4 in	1/2 in	3/8 in	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200	Pct Bind	Va	VMA
Approved JMF	100	99	90	59	38	24	16	11	8	6	5.3		
Upper Specification Limit	100	100	90	64	42					8	5.8	5.5	100
Lower Specification Limit	99	93	84	54	34					4	4.9	2.5	13.5

WSDOT Mix Design Evaluation Specific Gravity Test Data			
Gmb	Gmm	Gsb	Gb
2.589	2.686	2.839	1.032

## Production Test Data for RD220020 (MD220019)

Sub Lot	Date Tested	Date Entered	Size	3/4 in	1/2 in	3/8 in	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200	Pct Bind	Va	VMA	VFA	D/A	Pbe	Gmb	Gmm	Gsb	Gb	
001	05/10/2022	05/17/2022	1500.00	100	98	86	57	35	23	17	11	8	5.8	5.5	4.4	14.5	70	1.4	4.1	2.569	2.687	2.839	1.032	
002	05/14/2022	05/17/2022	1500.00	100	98	85	57	34	23	16	11	8	5.5	5.3	3.2	13.7	77	1.3	4.2	2.588	2.673	2.839	1.032	
003	05/22/2022	05/24/2022	1500.00	100	98	87	60	39	27	21	15	11	7.2	5.5	3	14.5	79	1.6	4.6	2.601	2.682	2.876	1.032	
004	06/20/2022	06/23/2022	1500.00	100	94	81	50	30	20	15	10	7	5.6	5.3	5	15.8	68	1.3	4.3	2.557	2.692	2.876	1.032	
005	06/25/2022	06/28/2022	1500.00	100	96	82	51	30	19	16	10	8	5.4	5.4	4.7	15.9	70	1.2	4.5	2.555	2.681	2.876	1.032	
006	06/28/2022	06/29/2022	1500.00	100	98	85	58	36	24	17	12	8	6	5.4	3.5	15.4	77	1.3	4.8	2.572	2.665	2.876	1.032	
007	07/13/2022	07/14/2022	1500.00	100	98	85	58	36	24	16	12	8	5.8	5.6	4	15.4	74	1.3	4.6	2.577	2.684	2.876	1.032	
008	07/13/2022	07/15/2022	1500.00	100	97	85	59	38	23	16	12	8	6.1	5.6	5.4	16.2	67	1.4	4.4	2.552	2.697	2.876	1.032	
009	07/16/2022	07/27/2022	1500.00	100	98	85	59	36	24	16	11	8	6.1	5.5	4.5	15.9	72	1.3	4.6	2.56	2.681	2.876	1.032	
010	07/23/2022	07/27/2022	1500.00	100	98	84	58	36	24	17	12	8	5.9	5.4	5.7	16.9	66	1.3	4.6	2.527	2.679	2.876	1.032	
011	07/25/2022	07/28/2022	1500.00	100	98	85	57	37	26	18	13	8	5.7	5.2	4.7	15.5	70	1.3	4.3	2.564	2.69	2.876	1.032	
012	07/27/2022	08/02/2022	1500.00	100	96	84	56	37	25	16	11	8	6.2	5.5	3.9	15.4	75	1.3	4.6	2.576	2.681	2.876	1.032	
013	08/13/2022	08/16/2022	1500.00	100	97	85	57	37	25	17	12	8	5.9	5.2	3	15	80	1.2	4.8	2.578	2.658	2.876	1.032	
014	08/29/2022	09/07/2022	1500.00	100	93	83	56	34	22	15	11	8	5.8	0	3.8	0	0	0	0	2.576	2.677	2.876	1.032	
Mean				100	96.9	84.4	56.6	35.4	23.5	16.6	11.6	8.1	5.93	5	4.2	14.3	68	1.2	4.2	2.568	2.681	2.871	1.032	
Std Deviation				0	1.64	1.55	2.84	2.65	2.14	1.5	1.28	0.86	0.432	1.45	0.86	4.19	19.9	0.37	1.22	0.0178	0.0103	0.0134	0	
Pay Factor				1.05	1.04	0.82	0.98	0.9					1.05	0	1.03	0.8								

Can Roll-Up last lot up to 25 tests

Statistical Analysis of Materials

Compaction Lot  
 Work Order Number: 009734    Section: SOUTH LAKE STEVENS ROAD INTERSECTION IMPROVEI

▶ WORK ORDER   ▶ MATERIAL ACCEPTANCE CRITERIA   ▶ TEST DATA   ▶ ANALYSIS   ▶ ACCEPTANCE   ▶ HELP

Upload MATS Data   Lot List

\* Original Material ID (Mix ID): RD220014    Compaction Lot Number: 2 (QA)    Number of Sublots: 6

**Compaction SubLots**

	Date Tested	Test Lab	Test No.	Sub Lot No.	Test Result	Sample ID	Source
<a href="#">Edit</a>	05/10/2022	Field Lab	6	037	93.1	0000012bdae	MATS
<a href="#">Edit</a>	05/10/2022	Field Lab	7	038	93.5	0000012bdae	MATS
<a href="#">Edit</a>	05/11/2022	Field Lab	1	039	93.6	0000012bdaf	MATS
<a href="#">Edit</a>	05/11/2022	Field Lab	2	040	93.9	0000012bdaf	MATS
<a href="#">Edit</a>	05/11/2022	Field Lab	3	041	94.2	0000012bdaf	MATS
<a href="#">Edit</a>	05/11/2022	Field Lab	4	042	93.8	0000012bdaf	MATS

**Add New Compaction Sublot**

\*Material ID (Mix ID): RD220014    \*Test Lab: Please Select    \*Comp. Sub lot ID:     \*Date tested(Sampled):     Sample ID:     Test Number:

\*Warm Mix Asphalt:  Yes  No    \*Warm Mix Type: Please Select    Tons:     Test Result:     LowerSpec:     Date Entered:

Comment:

Save   Cancel   Add New   Retest   Delete   Last Lot Roll Up



# Questions?

**Thank You!**

Jeff Gubbe –

NWR Trainer / IAI Supervisor

[gubbej@wsdot.wa.gov](mailto:gubbej@wsdot.wa.gov)

206-768-5918 Office

206-510-1989 Cell

# Pavement Management Overview

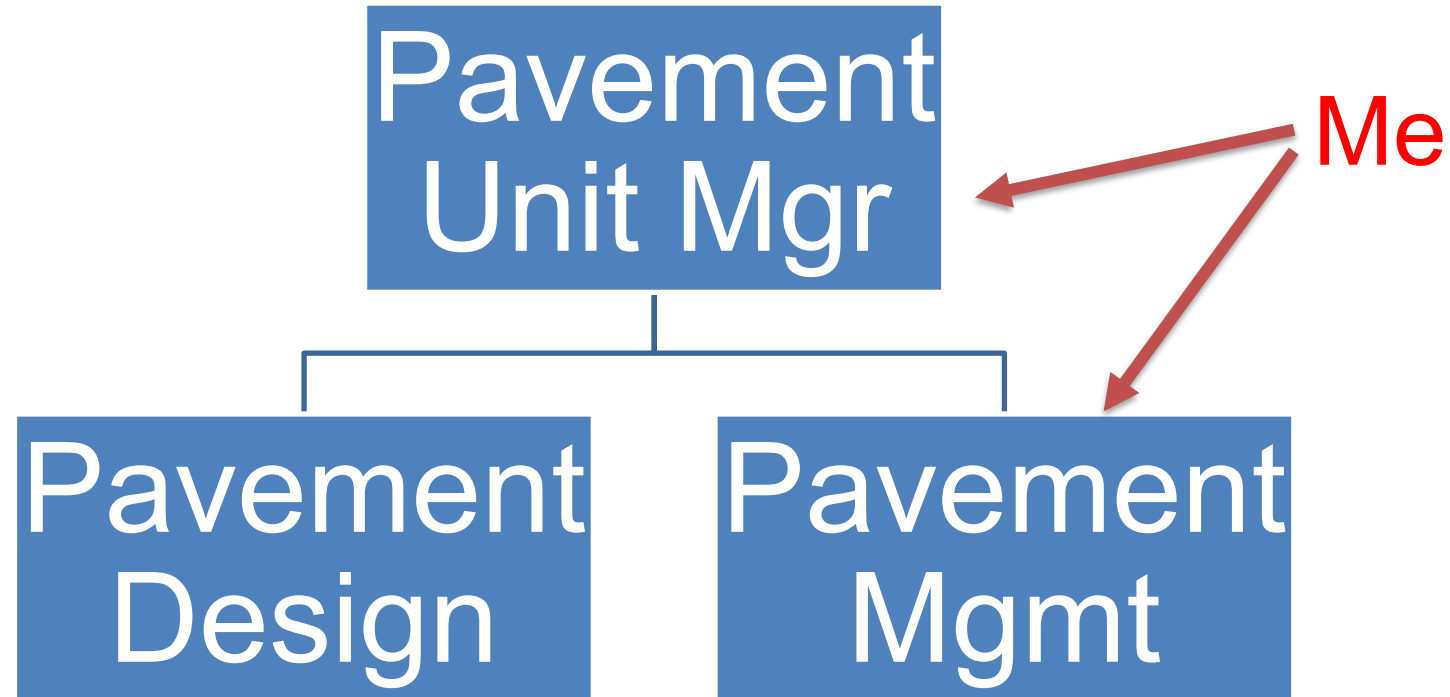
Karen Strauss, PE  
State Pavement Engineer  
2023  
WSDOT Pavement Office

# Today's Presentation

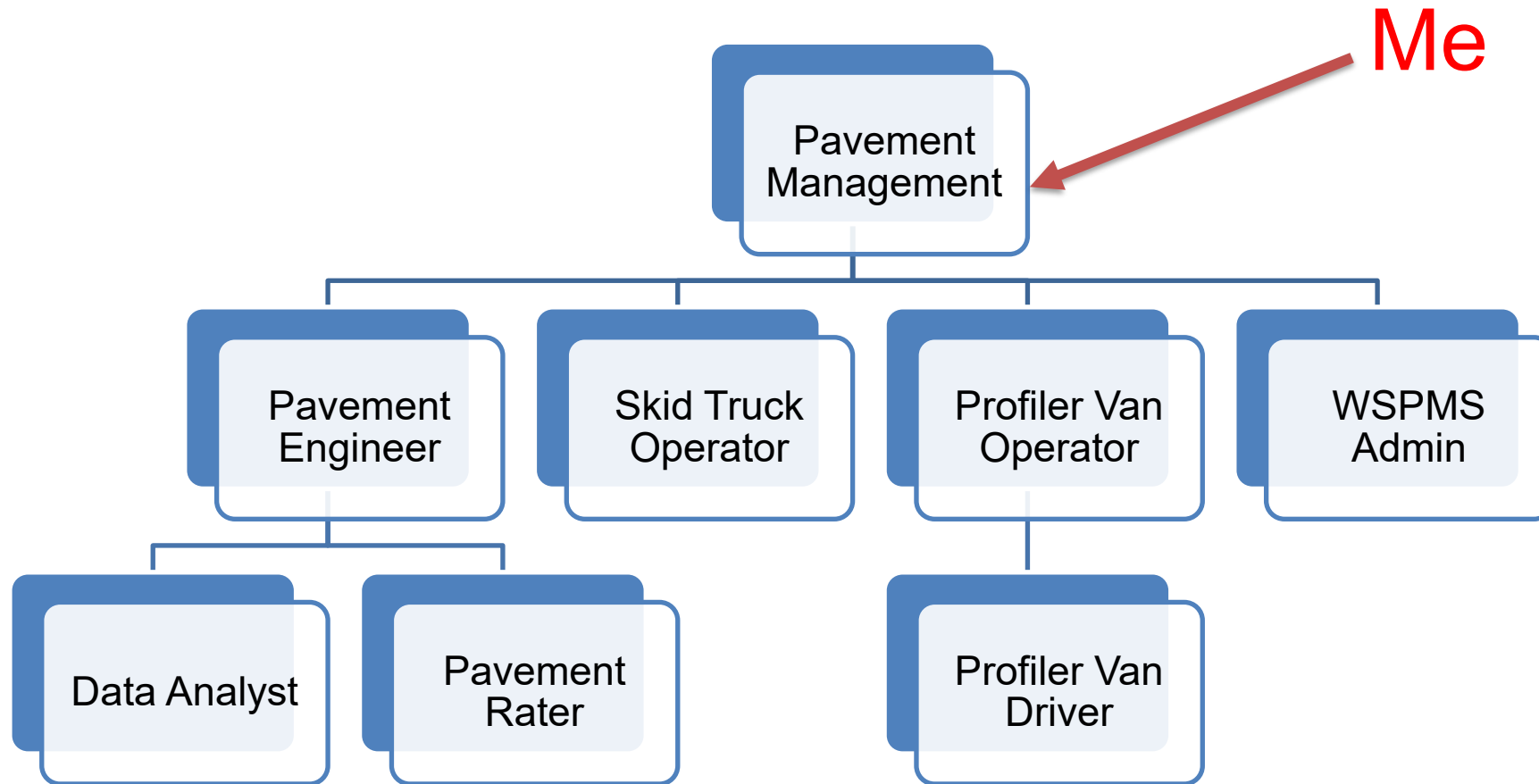
- What is “pavement management”?



# Pavement Engineering at WSDOT



# Pavement Engineering at WSDOT: Management



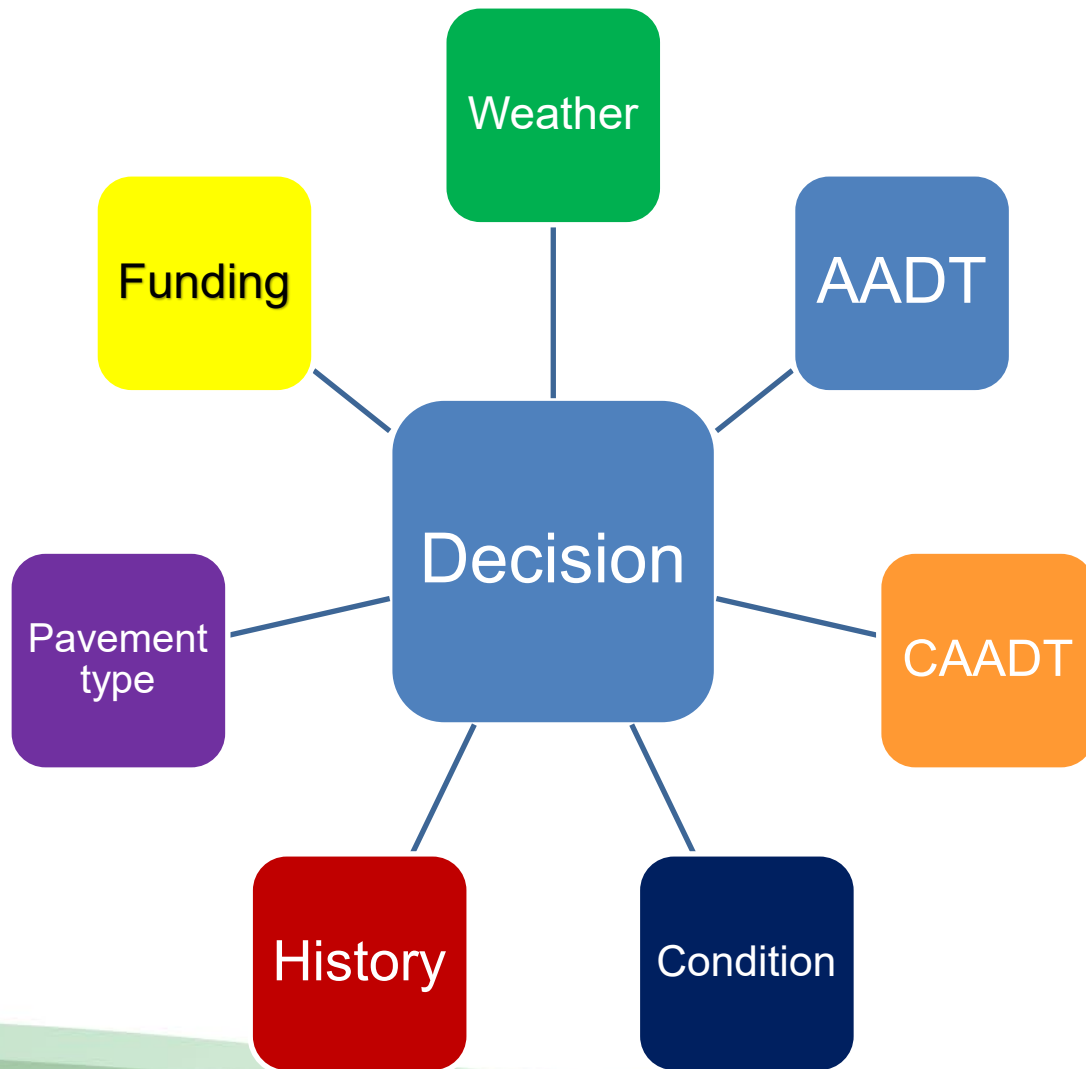
# Pavement Management

- Deciding which projects are best, at the right time, for the right cost
- Statewide lens
- What do you think are the factors that help us decide which project to program?





# Decision Factors

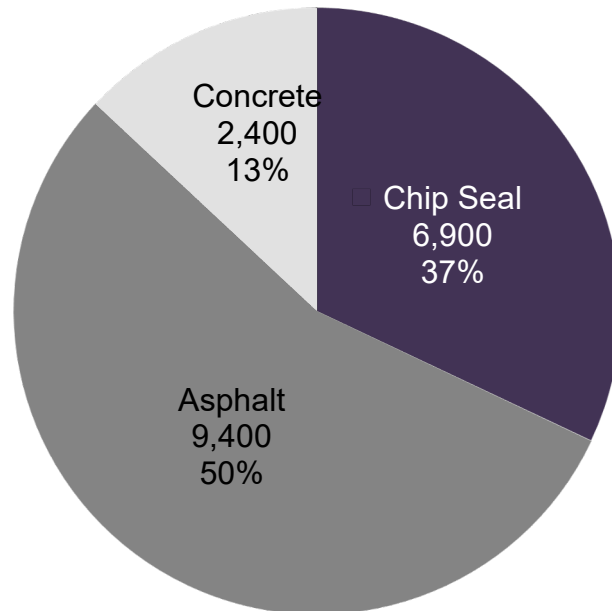


And more!

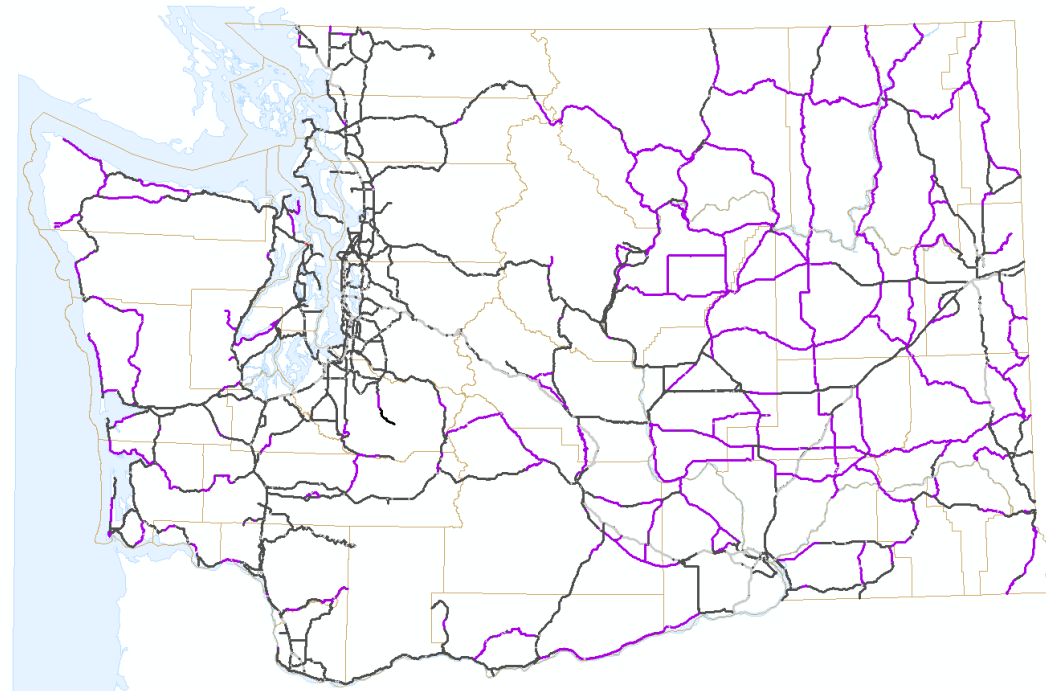


# Washington at a glance

## Statewide Lane Miles



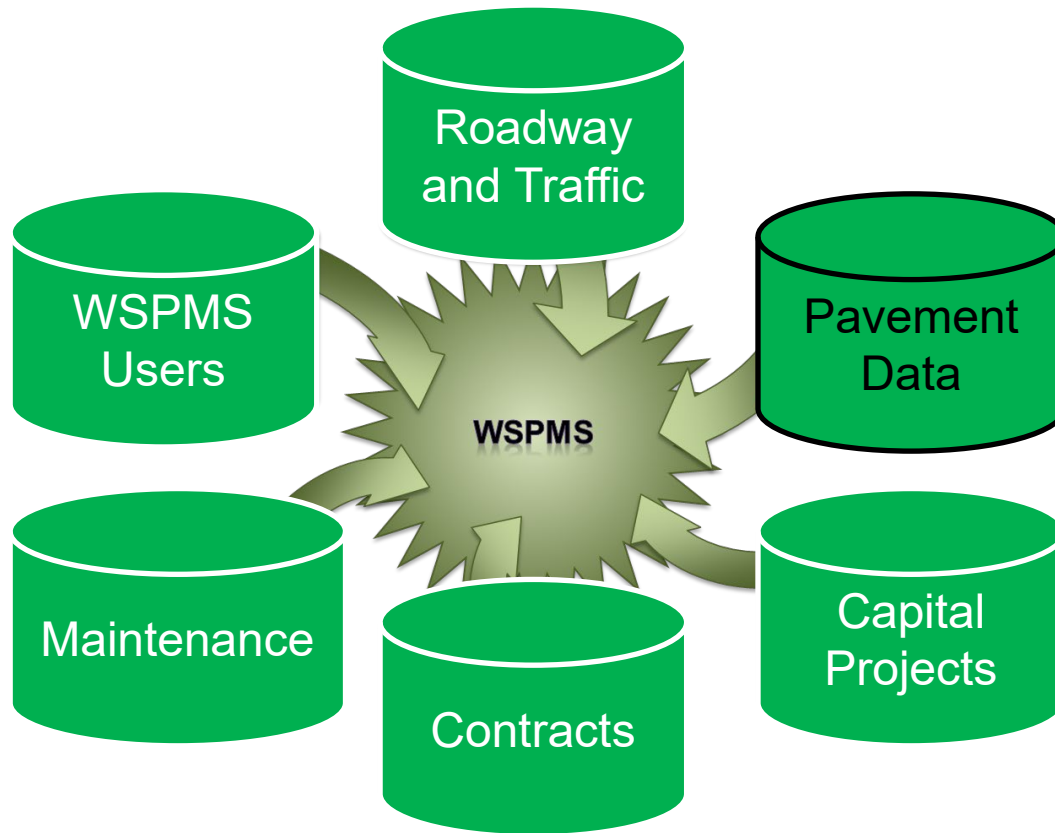
- 18,700 lane-miles total



# How do we help choose projects?



# The WSPMS



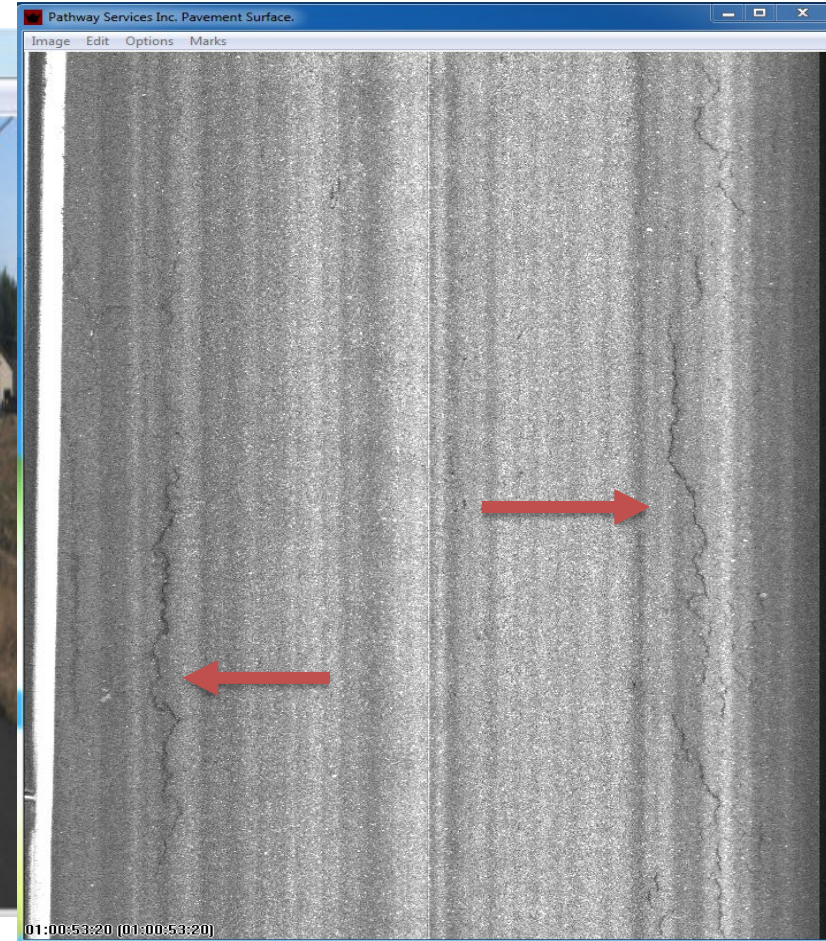
- Decision Support Tool
- Data Repository and Analysis Software

# Testing Vehicles

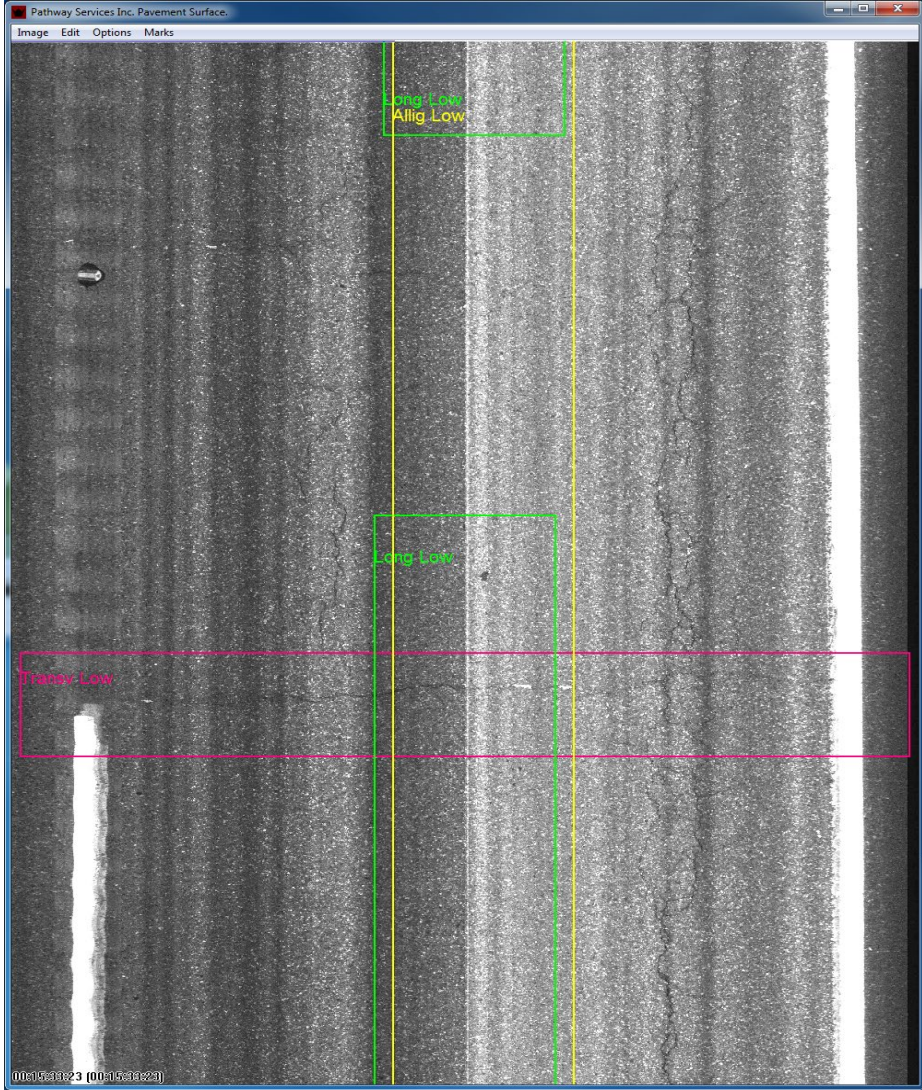
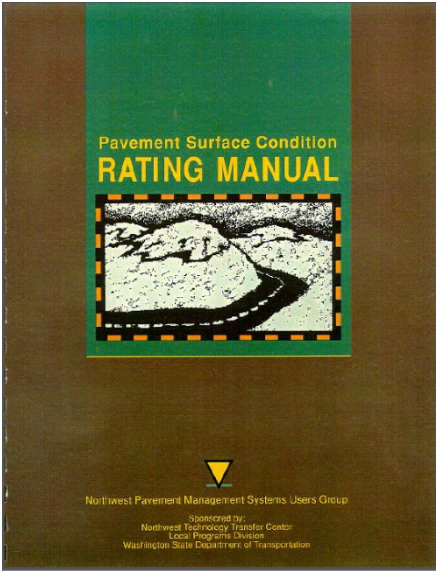
- Profiler Van
  - Images (used to identify cracking)
  - Roughness
  - Rutting
  - Faulting (conc)
- Friction Testing Truck and Trailer
  - Friction



# Profiler Van Images



# Distress Rating



# Distress Types: Rutting

- Rutting threshold of  $\frac{1}{2}$ "
- Persistent issue due to studded tire wear
- Safety, structure and driver perception





# Distress Types: IRI

Measurement of Pavement Roughness



# Today's Presentation

- What is “pavement management”?

Karen Strauss, PE

WSDOT Pavement Management Engineer

[strausk@wsdot.wa.gov](mailto:strausk@wsdot.wa.gov)

# E-Ticketing

**Presented by: Kevin Waligorski – Assistant  
State Construction Engineer**

Cecilia McNeil-Hardwick - HQ Construction  
Office

March 8<sup>th</sup> & 15<sup>th</sup>, 2023

# The Future of E-Ticketing

## WSDOT Hosted an E-Ticketing Peer Exchange

- January 2023 in Vancouver WA
- States – Iowa, Pennsylvania, Georgia, Delaware, Alabama
- Vendors – HaulHub
- Industry – WAPA, WACA, multiple contractors

**WSDOT is ahead of the game on e-ticketing, but there is opportunity for improvement**





# The Future of E-Ticketing

## Reviewing E-Ticketing Portal Systems

- Vendors
  - Command Alkon
  - HaulHub
- State Developed System

## Interested in Tying System to Unifier

There is interest in trying out DOTSlip with HaulHub as a portal this season on a voluntary basis.

Sep 14 3:11 PM PDT		Ticket Number 5528587		Ticket Status <b>Delivered</b>	
1/12 tickets					
		Supplier <b>Granite Construction</b>		Origin <b>10X PORTABLE ASPHALT PLANT</b>	
Contract Number <b>9715</b>		Contractor <b>Granite Construction Company - Pacific Northwest</b>		Job Name <b>21784-WEN STRATEGIC PVMT PRES 2021</b>	
				Job Number <b>21784</b>	
				Customer Name <b>GRANITE CONSTRUCTION COMPANY</b>	
Truck <b>R75P</b>		Max GVW <b>30000</b>			
Product Description <b>3/8"HMA64-28</b>		Product <b>1712</b>		Product Code	
Supplier Comments: - -					
Load Number <b>11</b>		Daily Total <b>292.05</b>		GROSS <b>35.14</b>	
				TARE <b>20.86</b>	
				NET <b>9.28</b>	
DOT Plant Temp NA		Status <b>Accepted</b>		Reject Reason/Notes <b>4:13PM truck arrived onsite I-90 EB RT lane 4' wide ending MP 139,41 group 1</b>	
DOT Field Temp NA		DOT Inspector <b>Cody Simmons</b>			
Waste 5,00		 <b>Sep 14 4:13PM</b>			

# The Future of E-Ticketing – Connectivity?

**STARLINK for RV's**

**Working on setting up trials for using Starlink to access unlimited high-speed satellite internet on remote construction contracts**



# Questions?

**Thank You!**

Kevin Waligorski  
Assistant State Construction Engineer  
[waligok@wsdot.wa.gov](mailto:waligok@wsdot.wa.gov)  
360-705-6981 Office

Cecilia McNeil-Hardwick  
TTE - Construction  
[mcneilc@wsdot.wa.gov](mailto:mcneilc@wsdot.wa.gov)  
360-705-6987

# **Buy America & Buy America/Build America (BABA)**



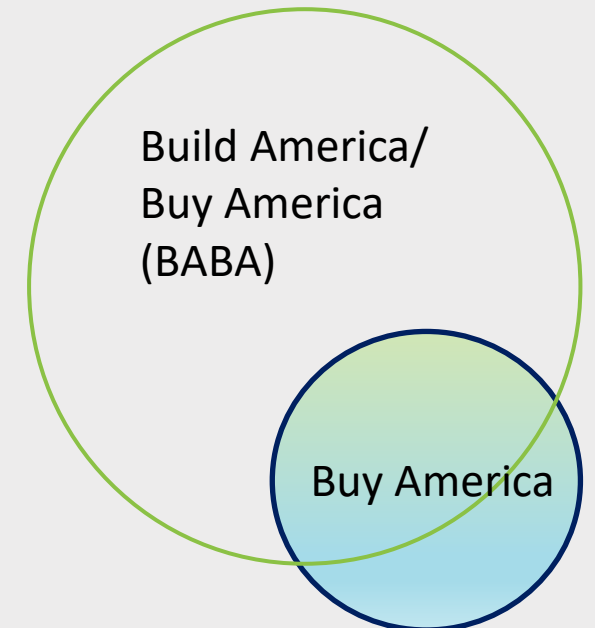


# Buy America &

# Build America/Buy America (BABA)

## Why Buy America and BABA?

- Code of Federal Regulations (CFR) – Codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government.
  - 23 CFR 635.410 – Buy America Requirements
- Bipartisan Infrastructure Law (BIL), enacted as the Infrastructure Investment and Jobs Act,
  - Public Law 117-58 – Build America/Buy America Act (BABA)



# Buy America – 23 CFR 635.410 Buy America Requirements

- Buy America requires all permanently incorporated steel or iron to be manufactured in the United States and applies:
  - To all federally funded projects
  - To all steel or iron permanently incorporated into the project
    - Yes, even the tiny little pieces
    - If the material is donated to the project by WSDOT, Local Agencies or any 3<sup>rd</sup> party
  - Buy America applies to some State Funded Construction Projects
    - Projects that used FHWA funding that in any of the design, right of way or utilities phase
- Buy America does not apply to temporary steel or iron materials incorporated into the project.

# Buy America – Compliance with the Law

- Buy American Requirements included as part of the Contract
  - GSP 1-06.OPT2(A).GR1
    - Required to be included in all Contracts that has federal aid for construction
  - GSP 1-06.OPT1(A).GR1
    - Has or is from a project that used federal aid in the design, right of way, utilities or construction phases
  - WSDOT uses a certification process to validate the origin of steel and iron permanently incorporated
    - Certification of materials Origin – DOT Form 350-109

# Buy America Certification of Materials Origin (CMO)

- Required for all steel and iron material prior to incorporation (permanent installation only)
  - No exceptions
  - Need a separate CMO for each Bid Item/material
- We accept the certification as submitted
  - Needs to be reasonable – if CMO is received that makes you question its validity, ask for more information
- CMOs received that show foreign-made material was used must be recorded and tracked for the project

Washington State Department of Transportation		Certification of Materials Origin (Required for Acceptance of Steel or Iron Materials)	
Project Title		Contract #	
Contractor			
Subcontractor			
Manufacturer/Supplier			
Materials: Bid Item No. / Bid Item Description			Quantity
Material Description			
<p>The following Certification of Materials Origin is made for the purposes of establishing materials acceptance under Contract Provisions entitled "Buy America." and "Build America/Buy America." Materials as described above are furnished for use in compliance with the certification as noted in 1 or 2 below. Manufacturing processes for the materials are defined on the back of this form.</p> <p><input type="checkbox"/> 1. The materials covered by this certification are American-Made with all manufacturing processes entirely within the United States of America.</p> <p><input type="checkbox"/> 2. The materials furnished for this project under this certification contain steel or iron manufactured, all or in part, outside the United States of America, as indicated below.</p>			
The Description of these materials and the Country of Origin of these materials is as follows:			
The Invoice Cost for the above described foreign-made materials is:			
I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.			
Contractor/Subcontractor/Manufacturer/Supplier Name			
Authorized Corporate Official Signature	Date	Place	

DOT Form 350-109  
Revised 10/2022

# Certification of Materials Origin (CMO) – Foreign Steel Allowance and Tracking

- 23 CFR 635.410 allows for minor amounts of foreign steel and iron to be utilized provided that the cost of the foreign material used does not exceed:
  - One-tenth of one percent of the total contract cost or
  - \$2,500, whichever is greater
- Exceeding allowable amount
  - Loss of federal funds for the project, not just the bid item
  - If the allowable amount of foreign steel is exceeded, contact HQ

	A	B	C	D	E	F	G	H
1	"Buy America" Foreign Steel Tracking Log							
2								
3								
4								
5							Original Contract Amount:	
6	Contract Number:					Current Contract Amount:		
7	Fed-Aid Number:					Max Value Foreign Material:	\$2,500.00	
8	Contract Title:							
9							Running Total:	\$0.00
10							Foreign Steel Remaining:	\$2,500.00
11								
12	Date CMO Received	Bid Item No.	Bid Item	Manufacturer	Description of Component	Reason	Origin	Value of Material
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								

# Build America/Buy America (BABA)– Public Law 117-58 - BABA Requirements

- BABA requires all construction material and ~~manufactured products~~ incorporated to be manufactured in the United States and applies to:
  - Projects with federal funds in the Construction phase
  - All construction material and manufactured products incorporated and consumed into the project
- Due to a Nationwide Waiver, BABA Requirements do not currently apply to manufactured products.

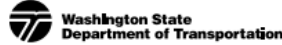
*Nationwide Waiver for  
Manufactured Products*

# Build America/Buy America (BABA) – Compliance with the Law

- Build America/Buy American (BABA) Requirements included as part of the Contract
  - GSP 1-06.OPT1(A).GR1
    - Required to be included in all Contracts that has federal aid in the construction phase, advertised after October 17, 2022 (BB) and November 10, 2022 (DB)
    - BABA language specifies that material is classified in one of three categories:
      - 1) Steel or Iron
      - 2) Construction Material
      - 3) Manufactured Product
  - Spreadsheet available to categorize material included in the Standard Specifications*
    - Same GSP for Buy America Requirements – Same GSP, different laws
- WSDOT uses a certification process to validate the origin of construction materials permanently incorporated
  - Certification of materials Origin (Required for acceptance of Construction Materials) – DOT Form 350-110

# Build America /Buy America (BABA) Certification of Materials Origin (CMO)

- One CMO required to certify material incorporated with each progress estimate
  - No exceptions
  - PE cannot approve estimate without verifying the CMO was received
  - Does not list individual bid items
- CMOs are not required for material designated as manufactured products due to nationwide waiver
- We accept the certification as submitted
  - Needs to be reasonable – if CMO is received that makes you question its validity, ask for more information
- CMOs received that show foreign construction material was used must be resolved for each progress estimate

 **Washington State Department of Transportation** **Certification of Materials Origin**  
(Required for Acceptance of Construction Materials)

Project Title	Contract #
Contractor	
Estimate Number	

The following Certification of Materials Origin is made for the purposes of establishing materials acceptance under Contract Provisions entitled "Build America, Buy America (BABA)" in accordance with Public Law 117-58. Materials as described above are furnished for use in compliance with the certification as noted in 1 or 2 below. Manufacturing processes for the materials are defined on the back of this form. For certification of steel or iron products use DOT form 350-109EF.

1. The materials covered by this certification are American Made with all manufacturing processes entirely within the United State of America.

2. The materials furnished for this project under this certification all or in part, outside the United States of America, as indicated below.

The Description of these materials and the Country of Origin of these materials is as follows (Include Bid Item, quantity and manufacturer):

The Invoice Cost for the above described foreign-made materials is:

I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Authorized Corporate Official Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Place

DOT Form 350-110  
Revised 01/2023



# Certification of Materials Origin (CMO) – Foreign Construction Materials Used

- No allowance in the law for foreign made construction materials installed into the project.
- If a CMO is received that shows foreign made construction material was installed:
  - Defer payment for the “Invoice Cost” of the foreign material shown on the CMO.
  - Project Engineer will need to decide if the Contractor must remove foreign-made construction material and replace with domestic material or if WSDOT will take a credit.
    - Material easy to remove and replace should be removed or replaced with domestic material
    - If material will stay in place, follow guidance in 1-05.7 (Removal of Defective or Unauthorized Work) of the CM and Standard Specifications to determine appropriate credit amount.
    - Leaving foreign-made construction materials in place requires ASCE concurrence. Resolution must be documented on end of project materials certification
- If material is removed and replaced, Contractor to re-submit CMO showing no foreign-made construction material was installed to document the deficiency has been corrected to support release of the deferred payment. Retain both copies in the contract files.

Watch for the re-release of the BABA Construction Bulletin

CM update language submitted to FHWA for approval, but some of the information on this slide may change!

# Buy America

(Steel or Iron)

# BABA

(Construction Materials)

- Fed funds in PE or RW phase only



- Fed funds in CN phase only



- State funds only in all phases



- Foreign Material Allowance



- CMOs Required



# RESOURCES

## Buy America

- [FHWA Buy America FAQ Page](#)
- [WSDOT Buy America FAQs](#)
- [Foreign Steel Tracking Log](#)
- [Certification of Materials Origin \(Required for acceptance of Steel or Iron Materials\) - DOT Form 350-109](#)
- [GSP 1-06.OPT1\(A\).GR1](#)
- [GSP 1-06.OPT2\(A\).GR1](#)
- [23 CFR 635.410](#)

## BABA

- [FHWA BABA FAQ Page](#)
- [BABA Construction Bulletin](#)
- [Certification of Materials Origin \(Required for acceptance for Construction Materials\) DOT Form 350-110](#)
- [GSP 1-06.OPT2\(A\).GR1](#)
- [Public Law 117-58](#)

# Questions?

## Thank you for joining us today!

- Presentation will be available at;
- **Internal use (WSDOT):**
  
- **External use (Outside WSDOT):**

### For future Questions:

- Email Donny Henderson at: [henderd@wsdot.wa.gov](mailto:henderd@wsdot.wa.gov)
- Email Pat Norton at: [NortonP@wsdot.wa.gov](mailto:NortonP@wsdot.wa.gov)
- Email ASA at: [asa@wsdot.wa.gov](mailto:asa@wsdot.wa.gov)
- Email New Products at: [mlnewproducts@wsdot.wa.gov](mailto:mlnewproducts@wsdot.wa.gov)
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