

BTS/BPD AASHTOWare and Specifications

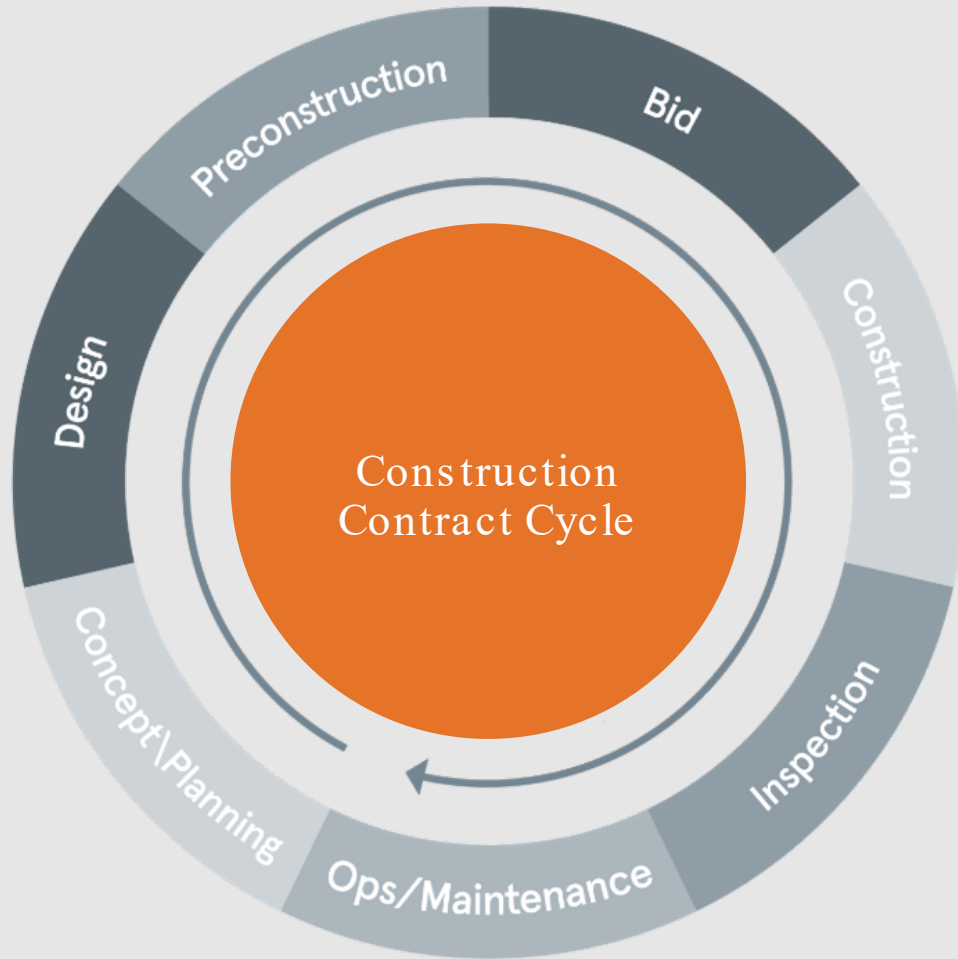
Erik Lyngdal and Brian Boothby

WAPA Annual Conference
Wisconsin Dells

December 2nd, 2025



What is AASHTOWare Project

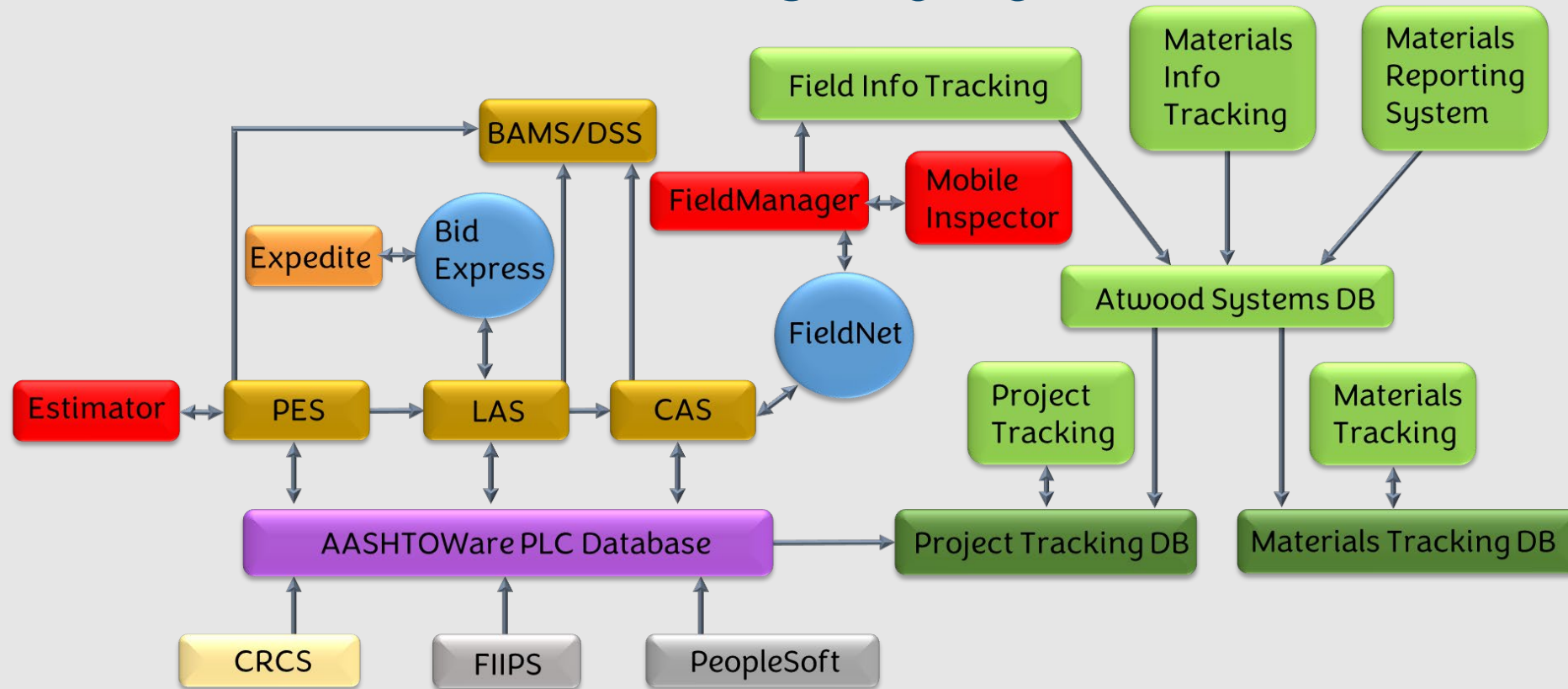


- Web-based enterprise system
- Used by 42 states
- Managed by DOT task force
- Consists of 6 integrated modules
 - AWP Estimation
 - AWP Preconstruction
 - AWP Project Bids
 - AWP Civil Rights & Labor
 - AWP Construction & Materials
 - AWP Data Analytics

Why AASHTOWare Project?

- Software belongs to the user (DOT)
- Modern, secure platform
- Operable with other modules and other agency applications
- Cost effective
- Enhances collaboration with peer agencies
- Integrated with electronic bidding

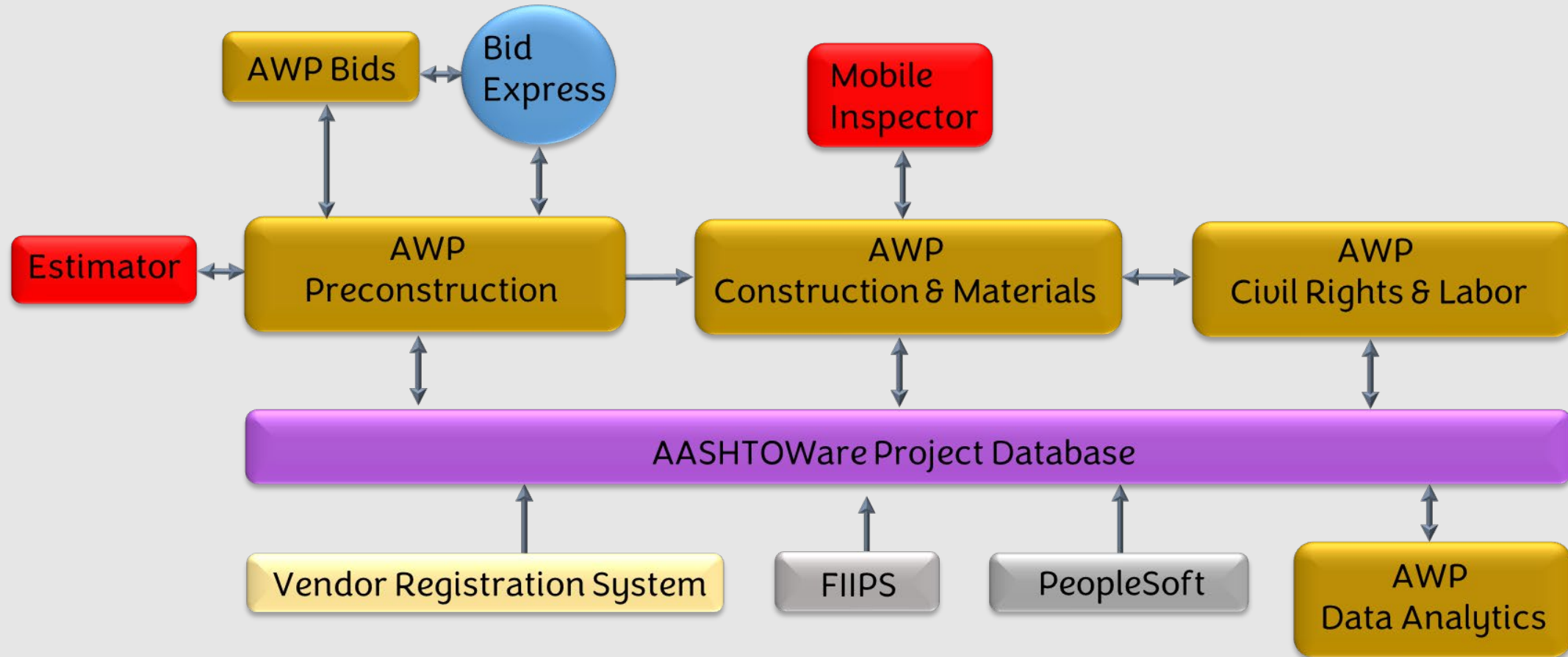
WisDOT Contract Management System: Pre-2016



PES - Proposal and Estimates System
 LAS - Letting and Awards System
 CAS - Construction Administration System

BAMS/DSS - Decision Support System
 FIIPS - Financial Integrated Improvement Programming System
 CRCS - Civil Rights Compliance System

WisDOT Contract Management System: Future



AWP – Materials Pilot Projects 2026

- Pilot Projects for 2026 Construction – Listed in November 2025 Letting
 - SWR, 1690-04-62/1690-04-73, USH 51
 - NCR, 1140-00-77, USH 45
 - NER, 9180-35-71, STH 22

Pilot Project Special Provisions

STSP'S Revised July 1, 2025

SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1690-04-62, Monroe – New Glarus, Bushnell Creek to Cow Path Lane, and Project 1690-04-73, Monroe – New Glarus, Wittenwyler Rd & CTH C Intersections; both projects on STH 69, Green County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, **2026 Specification Reorganization Pilot Edition**, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.

100-005 (20250701)

9. Notice to Contractor, Mandatory Training.

Participate in department-sponsored mandatory AWP and specification reorganization training. Ensure that representatives of subcontractors also participate in those meetings if engineer requests. Participation in the mandatory training is considered incidental and no separate payment will be made for participating in the training.

2026 Reorganized Specification

STATE OF WISCONSIN



STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION

2026 Specification Reorganization Pilot
Edition

Wisconsin.Gov ▾



State of Wisconsin
Department of Transportation

[DMV Services](#) ▾ [Doing Business](#) ▾ [Travel](#) ▾ [Safety](#) ▾ [Projects and Studies](#) ▾ [About WisDOT](#) ▾

Roadway standards

[Structure and roadway resources](#)

[Roadway standards](#)

[Facilities development manual \(FDM\)](#)

[Standard detail drawings \(SDD\)](#)

[Standard specifications \(Spec\)](#)

[Construction and materials manual \(CMM\)](#)

[Construction notes](#)

[Contract administration](#)

[Major project documentation](#)

- [Facilities development manual \(FDM\)](#)
- [Standard detail drawings \(SDD\)](#)
- [Standard specifications \(Spec\)](#)
- [Construction and materials manual \(CMM\)](#)
- [Manual of test procedures \(MOTP\)](#)
- [Construction notes](#)
- [Contract administration](#)
- [Major project documentation](#)

2026 Specification Reorganization Pilot Edition

[2026 Reorganized Pilot Specification](#) (PDF Download, revised October 16, 2025)

Related Information

[Subscribe to email update service](#)

[Disadvantaged Business Enterprise \(DBE\) Update](#) - 10/29/25

Reorganized Specification - Future

- 2025 Standard Specification
- Pilot Projects for 2026
- Pilot Projects for 2027
- 2028 Standard Specification

AASHTOWare Project (AWP) - Materials Module

- Why are we doing this?
 - AASHTOWare Preconstruction and Construction modules are in use already.
 - Timely submittal of material testing results and documentation is a key factor for success
 - One stop shop for all construction material tracking and reporting systems
 - MRS, MIT, MTS, MIT, and HQMS will be combined into AWP
 - Only applies for 3 pilot projects



2026 Specification Reorganization Pilot Edition

- All Material specifications (x.2) move to Part 7
 - Materials related specs in x.3 (Construction), CMM, APL and SDD move to Part 7
- A summary table of Material Acceptance method
- Published in [WisDOT Roadway standards](#)
- Be familiar with interpreting new specification

TABLE 701-1 AGGREGATE ACCEPTANCE

SPEC	MATERIAL NAME	PRE-PROJECT	PROJECT
701.1	Definitions	--	--
701.2	Aggregate Source Approval	APL	--
Backfill			
701.3	General	--	--
	Granular Backfill	--	DST
	Structure Backfill	--	DST
	Culvert Pipe Backfill		
	Foundation	--	MTR, DST
	Trench	--	FI/VI
	Storm Sewer Backfill		
	Foundation	--	MTR, DST
	Trench	--	DST
Base, Subbase, and Subgrade Aggregates			
701.4	General	--	--
	Aggregate Classifications	--	--
	Dense-Graded and Open-Graded Base	APL	QMP, DST
	Subbase	--	DST
	Breaker Run	APL	FI/VI
	Select Crushed Material	APL	FI/VI
	Pit Run	APL	FI/VI
701.5	Slope Paving Aggregates	--	CRT ⁽¹⁾
701.6	Riprap Stone	--	FI/VI

Existing Specifications/Special Provisions	Pilot Specification
450 General Requirements...	450 General Requirements...
455 Asphaltic Materials	455 Tack Coat
460 Hot Mix Asphalt Pavement	465 Asphaltic Surface
465 Asphaltic Surface	703 Asphaltic Binders and Emulsions
STSP 460-020 QMP HMA Pavement Nuclear Density	704 Asphalt Additives
STSP 460-030 SMA Pavement	705 Asphalt Mixtures
STSP 460-040 HMA PWL Test Strip	
STSP 460-050 HMA Pavement PWL	
STSP 460-075 HMA Pavement Longitudinal Joint Density	



TABLE 705-1 ASPHALT MIXTURE ACCEPTANCE

SPEC	MATERIAL NAME	PRE-PROJECT	PROJECT
Asphalt Mixtures			
705.1.1	Asphalt Mixture Design Requirements	APL, DST, MISC ^[1] , MTR	--
Mixture Acceptance Programs			
705.1.2	General Requirements for Asphalt Mixture Testing	APL	QMP
705.1.3.1	HMA and SMA Volumetric Test Strips	APL	QMP
705.1.3.2	Percent Within Limits	APL	QMP
705.1.3.3	Percent Within Limits Lite	APL	QMP
705.1.3.4	Department Acceptance	APL	QMP
705.1.3.5	Small Quantities	APL	FI/VI
705.1.3.6	Temporary Pavements	--	--
Density Acceptance Programs			
705.1.4	General Requirements for Asphalt Density Testing	APL	QMP
705.1.5.1	Nuclear Gauge Correlation Strip	APL	QMP
705.1.5.2	Percent Within Limits	APL	QMP
705.1.5.3	Department Acceptance	APL	QMP
705.1.5.4	Small Quantities	APL	FI/VI
705.1.5.5	Temporary Pavements	--	--
Miscellaneous Asphalt Mixtures			
705.2	Asphaltic Surface	APL	--
705.3	Cold Patch	--	FI/VI
705.4	Seal Coat Aggregate Mixture	APL	--

^[1] Submit a mix design to the department according to the requirements in the respective section below.

Misc. Quantities – Use Table

LOCATION	ROADWAY	STATION	MIXTURE USE:	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
								MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
DRIVING LANES 12-FOOT	USH 45 NB/SB MAINLINE	802+50 to 1074+03	LOWER LAYER	BASE AGGREGATE	HMA PAVEMENT 3 MT 58-28 S	15980	3.5"	PWL	PWL CORES
DRIVING LANES 12-FOOT	USH 45 NB/SB MAINLINE	1074+03 to 1209+21	LOWER LAYER	BASE AGGREGATE	HMA PAVEMENT 3 MT 58-28 S	5920	3.0"	PWL	PWL CORES
DRIVING LANES 12-FOOT	USH 45 NB/SB MAINLINE	802+50 to 1209+21	LOWER LAYER	HMA PAVEMENT 3 MT 58-28 S	HMA PAVEMENT 3 MT 58-28 S	12390	2.25"	PWL	PWL CORES
DRIVING LANES 12-FOOT	USH 45 NB/SB MAINLINE	802+50 to 1209+21	UPPER LAYER	HMA PAVEMENT 3 MT 58-28 S	HMA PAVEMENT 4 MT 58-28 S	9290	1.75"	PWL	PWL CORES
3-FOOT SHOULDERS	USH 45 NB/SB MAINLINE	802+50 to 1209+21	LOWER LAYER	HMA PAVEMENT 3 MT 58-28 S	HMA PAVEMENT 3 MT 58-28 S	1700	2.25"	PWL	DEPARTMENT ACCEPTANCE CORES
3-FOOT SHOULDERS	USH 45 NB/SB MAINLINE	802+50 to 1209+21	UPPER LAYER	HMA PAVEMENT 3 MT 58-28 S	HMA PAVEMENT 4 MT 58-28 S	1320	1.75"	PWL	DEPARTMENT ACCEPTANCE CORES
INTERSECTIONS	USH 45 NB/SB MAINLINE	802+50 to 1209+21	LOWER LAYER	BASE AGGREGATE	HMA PAVEMENT 3 MT 58-28 S	5720	3.5"	PWL	DEPARTMENT ACCEPTANCE CORES
INTERSECTIONS	USH 45 NB/SB MAINLINE	802+50 to 1209+21	LOWER LAYER	HMA PAVEMENT 3 MT 58-28 S	HMA PAVEMENT 3 MT 58-28 S	3680	2.25"	PWL	DEPARTMENT ACCEPTANCE CORES

Acceptance Programs

Mixture Acceptance	Density Acceptance
Percent Within Limits	Percent Within Limits
Percent Within Limits Lite	Department Acceptance
Department Acceptance	Small Quantities
Small Quantities	Temporary Pavements
Temporary Pavement	

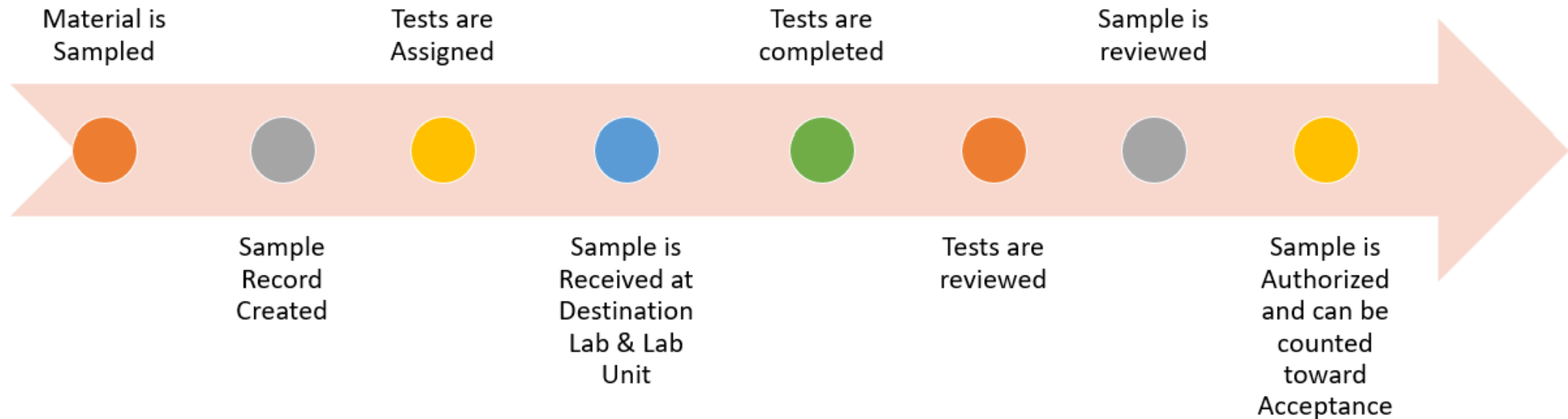
AWP-Materials Modules

- Web-based application connected to the AASHTOWare Construction Module
- Contractors and consultants should create an AASHTOWare account to enter data
- Appropriate role will be assigned to the account holder.
 - AASHTOWare-Materials will be customized by the assigned role.
 - Example of Roles: Project Engineer, Lab Personnel, Contractor



AWP Workflow for Contractors

Sampling and Testing Workflow in AASHTOWare Project™ (AWP)



Roles

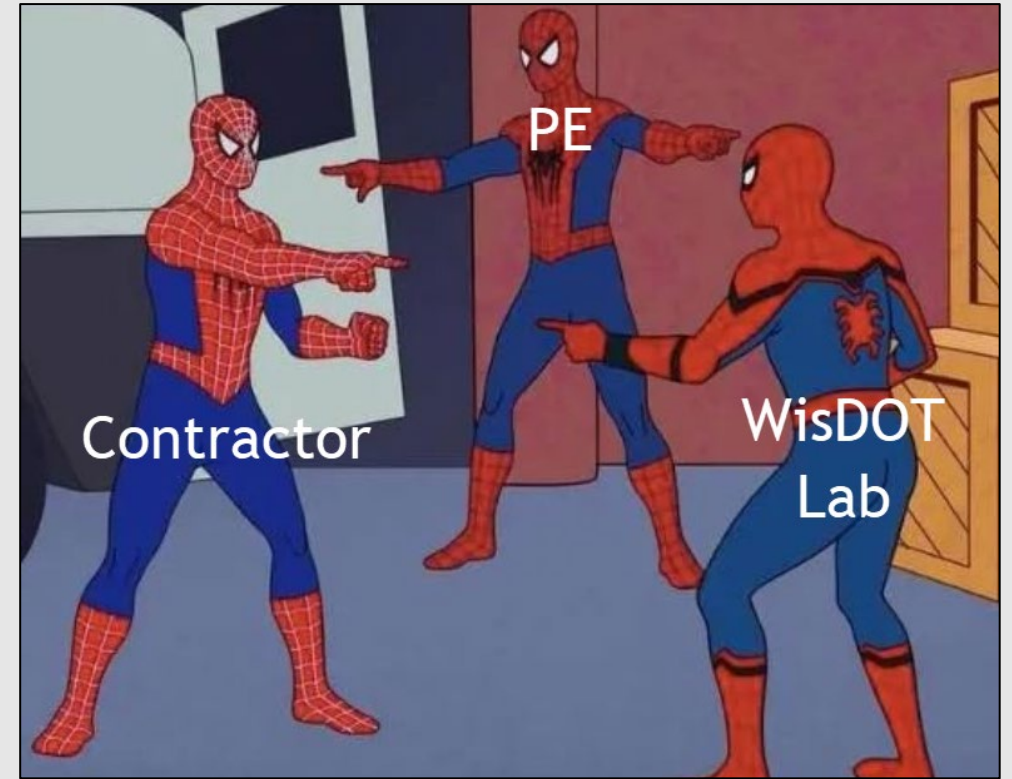
- Roles:
 - Determined by user's function on project
 - Limited by user's qualifications
 - Only HTCP Certified Techs can enter test results
 - AWP contains current HTCP certification records (updated daily)
- AWP role may not match contractual duties!



Material-Related Roles

Current AWP-M Roles:

- WisDOT/Consultant
 - Project Engineer (PE)
 - Lab Personnel
- Contractor
 - Lab Manager
 - Sampler & Tester



WisDOT/Consultant Responsibilities

- PE Role (PDS Project Manager/Project Engineer)
 - Generate material sets & acceptance actions
 - Create QV sample records and send to destination lab
 - Enter QV sample field test results
 - Create sample record for Wisconsin Materials Diary Entry (WMDE)
 - Review QV & QC sample records
 - Create Daily Work Reports (DWR)
 - Generate pay estimate & review material exceptions



WisDOT/Consultant Responsibilities (con't)

- WisDOT Lab Personnel Role
 - Create QV sample records and send to destination lab
 - Enter QV Sample Field Test Results
 - Create Wisconsin Materials Documentation Entry (WMDE)
 - Receive sample at destination lab
 - Enter test results
 - Review test results



Contractor Responsibilities

- Lab Manager Role
 - Maintain the list of lab personnel assigned to each contractor lab
 - Create sample records
 - Review completed tests



Contractor Responsibilities (con't)

- Sampler & Tester Role
 - Enter Mix Designs (pilot projects only)
 - Create sample records
 - Enter test data
 - Field tests – Nuclear Density
 - Lab Tests – Volumetrics, AC%
 - Review completed tests



Asphalt Mix Designs for Pilot Projects

- Contractor enters MD data:
 - Mix type, NMAS, Binder Grade
 - JMF Blended Gradation
 - Gse, Gsb, CAA
 - Optimum AC%
 - TSR
 - Additives
- PE verifies the MD is on the APL and “Activates” MD for use on contract

*In the future MD data entry will be automated and MD APL will be in AWP

The screenshot displays a web form titled "Mix Verification JMF Targets" with a sub-section "Aggregate Properties". It contains a table for aggregate gradation data and summary statistics at the bottom.

Sieve	(mm)	JMF Gradation-Blended (% Passing)
2"	50.0	
1-1/2"	37.5	
1"	25.0	100.00
3/4"	19.0	99.70
1/2"	12.5	90.00
3/8"	9.5	81.40
#4	4.75	63.40
#8	2.36	39.90
#16	1.18	25.60
#30	0.60	16.20
Sieve	(mm)	JMF Gradation-Blended (% Passing)
#50	0.30	11.50
#100	0.15	7.20
#200	0.75	3.60

Summary statistics at the bottom:

- Gse: 2.727
- CAA 1F: 99.7
- Gsb: 2.663
- CAA 2F: 99.7

Green arrows indicate data flow: from the table to Gse and CAA 1F, and from Gsb and CAA 2F to the table.

Sample Records

- Who: Sampler ID and destination lab
- What: Sample description
- When: Sample date
- Where: Location
- Why: Sample type (QC, QV, Dispute Resolution, etc.)

Home Previous My Pages

Overview Find Sample Receive at Destination Lab Receive at Lab Unit Review Samples Review Tests

Sample Record Summary

▼ Sample Record: DMCdilda20250224031725

General	Sample ID
Sources/Facilities	DMCdilda20250224031725
Additional Information	Sample Date
Sample Location	02/24/2025 02:55 PM
Contract	Material Code - Name
Tests	712.002.01
	Prestressed Concrete Members

Sample Description

QC-1

Heat, Batch, or Lot

Lot - Lot

Heat, Batch, or Lot Number

1

Sublot Number

1

Materials Data

- AWP-Materials

- Raw test data entered into AWP
- Do we complete the # of tests/doc required?

- Spreadsheets

- Test results entered into spreadsheets
- Is the material acceptable?
- Should a price adjustment be applied?

Home Previous My Pages

On this page: Materials Materials Worksheets Reference Data Receive Sample at D

PROJECT WisDOT Lab Personnel

▼ Materials

- Acceptance Actions
- Action Relationships
- Find Sample
- Mix Design
- Product Group Sample Reviewer Assignment
- Sample Records

▼ Materials Worksheets

- Enter Test Results
- Maintain Test Queue
- Receive Sample at Destination Lab
- Receive Sample at Lab Unit
- Review Samples
- Review Tests

▼ Receive Sample at Destination Lab

Receive at Destination Lab



	A	C	D	E	F	G	H	I	J	K		
1	Job No./Project ID: 10530484							Layer: Lower				
2	WisDOT Mix No.: 0-250-0183-2025							Traffic Vol: HT				
3	Mix Type: 4-HT-58-28-S							Density LSL(%): 93.0				
4	Sublot Widths will fill in automatically when Sublot Length is entered											
5	Lot Length	Sublot Length	Sublot Width	Date	Lot	Sublot	QC Tests (Avg: 95.7)	QV Tests (Avg: 94.6)	Dispute Resolution Cores	Dataset Used for Pay		
36	7500	1500	12.0	7/18/2025	14	B	97.2			QC		
37				7/18/2025	14	C	96.1					
38				7/18/2025	15	A	93.0					
39		1500	12.0	7/18/2025	15	B	97.1	95.7				
40				7/18/2025	15	C	96.0					
41				7/18/2025	16	A	96.4	97.2				
42		1500	12.0	7/18/2025	16	B	97.5					
43				7/18/2025	16	C	96.0					
44				7/18/2025	17	A	97.7					
45		1500	12.0	7/18/2025	17	B	97.7					
46				7/18/2025	17	C	95.3	95.3				
47				7/18/2025	18	A	94.1	94.2				
48		1500	12.0	7/18/2025	18	B	97.1					
49				7/18/2025	18	C	97.1					
50				7/18/2025	19	A	94.2					
57		The lot average for QC is different from the lot average for QV by more than 0.5%. Lot 2 qualifies for dispute resolution. The lot average for QC is different from the lot average for QV by more than 0.5%. Lot 3 qualifies for dispute resolution.										
58					7/18/2025	19	B	97.7	96.0			



Assign Tests to Sample Record

- Each Sample Record can have multiple tests assigned to it
- Don't forget IRI Ride!
 - IRI data will be collected in separate spreadsheet

Assign Sample Record Test

▼ Assign Sample Record Test

Progress: **Select Tests** Add Test

1 Select Tests:

Q Type search criteria or press Enter

Select: All | None

Select	Test Method
✓	T30_T308
✓	T30_D8159
✓	T166_Cores
✓	T166_T209_T269
✓	AASHTO T355
✓	AASHTO T355_LJOINT

Test Description

Ignition Oven AC Content and Gradation

Auto Extraction & Gradation - Asphalt Mixture

Pavement Core Gmb

HMA Volumetrics (Gmm, Gmb, Va, VMA)

Nuclear Density - Asphalt Mixture (D2950)

Nuclear Density_LJOINT - Asphalt Mixture (D2950)

- Station
- Offset
- Wet Density
- % Gmm

Lot	Sub Lot	Random Station	Random Offset	Density Count 1	Moisture Count 1	Wet Density 1	% Max Density 1
CTH D TL	1	2+07	3.0			156.5	100.0
CTH D TL	2	6+53	8.0			147.3	94.1

Lot	Sub Lot	Random Station	Random Offset	Density Count 1	Moisture Count 1	Wet Density 1	% Max Density 1	Density Count 2	Moisture Count 2	Wet Density 2	% Max Density 2	Density Count 3	Moisture Count 3	Wet Density 3	% Max Density 3
CTH D TL	1	2+07	3.0			156.5	100.0			156.5	100.0				
CTH D TL	2	6+53	8.0			147.3	94.1			147.3	94.1				
CTH J TL	1	1+75	5.0			149.3	95.4			149.3	95.4				
CTH J TL	2	4+85	8.0			146.5	93.6			146.5	93.6				
River TL	1	3+45	4.0			149.5	95.5			149.5	95.5				
River TL	2	1+55	7.0			144.4	92.3			144.4	92.3				

This worksheet may not be modified.

Data Entry: Volumetrics

- Gmb
- Gmm
- AC%
- Gradation

▼ MOD Auto Extraction - Asphalt Mixture

▼ ASTM D8159

Sample Container Weight
3447.2

Sample Container + Dry Agg
5097.0

F. Pan + Filter + Completed Sample
647.5

of Dry Cycles
12

HMA Sample Weight
1833.5

Total Mineral Filler, p200
83.3

JMF % AC
5.4

Total % AC
5.4

JMF % AC
5.4

▼ HMA Air Void Determination

Average Gmb
2.437

JMF Target GMB
2.428

▼ GMM - Maximum Specific Gravity (T209)

Lab Sample ID
1

Air Dry Weight
2050.5

Wt. of Container, H2O (g)
1536.4

Wt. of Container, Sample (g)
2773.9

Volume
813.0

Gmm
2.522

▼ T269 - Air Void Determination

Tested % AC (T308/T8159/T164/T30)
4.90

Current Gsb
2.668

% Air Voids
3.4

Min - Max
13.1

VMA (tested % AC)
12

▼ T269 - Air Void Determination

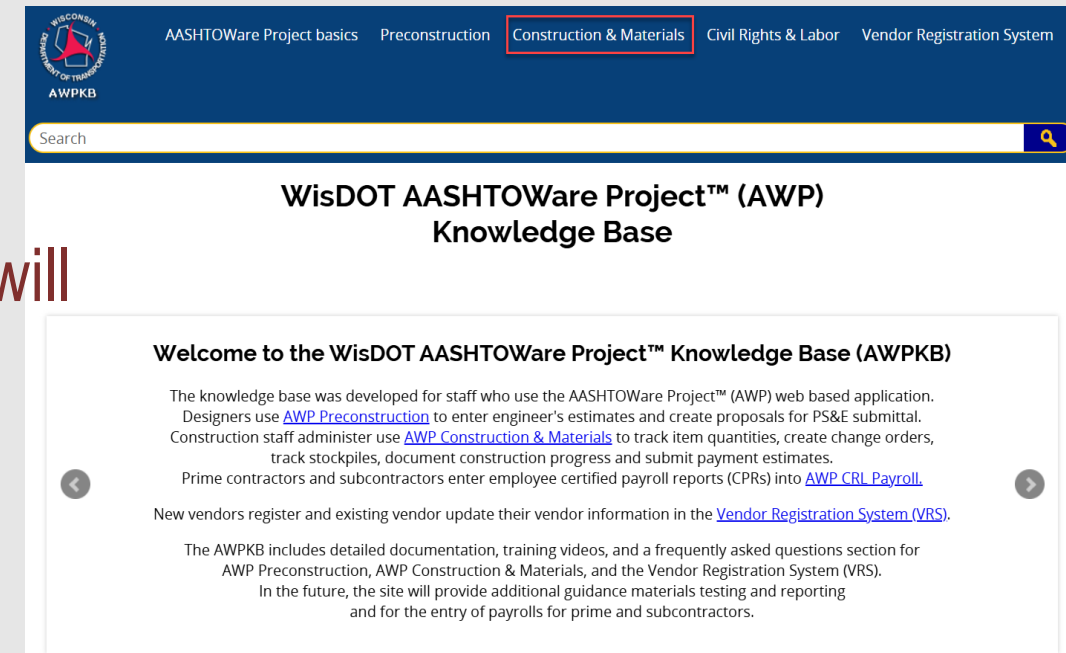
Tested % AC (T308/T8159/T164/T30)
4.90

Current Gsb
2.668

% Air Voids
3.4

Training and Resources

- Mandatory In-person Training for pilot projects
 - First week of February before projects kick off
 - Training for Spec interpretation and how to use AWP-Materials for each role
 - WisDOT staff, consultants and contractor who will be in three pilot projects
- Resources
 - [WisDOT AWP Knowledge Base webpage](#)



Potential Future Improvements

- Communication
 - AWP-Mailbox for Questions
 - System notifications (alerting roles when documents are ready for action)
- Streamlining the Process
 - Automate MD data entry
 - Automate materials testing data entry so project staff can enter the data in one location (either AWP or spreadsheet instead of both)
 - Auto-finalizing process
 - Adopt AWP Mobile Tester™ to allow capturing samples and test results on mobile devices in the field

Thank You!
Questions?

