Pilot Asphalt Specification Review Technician Duties

November 20th, 2015
Chris Abadie
Materials Engineer Administrator
District 61 Conference Room

Roadway Sampling Specification

- Mainline Roadway lot is based on length of Consecutive mainline paving. Three-2500 ft. sections is a sublot, 7500 ft. Five sublots is one lot, 37,500 ft.

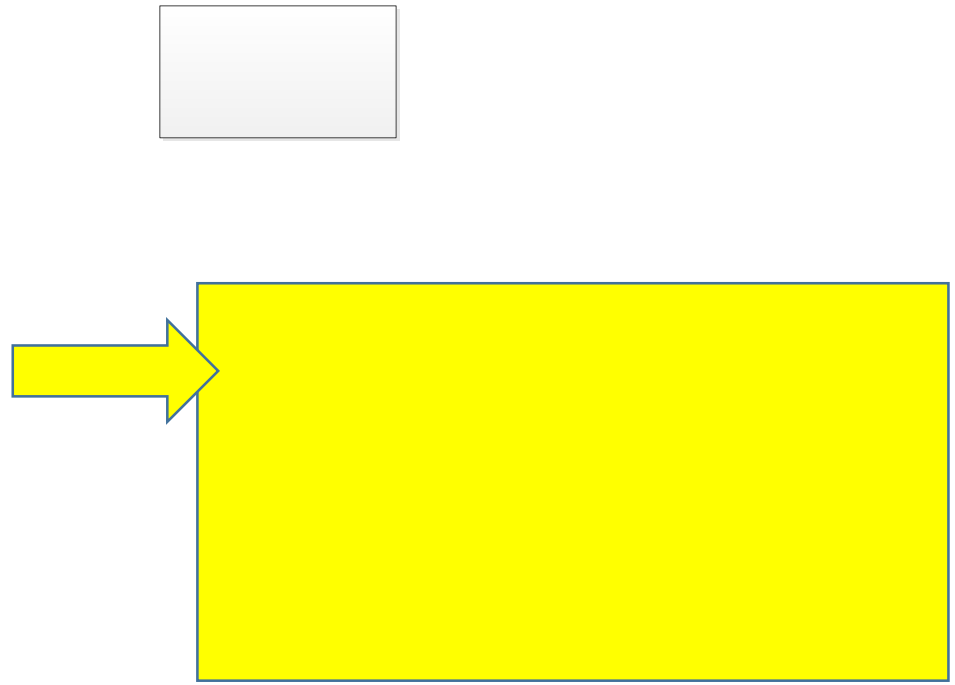
Technician Responsibilities
LADOTD Asphalt Specifications

- Verify Plant monthly,
- Method 1 is the default sampling method for roadway cores.
- The District Lab (ADI) will statistically compare DOTD data to contractor data. (LaPave performs statistics automatically).
- When DLE measure of Roadway core G_{mm} does not match (+/- 0.024) the JMF G_{mm}, resolution cores are measured by independent laboratory and material does not meet specs, I/A lab to investigate and recommend fix for problem.

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Contractors Duties at Plant

- P-lot (plant lot)- 1 sample / 1000 tons - Loose mix Sample from truck
  - AC Content and Gradation (Ignition oven)
  - Gyratory, G_{mb} (65 or 75 Gyration, Level 1 or 2)
  - Loose mix sample from Truck, G_{mm} (Rice Gravity)
- Report on LaPave transfer data daily as directed by DLE
- Collect Certificate of Delivery of each Asphalt shipment.
- QC expected but not required to report
  - ie: Moisture Content / Gradation of stockpiles etc.



DOTD Dist. Responsibility

- Test Core for G_{mm} to verify JMF G_{mm} after determining Gmb and Density of the roadway cores. (+/- 0.024 tolerance) If first measure is out of tolerance, use an average three. If G_{mm} Out of tolerance:
  - Use the five resolution cores tested by I/A lab for determining the new G_{mm} for the lot. I/A lab, DLE and contractor to establish new Gmm for JMF as necessary.
- Send one core per lot to Matlab for Moninitor sample, (GPC liquid asphalt testing)
- Always –Request Sample of Core, Binder, or loose mix if questionable.

DOTD Dist. Responsibility

- District to test 15 Acceptance cores (Method 1). Cut dry, test, and report in LaPave within 48 hours of receipt of contractors report of verification cores. (DLE and ADI coordinated effort)
  - Note resolution cores to be kept until lot is paid.
- (Method 2) Report Average of 5 verification cores. Minimum average must be within 1.5% of the acceptance cores reported. If not-resolution cores to be tested by independent lab. Pay on independent test results.

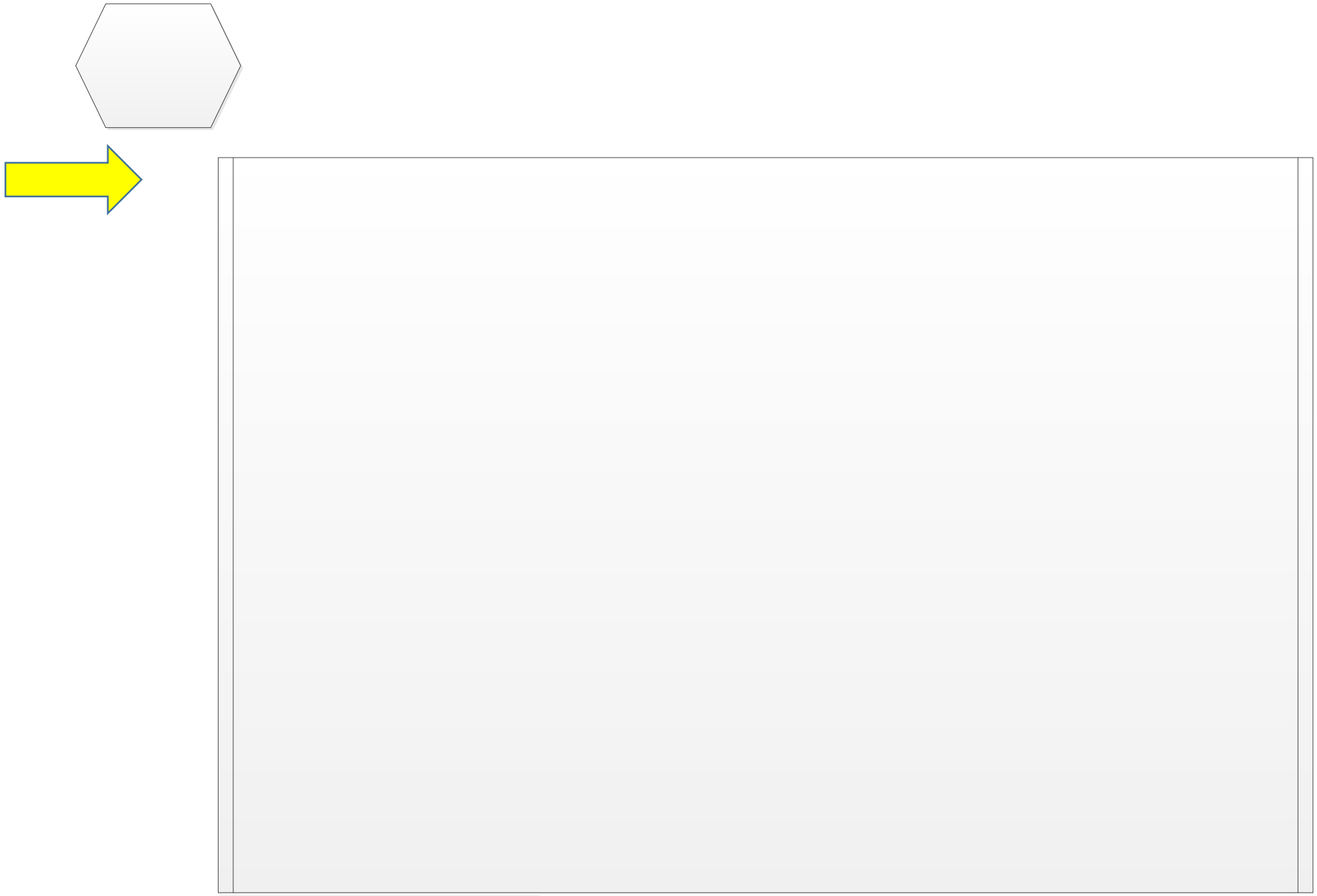
District Lab Responsibilites-Method 2

The District Lab Engineer will designate when this method is used based on statistical comparisons (F/t) of at least 30 DOTD test results and 10 contractor test results.

The District Lab (ADI) will continue to statistically compare contractor and DOTD data. (LaPave performs comparison automatically).

The District lab will test 5 verification cores per lot.

When F/T fails and material does not meet specs, I/A lab to investigate and recommend fix for problem.



ADI Coordinates a core delivery plan that insures prompt delivery of sample cores to the District such as:

- Roadway inspector delivers to PE office (enter sample into SMM)
- ADI takes cores from Jobsite to PE office or District Lab (proximity based)
- Contractor takes possession of cores in locked box and delivers to PE office or Dist. lab.

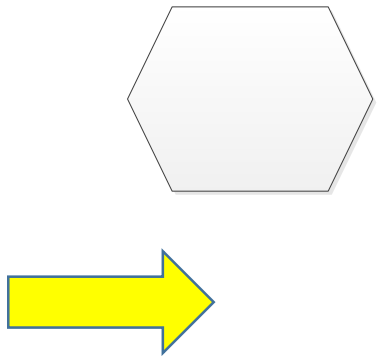
DOTD Roadway inspector Responsibility

- Identify mainline roadway cores cut by contractor as Acceptance, Verification or Resolution and numbered. (District ADI)
- Identify minor mix with density - three per 1000 tons.(District ADI) Set start station for start of paving. Sublots are 7500’
- Collect truck tickets and mark the truck ticket that best represents the material every 2500’ of paving (one third of one sub-lot). depending on thickness and width (1.5”@11’= 10 trucks, 2”@ 11’ = 15 trucks approximately)

DOTD Roadway inspector Responsibility

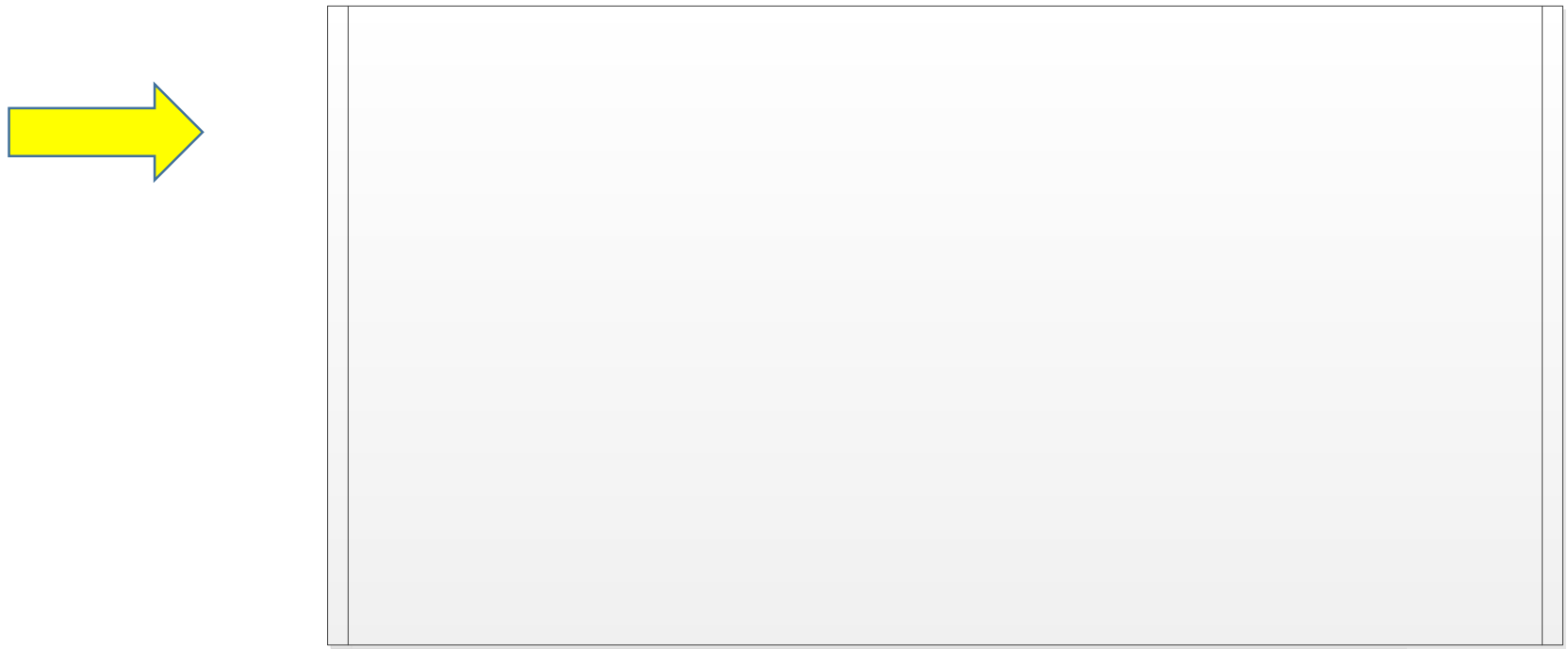
- Log ticket number, tons received, stations represented, lot and sub-lot number, and JMF number.
- One lot is five sub-lots, 37,500’ .
- Sum the five sub-lots recorded for PE to approve
  - PE responsible for payment. (Same system as today, pay by the ton placed on the road)
  - PE to apply pay adjustments in SM at end of job or as necessary by Plan Change using SMM pay adjustment reported by DLE for each lot (which is based on theoretical yield).
- Provide core location plan to contractor based on random sample selection
- Place Acceptance and resolution cores (Method 1) or verification and resolution cores (Method 2) from same sublot in core box provided contractor.
- Take possession of roadway core after contractor has cut cores and follow ADI core handling plan.

Note: Roadway report form includes signature block to track **all** core handlers



DOTD ADI Responsibility

- Place minor mix cores in separate core box also provide by the contractor.
- Insure Core handling plan is followed to transport cores from roadway to District Lab and Contractor. Note: Use chain of Custody letter or signature on roadway core form when locked core box changes hands.



LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

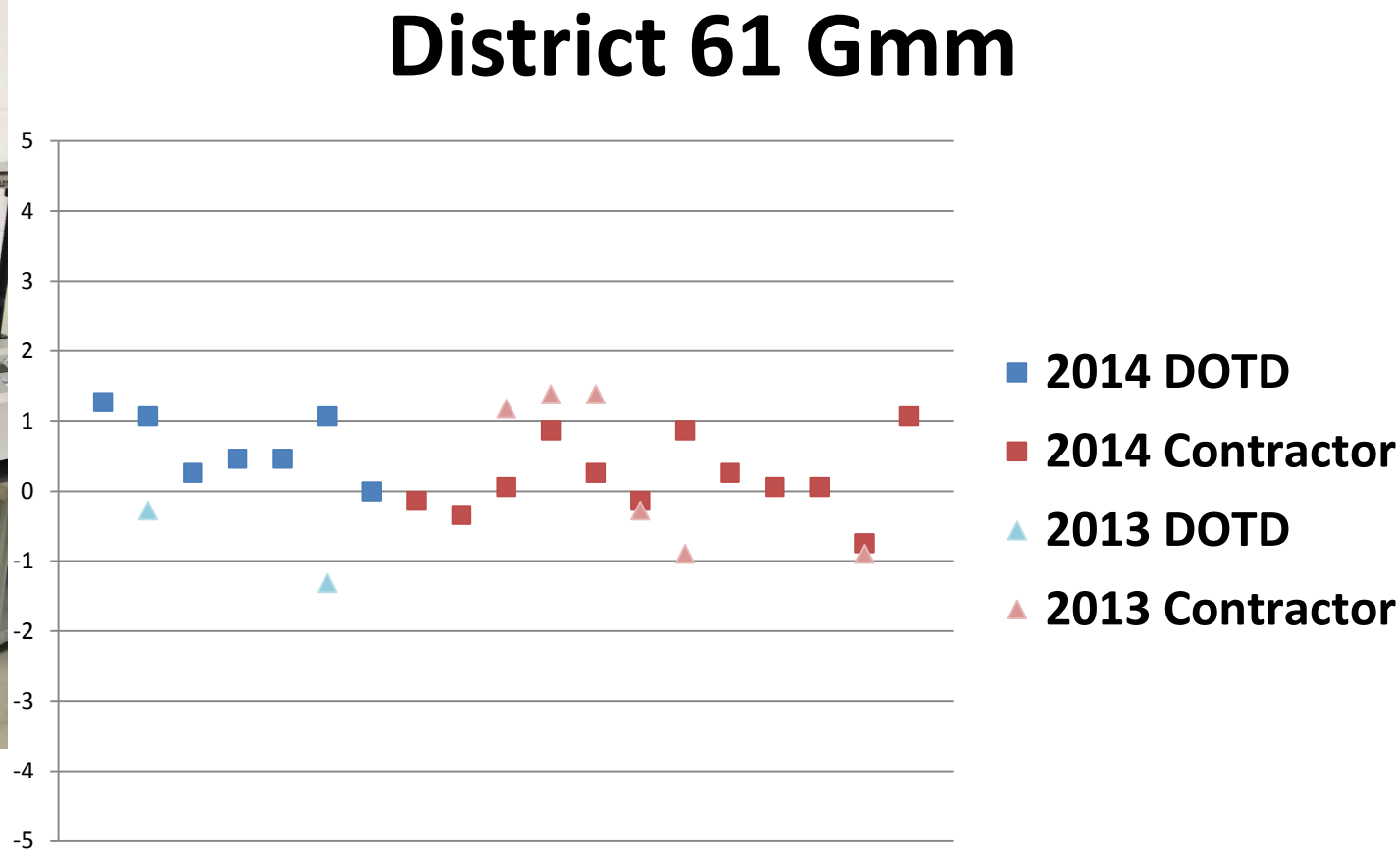
Contractors Duties at Roadway

- Communicate paving plans to Project Engineer, ensure equipment is functional, pave and compact asphalt to the minimum density (ie 92% for Level 1 and 2 Mainline paving lots).
- Drill 6” diameter core at location within 18” of spot marked by DOTD roadway inspector.
- One/2500’ for acceptance and two/7500’ for DLE.
- For minor mix, three cores per 1000 tons will be identified by roadway inspector.

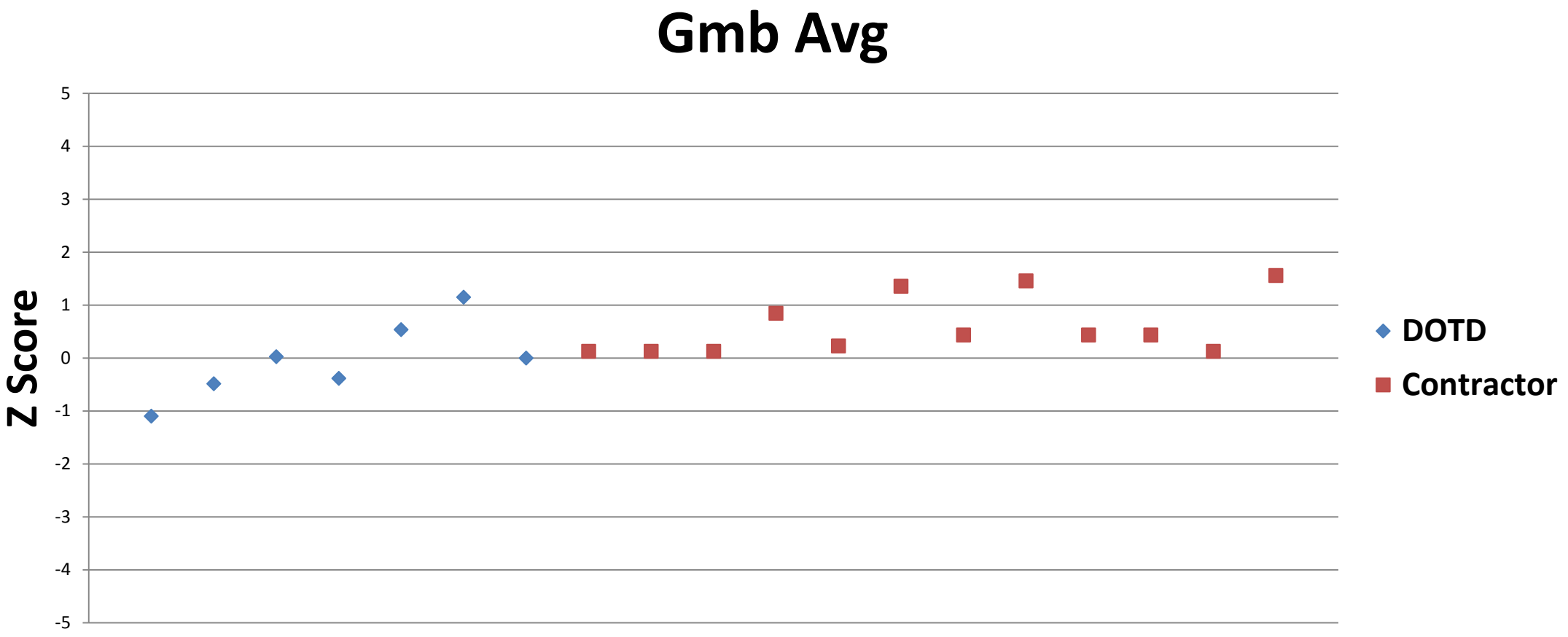
Contractor- Handling Cores

- Provide a core box with latch to roadway inspector for properly identified acceptance and resolution cores.
- Bring “verification” cores (Method 1) or Acceptance Cores (Method 2) to contractors certified lab for testing, enter data on LaPave and immediately transfer data by email to DLE.
- Also core and test three, (3) minor mix cores per 1000 tons.

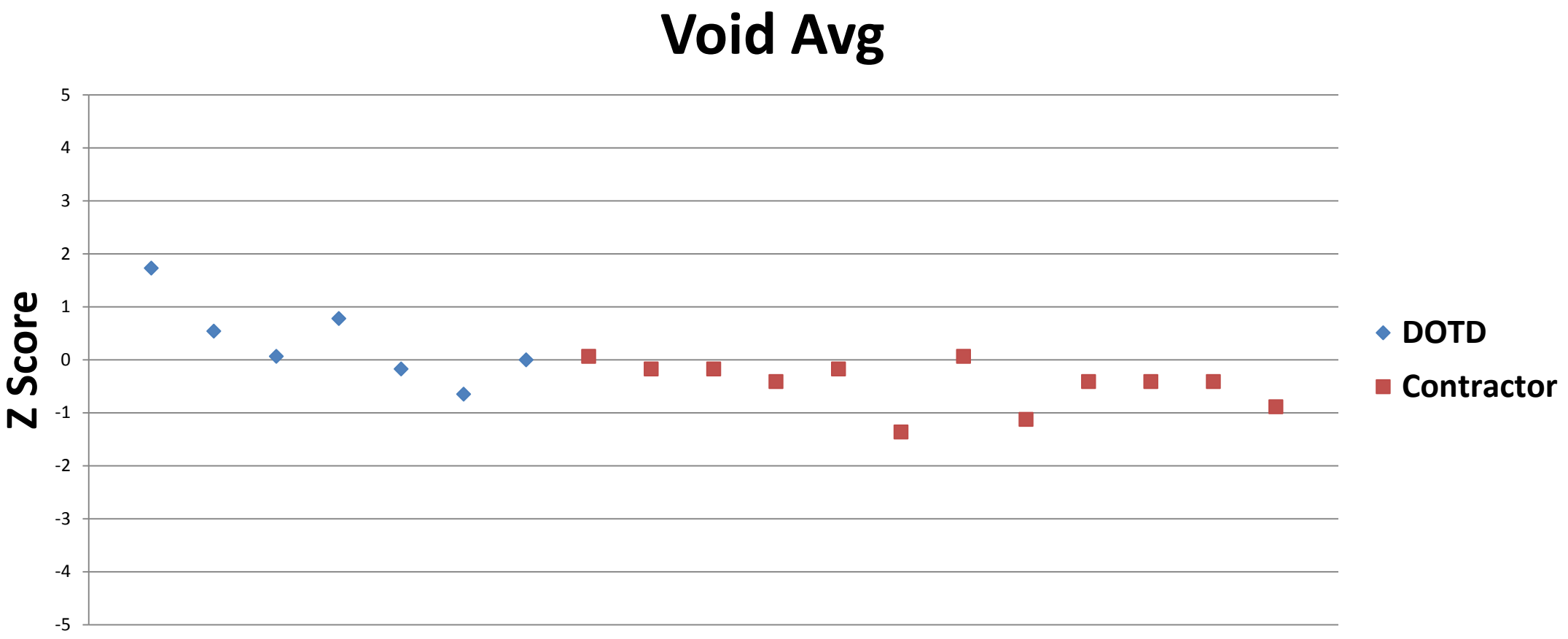
Independent Assurance Lab



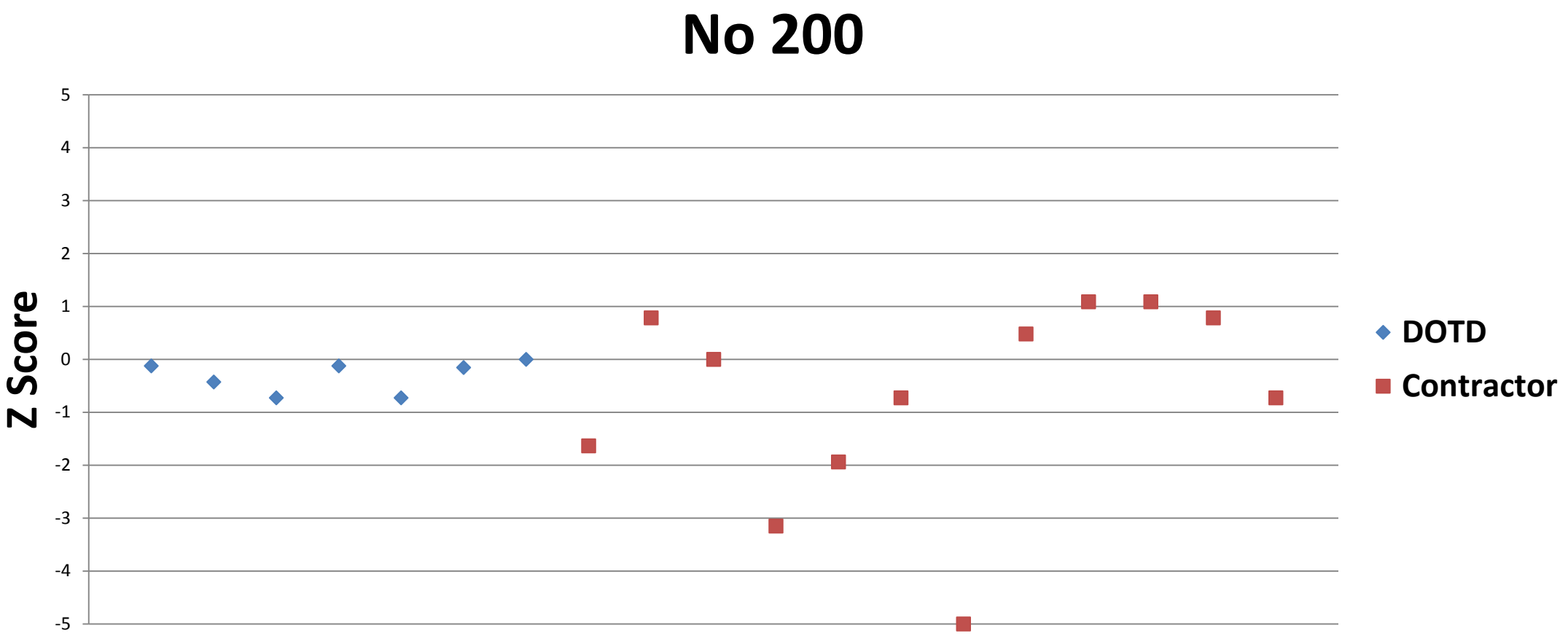
Proficiency Samples
District 61 - Baton Rouge



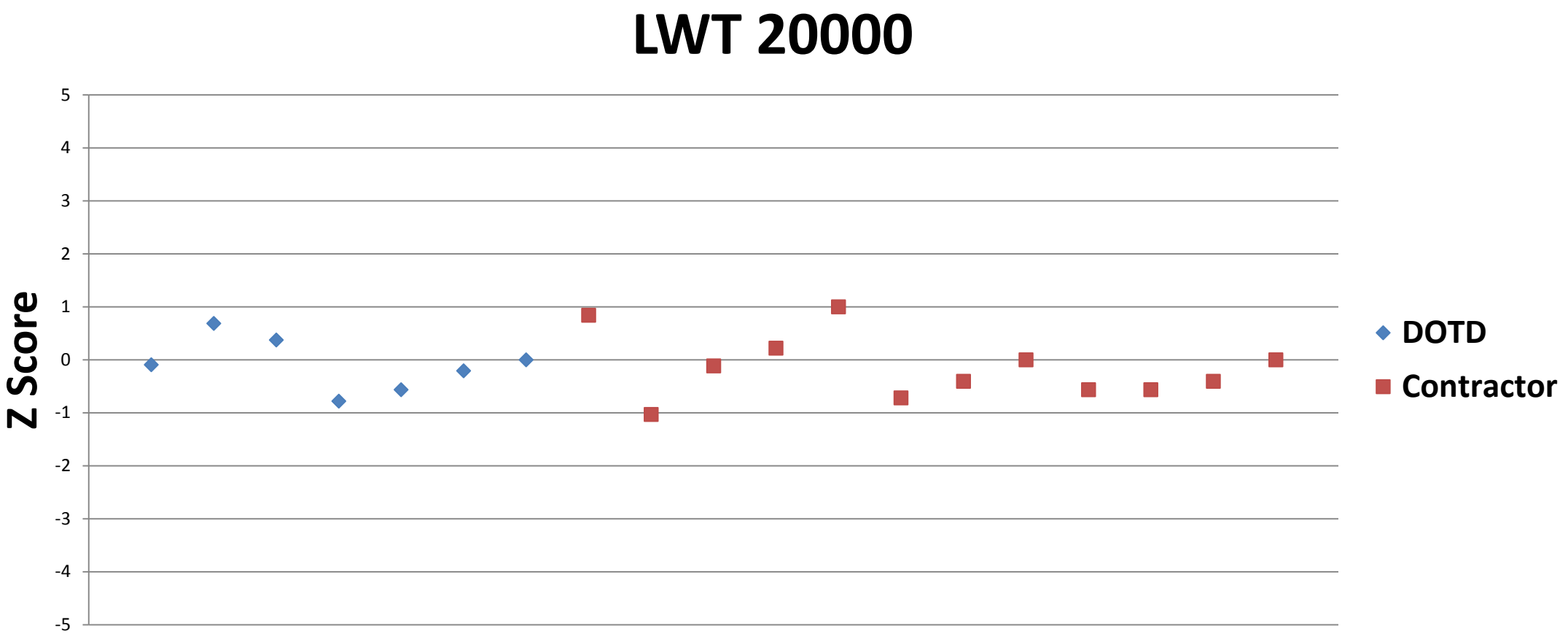
Proficiency Samples
District 61 - Baton Rouge



Proficiency Samples
District 61 - Baton Rouge

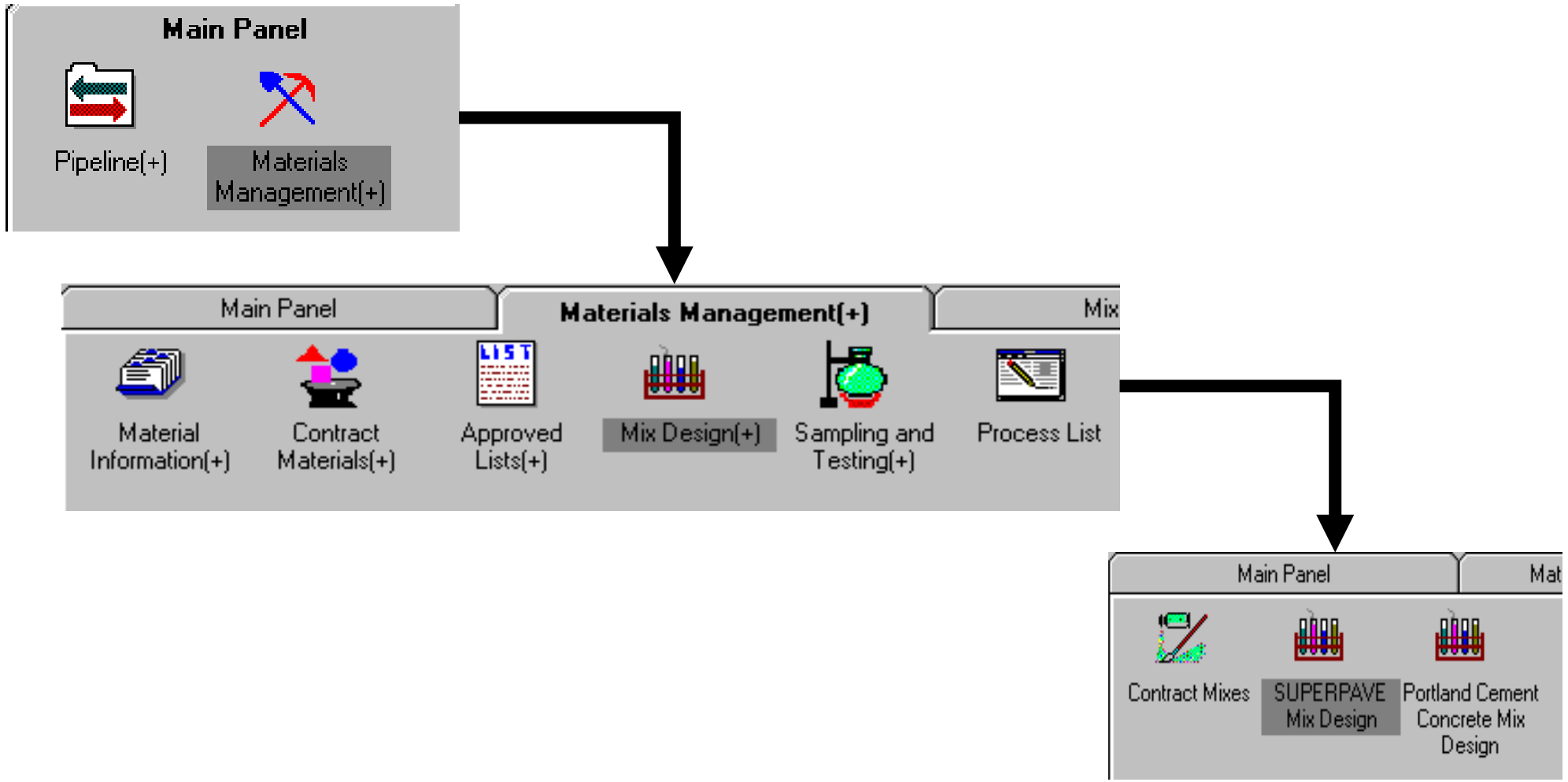


Proficiency Samples
District 61 - Baton Rouge

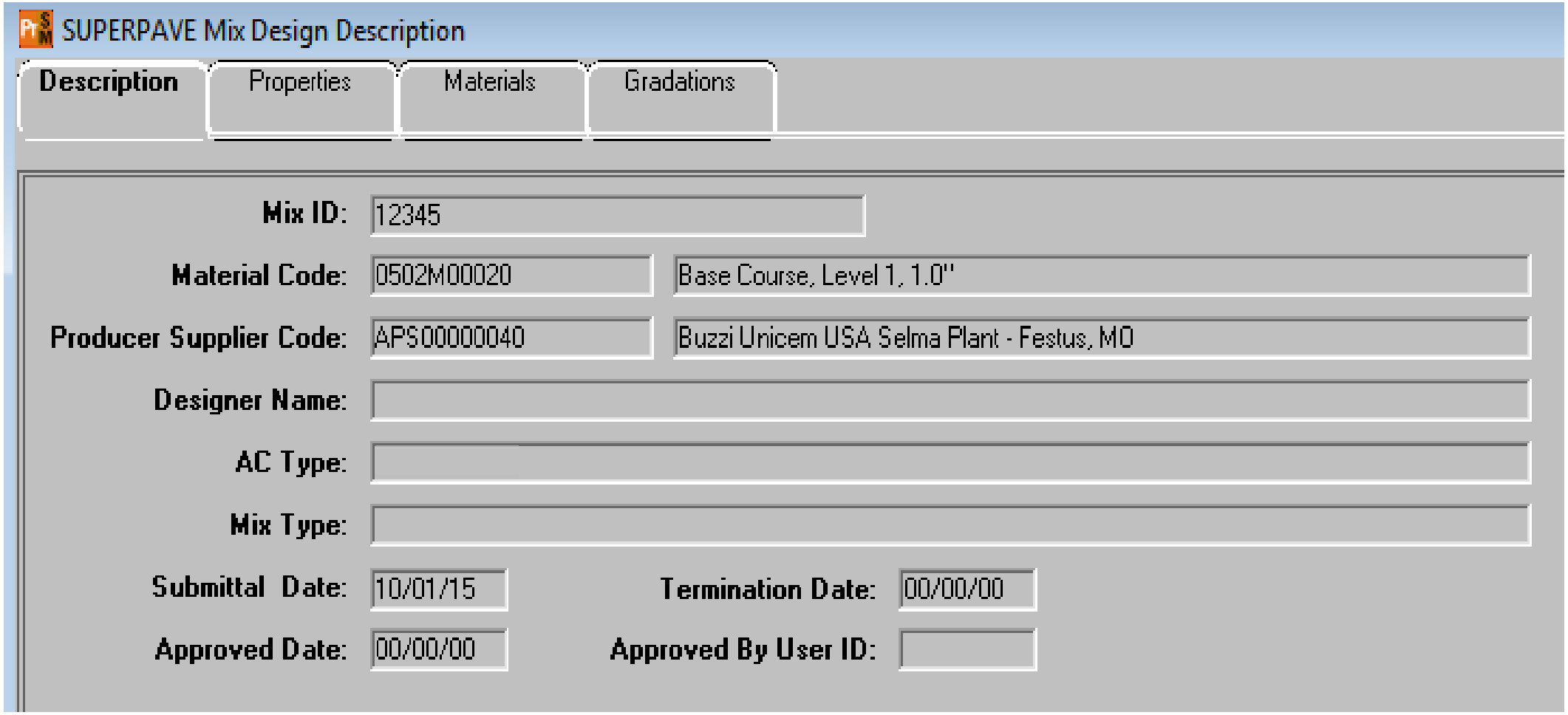


Site Manager Materials
Data Entry
Asphalt Concrete Lots

SiteManager Materials – JMF Entry

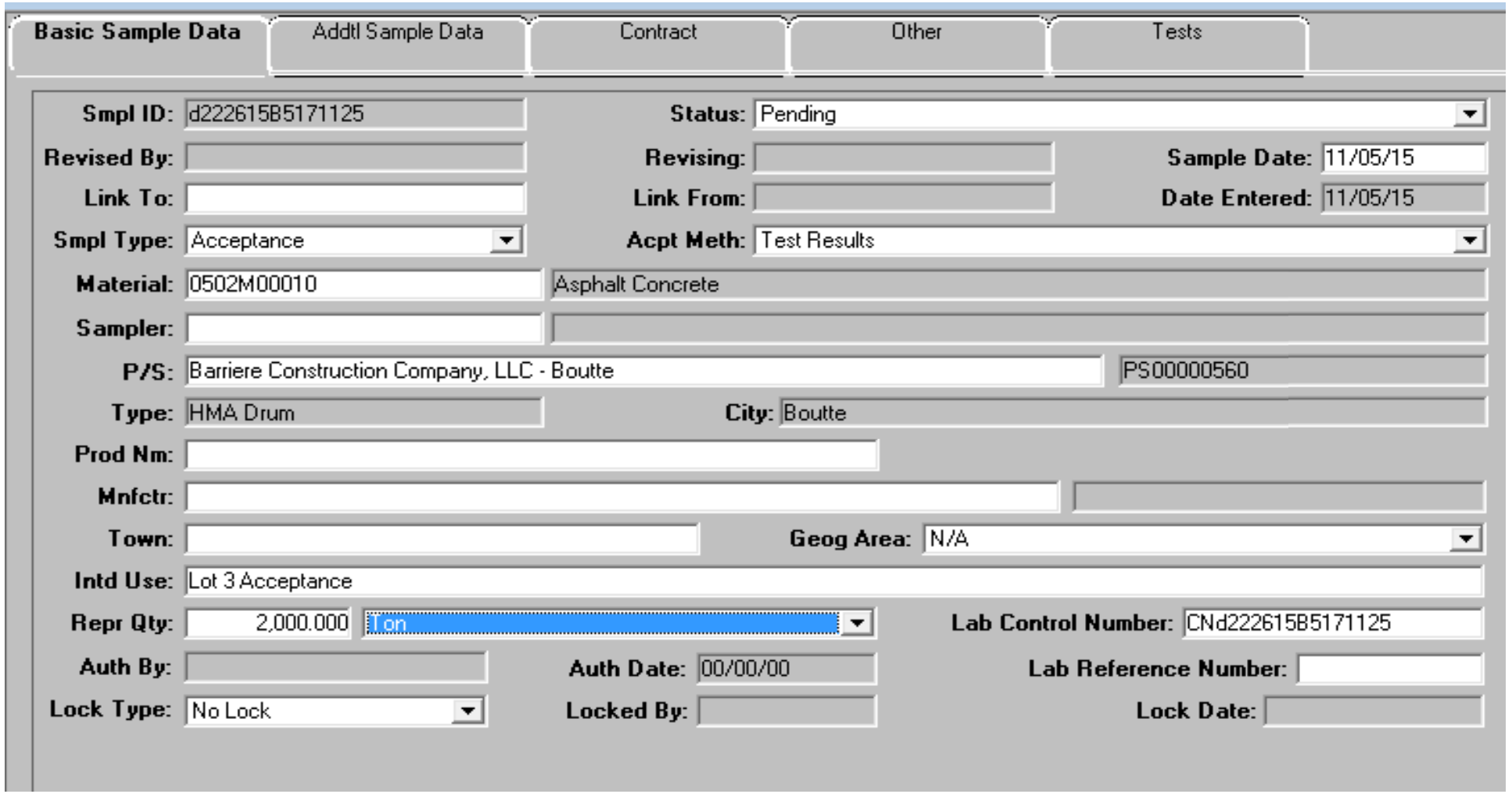


SiteManager Materials – JMF Entry

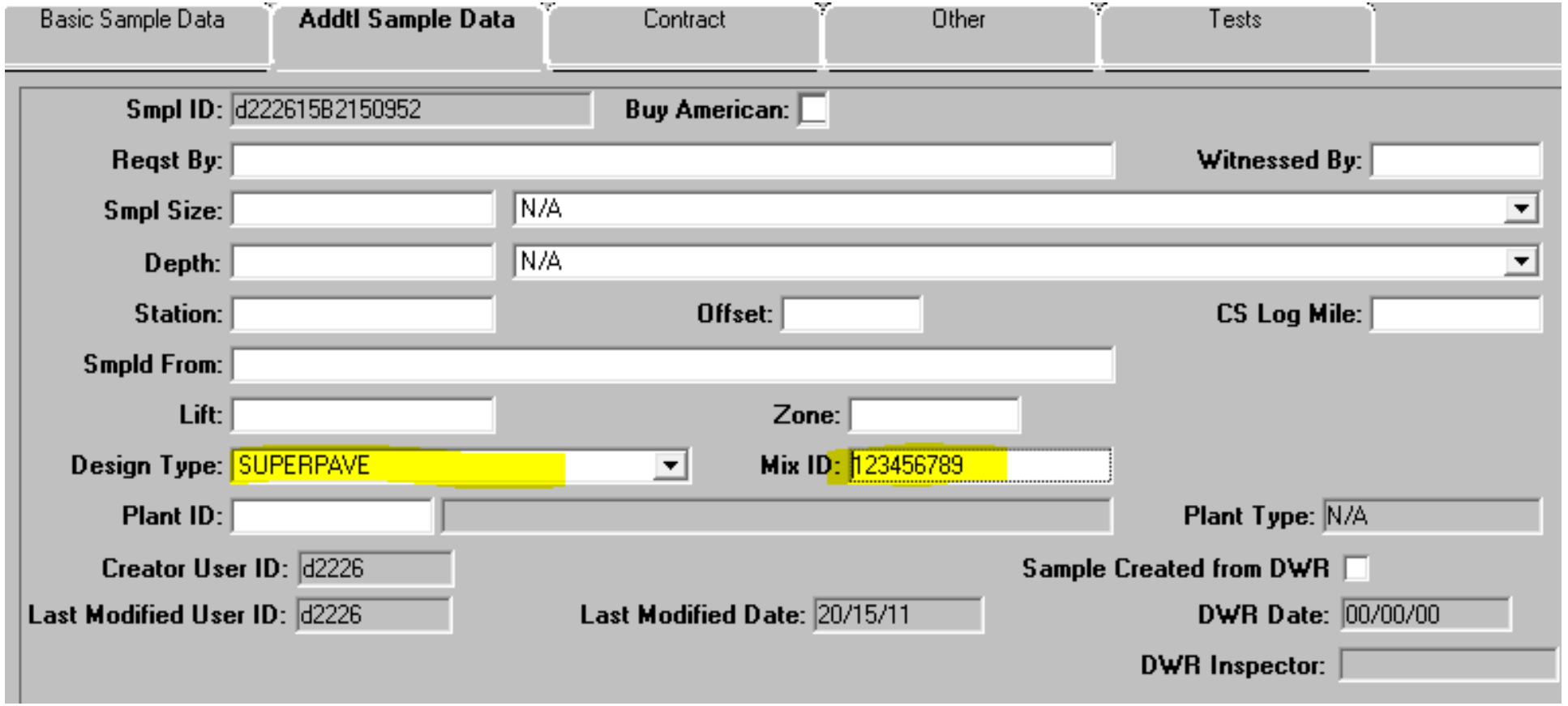


SiteManager Materials – Acceptance Core

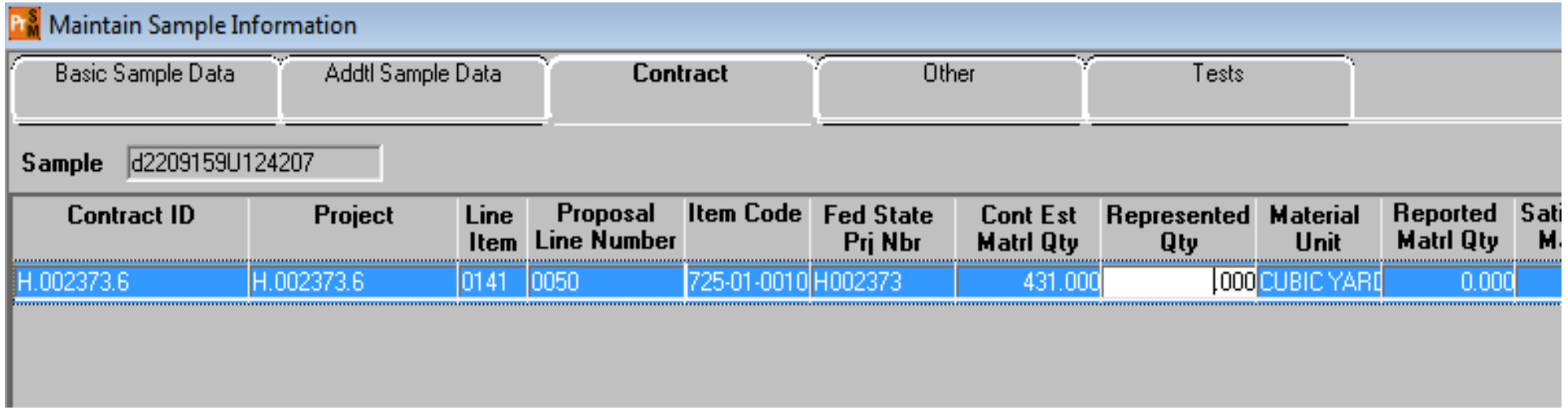
SiteManager Materials – Acceptance Core



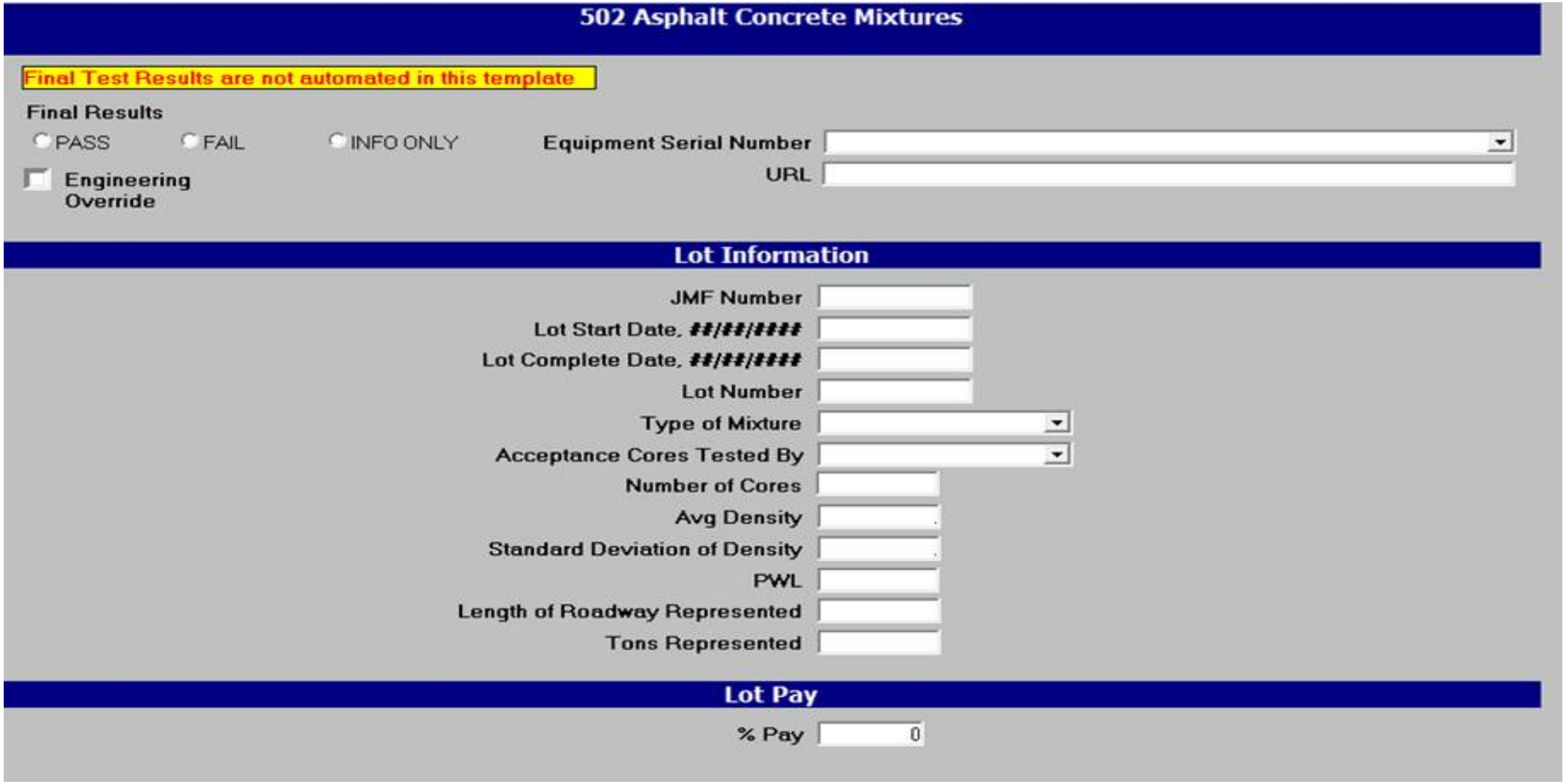
SiteManager Materials – Acceptance Core



SiteManager Materials – Acceptance Core



SiteManager Materials – Acceptance Core



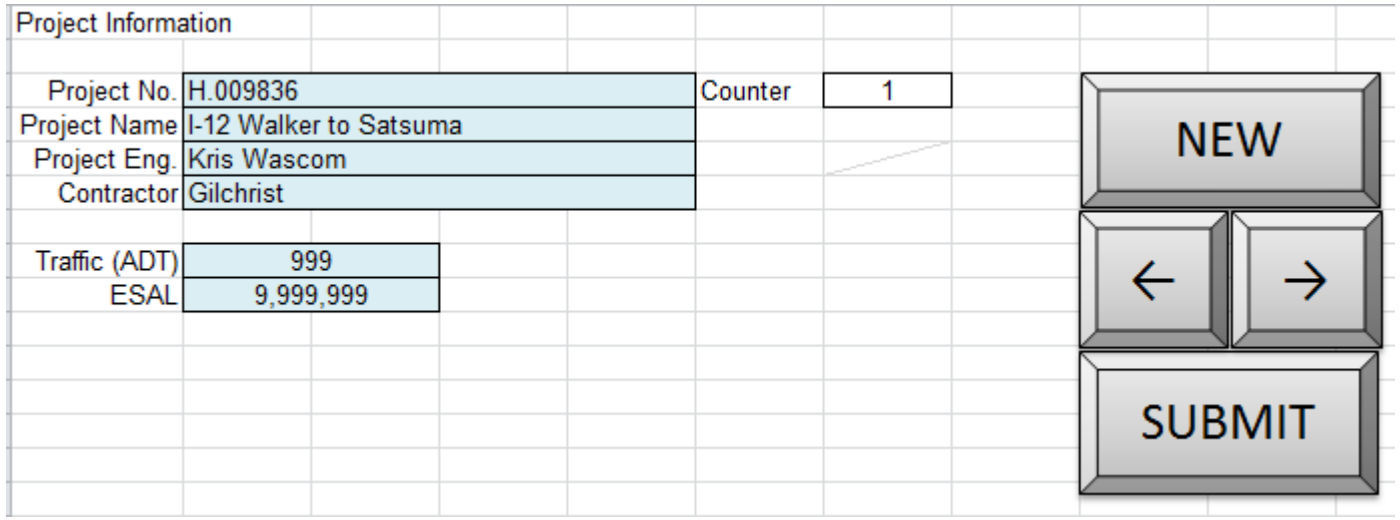
LaPave Walkthrough

Asphalt 501/502

Basics

- File is locked down to prevent overwriting of formulas
- Light blue cells are for user inputs, some may be drop downs
- Simulates a database
- One file per JMF
  - Each file can handle multiple projects/lots using the same JMF

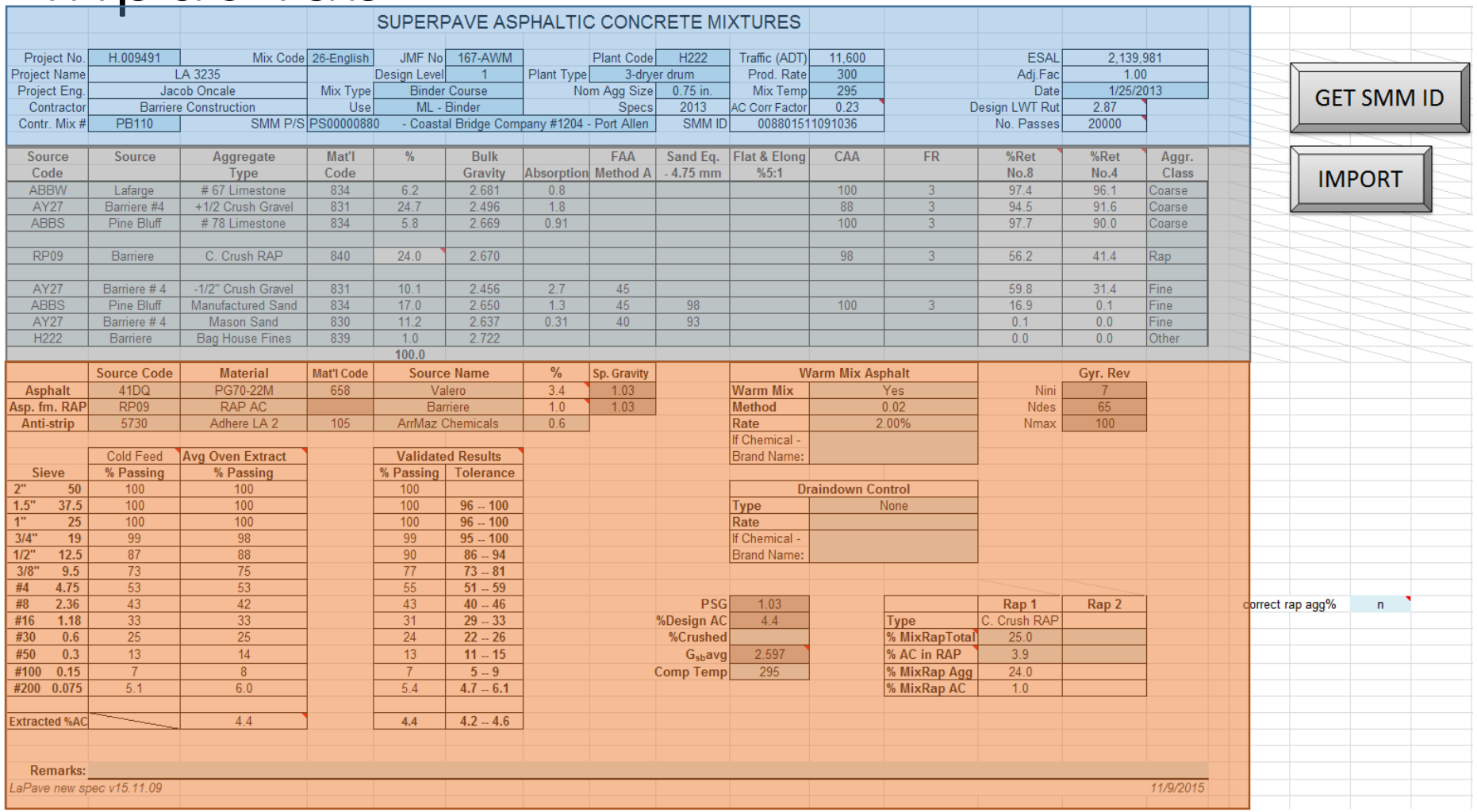
Project Tab



Basic Project information used for headers of other pages.

Buttons are have macros
[New] – blanks entries for new project
[<-] and [->] - scroll previous and next project
[Submit] – saves project information

JMF Input Tab



SUPERPAVE ASPHALTIC CONCRETE MIXTURES

Project No.	H.009491	Mix Code	26-English	JMF No	167-AWM	Plant Code	H222	Traffic (ADT)	11,600	ESAL	2,139,981
Project Name	LA 3235			Design Level	1	Plant Type	3-dryer drum	Prod. Rate	300	Adj.Fac	1.00
Project Eng.	Jacob Oncale			Mix Type	Binder Course	Nom Agg Size	0.75 in.	Mix Temp	295	Date	1/25/2013
Contractor	Barriere Construction			Use	ML - Binder	Specs	2013	AC Corr Factor	0.23	Design LWT Rut	2.87
Contr. Mix #	PB110	SMM P/S	PS00000880	- Coastal Bridge Company #1204 - Port Allen		SMM ID	008801511091036			No. Passes	20000

GET SMM ID

IMPORT

Source Code	Source	Aggregate Type	Mat'l Code	%	Bulk Gravity	Absorption	FAA Method A	Sand Eq. - 4.75 mm	Flat & Elong %5:1	CAA	FR	%Ret No.8	%Ret No.4	Aggr. Class
ABBW	Lafarge	# 67 Limestone	834	6.2	2.681	0.8				100	3	97.4	96.1	Coarse
AY27	Barriere #4	+1/2 Crush Gravel	831	24.7	2.496	1.8				88	3	94.5	91.6	Coarse
ABBS	Pine Bluff	# 78 Limestone	834	5.8	2.669	0.91				100	3	97.7	90.0	Coarse
RP09	Barriere	C. Crush RAP	840	24.0	2.670					98	3	56.2	41.4	Rap
AY27	Barriere # 4	-1/2" Crush Gravel	831	10.1	2.456	2.7	45					59.8	31.4	Fine
ABBS	Pine Bluff	Manufactured Sand	834	17.0	2.650	1.3	45	98		100	3	16.9	0.1	Fine
AY27	Barriere # 4	Mason Sand	830	11.2	2.637	0.31	40	93				0.1	0.0	Fine
H222	Barriere	Bag House Fines	839	1.0	2.722							0.0	0.0	Other
				100.0										

	Source Code	Material	Mat'l Code	Source Name	%	Sp. Gravity
Asphalt	41DQ	PG70-22M	658	Valero	3.4	1.03
Asp. fm. RAP	RP09	RAP AC		Barriere	1.0	1.03
Anti-strip	5730	Adhere LA 2	105	ArrMaz Chemicals	0.6	

Warm Mix Asphalt	
Warm Mix	Yes
Method	0.02
Rate	2.00%
If Chemical - Brand Name:	

	Gyr. Rev
Nini	7
Ndes	65
Nmax	100

Sieve		Cold Feed % Passing	Avg Oven Extract % Passing	Validated Results % Passing	Validated Results Tolerance
2"	50	100	100	100	
1.5"	37.5	100	100	100	96 -- 100
1"	25	100	100	100	96 -- 100
3/4"	19	99	98	99	95 -- 100
1/2"	12.5	87	88	90	86 -- 94
3/8"	9.5	73	75	77	73 -- 81
#4	4.75	53	53	55	51 -- 59
#8	2.36	43	42	43	40 -- 46
#16	1.18	33	33	31	29 -- 33
#30	0.6	25	25	24	22 -- 26
#50	0.3	13	14	13	11 -- 15
#100	0.15	7	8	7	5 -- 9
#200	0.075	5.1	6.0	5.4	4.7 -- 6.1
Extracted %AC			4.4	4.4	4.2 -- 4.6

Draindown Control	
Type	None
Rate	
If Chemical - Brand Name:	

PSG	1.03
%Design AC	4.4
%Crushed	
G_{sb}avg	2.597
Comp Temp	295

	Rap 1	Rap 2
Type	C. Crush RAP	
% MixRapTotal	25.0	
% AC in RAP	3.9	
% MixRap Agg	24.0	
% MixRap AC	1.0	

correct rap agg% n

Remarks:

LaPave new spec v15.11.09 11/9/2015

[Import] button will import JMF data from another LaPave file of similar type

[Get SMM ID] button will create a mix design ID to be transferred to SMM

JMF Input Tab

Project No.	H.009491	Mix Code	26-English	JMF No	167-AWM		Plant Code	H222	Traffic (ADT)	11,600
Project Name	LA 3235			Design Level	1	Plant Type	3-dryer drum		Prod. Rate	300
Project Eng.	Jacob Oncale		Mix Type	Binder Course			Nom Agg Size	0.75 in.	Mix Temp	295
Contractor	Barriere Construction		Use	ML - Binder			Specs	2013	AC Corr Factor	0.23
Contr. Mix #	PB110	SMM P/S	PS00000880	- Coastal Bridge Company #1204 - Port Allen				SMM ID	008801511091036	

JMF header info

- Mix Type, Use, and Nom Agg Size will set limits for other parts of the application
- Project No. will populate with the list of projects entered in the Project tab
- SMM P/S is populated with the list of active producer/supplier codes from SMM

- SMM ID will be entered into SMM to link LaPave to SMM
  - SMM ID
    - last 5 digits of P/S code (00880)
    - Timestamp (1511091036) = 11/09/2015 at 10:36am

JMF Input Tab

Source Code	Source	Aggregate Type	Mat'l Code	%	Bulk Gravity	Absorption	FAA Method A	Sand Eq. - 4.75 mm	Flat & Elong %5:1	CAA	FR	%Ret No.8	%Ret No.4	Aggr. Class
ABBW	Lafarge	# 67 Limestone	834	6.2	2.681	0.8				100	3	97.4	96.1	Coarse
AY27	Barriere #4	+1/2 Crush Gravel	831	24.7	2.496	1.8				88	3	94.5	91.6	Coarse
ABBS	Pine Bluff	# 78 Limestone	834	5.8	2.669	0.91				100	3	97.7	90.0	Coarse
RP09	Barriere	C. Crush RAP	840	24.0	2.670					98	3	56.2	41.4	Rap
AY27	Barriere # 4	-1/2" Crush Gravel	831	10.1	2.456	2.7	45					59.8	31.4	Fine
ABBS	Pine Bluff	Manufactured Sand	834	17.0	2.650	1.3	45	98		100	3	16.9	0.1	Fine
AY27	Barriere # 4	Mason Sand	830	11.2	2.637	0.31	40	93				0.1	0.0	Fine
H222	Barriere	Bag House Fines	839	1.0	2.722							0.0	0.0	Other
				100.0										

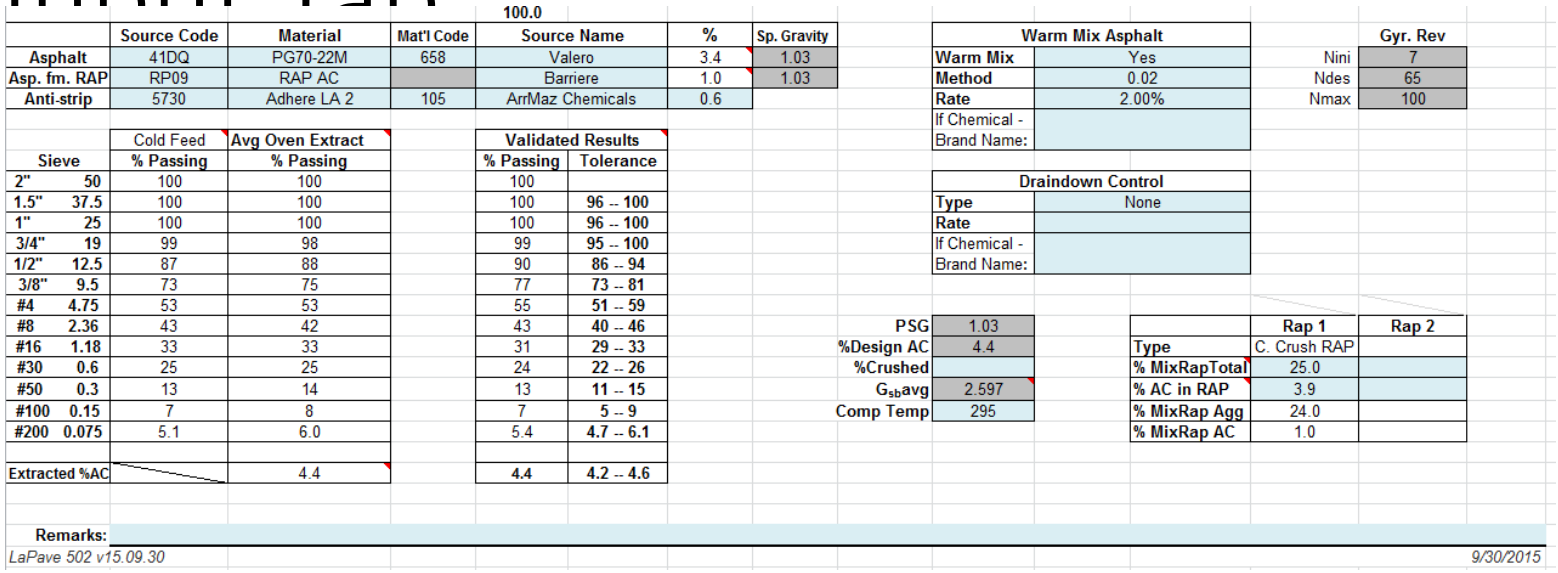
Aggregate entry

- Enter information here, be sure to select Coarse, Fine, Rap, or Other in the Class column
- Rap % will compute from the Rap section below (next slide)
- Aggregate % will be transferred to the aggregate design tab
- %Ret No.8 and No.4 are populated from the aggregate design tab
- Flags will show if entry does not meet spec for selected mix type

- Source Code will be new SMM P/S codes, this will soon be populated drop downs
- Updates will soon include flags for spec checks

			CAA check		FR III > 50%		

JMF Input Tab



100.0

	Source Code	Material	Mat'l Code	Source Name	%	Sp. Gravity
Asphalt	41DQ	PG70-22M	658	Valero	3.4	1.03
Asp. fm. RAP	RP09	RAP AC		Barriere	1.0	1.03
Anti-strip	5730	Adhere LA 2	105	ArrMaz Chemicals	0.6	

Warm Mix Asphalt	
Warm Mix	Yes
Method	0.02
Rate	2.00%
If Chemical - Brand Name:	

	Gyr. Rev
Nini	7
Ndes	65
Nmax	100

Draindown Control	
Type	None
Rate	
If Chemical - Brand Name:	

Sieve		Cold Feed % Passing	Avg Oven Extract % Passing	Validated Results % Passing	Validated Results Tolerance
2"	50	100	100	100	
1.5"	37.5	100	100	100	96 -- 100
1"	25	100	100	100	96 -- 100
3/4"	19	99	98	99	95 -- 100
1/2"	12.5	87	88	90	86 -- 94
3/8"	9.5	73	75	77	73 -- 81
#4	4.75	53	53	55	51 -- 59
#8	2.36	43	42	43	40 -- 46
#16	1.18	33	33	31	29 -- 33
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#100	0.15	7	8	7	5 -- 9
#200	0.075	5.1	6.0	5.4	4.7 -- 6.1
Extracted %AC			4.4	4.4	4.2 -- 4.6

PSG	1.03
%Design AC	4.4
%Crushed	
G_{sb}avg	2.597
Comp Temp	295

	Rap 1	Rap 2
Type	C. Crush RAP	
% MixRapTotal	25.0	
% AC in RAP	3.9	
% MixRap Agg	24.0	
% MixRap AC	1.0	

Remarks:

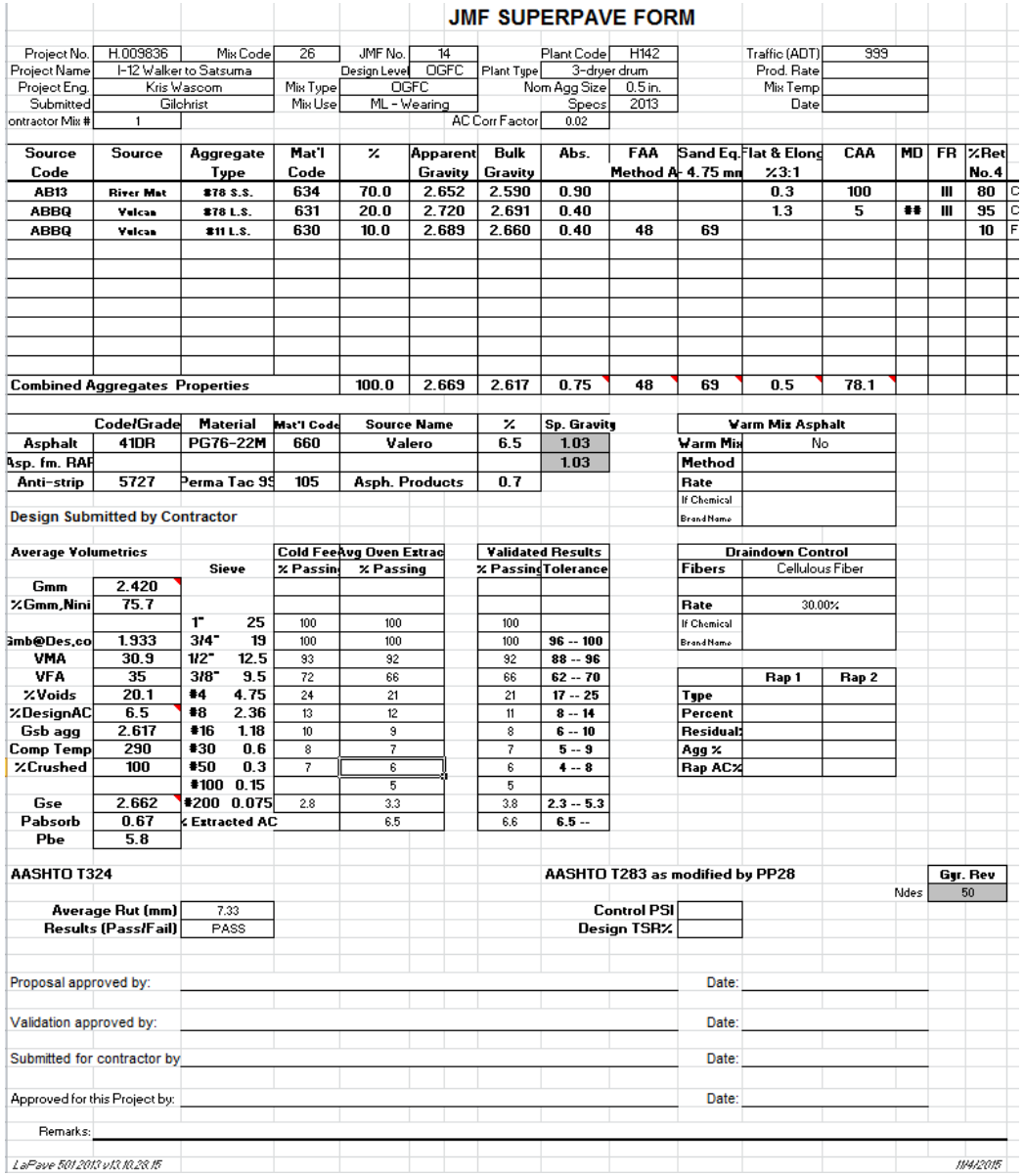
LaPave 502 v15.09.30 *9/30/2015*

Enter Asphalt Information

- Warm mix and Rap information are here also
- Gradations are populated from design and validation

JMF Check Tab

- Summary sheet to check values
- Signature lines



JMF SUPERPAVE FORM

Project No.	H.009836	Mix Code	26	JMF No.	14		Plant Code	H142		Traffic (ADT)	999				
Project Name	I-12 Walker to Satsuma			Design Level	OGFC		Plant Type	3-dryer drum		Prod. Rate					
Project Eng.	Kris Wascom			Mix Type	OGFC		Nom Agg Size	0.5 in.		Mix Temp					
Submitted	Gilchrist			Mix Use	ML - Wearing			Specs	2013	Date					
ontractor Mix #	1						AC Corr Factor		0.02						

Source Code	Source	Aggregate Type	Mat'l Code	%	Apparent Gravity	Bulk Gravity	Abs.	FAA Method A	Sand Eq. - 4.75 mm	Flat & Elong %3:1	CAA	MD	FR	%Ret No.4	
AB13	River Mat	#78 S.S.	634	70.0	2.652	2.590	0.90			0.3	100		III	80	C
ABBQ	Vulcan	#78 L.S.	631	20.0	2.720	2.691	0.40			1.3	5	##	III	95	C
ABBQ	Vulcan	#11 L.S.	630	10.0	2.689	2.660	0.40	48	69					10	F
Combined Aggregates Properties				100.0	2.669	2.617	0.75	48	69	0.5	78.1				

	Code/Grade	Material	Mat'l Code	Source Name	%	Sp. Gravity
Asphalt	41DR	PG76-22M	660	Valero	6.5	1.03
Asp. fm. RAP						1.03
Anti-strip	5727	Perma Tac 99	105	Asph. Products	0.7	

Warm Mix Asphalt	
Warm Mix	No
Method	
Rate	
If Chemical Brand Name	

Design Submitted by Contractor

Average Volumetrics		Sieve		Cold Feed % Passing	Avg Oven Extrac % Passing	Validated Results % Passing	Tolerance
Gmm	2.420						
%Gmm,Nini	75.7						
		1"	25	100	100	100	
Gmb@Des,co	1.933	3/4"	19	100	100	100	96 -- 100
VMA	30.9	1/2"	12.5	93	92	92	88 -- 96
VFA	35	3/8"	9.5	72	66	66	62 -- 70
%Voids	20.1	#4	4.75	24	21	21	17 -- 25
%DesignAC	6.5	#8	2.36	13	12	11	8 -- 14
Gsb agg	2.617	#16	1.18	10	9	8	6 -- 10
Comp Temp	290	#30	0.6	8	7	7	5 -- 9
%Crushed	100	#50	0.3	7	6	6	4 -- 8
		#100	0.15		5	5	
Gse	2.662	#200	0.075	2.8	3.3	3.8	2.3 -- 5.3
Pabsorb	0.67	% Extracted AC			6.5	6.6	6.5 --
Pbe	5.8						

Draindown Control	
Fibers	Cellulous Fiber
Rate	30.00%
If Chemical Brand Name	

	Rap 1	Rap 2
Type		
Percent		
Residual%		
Agg %		
Rap AC%		

AASHTO T324

Average Rut (mm)	7.33
Results (Pass/Fail)	PASS

AASHTO T283 as modified by PP28

Control PSI	
Design TSR%	

Gyr. Rev	
Ndes	50

Proposal approved by: _____ Date: _____

Validation approved by: _____ Date: _____

Submitted for contractor by _____ Date: _____

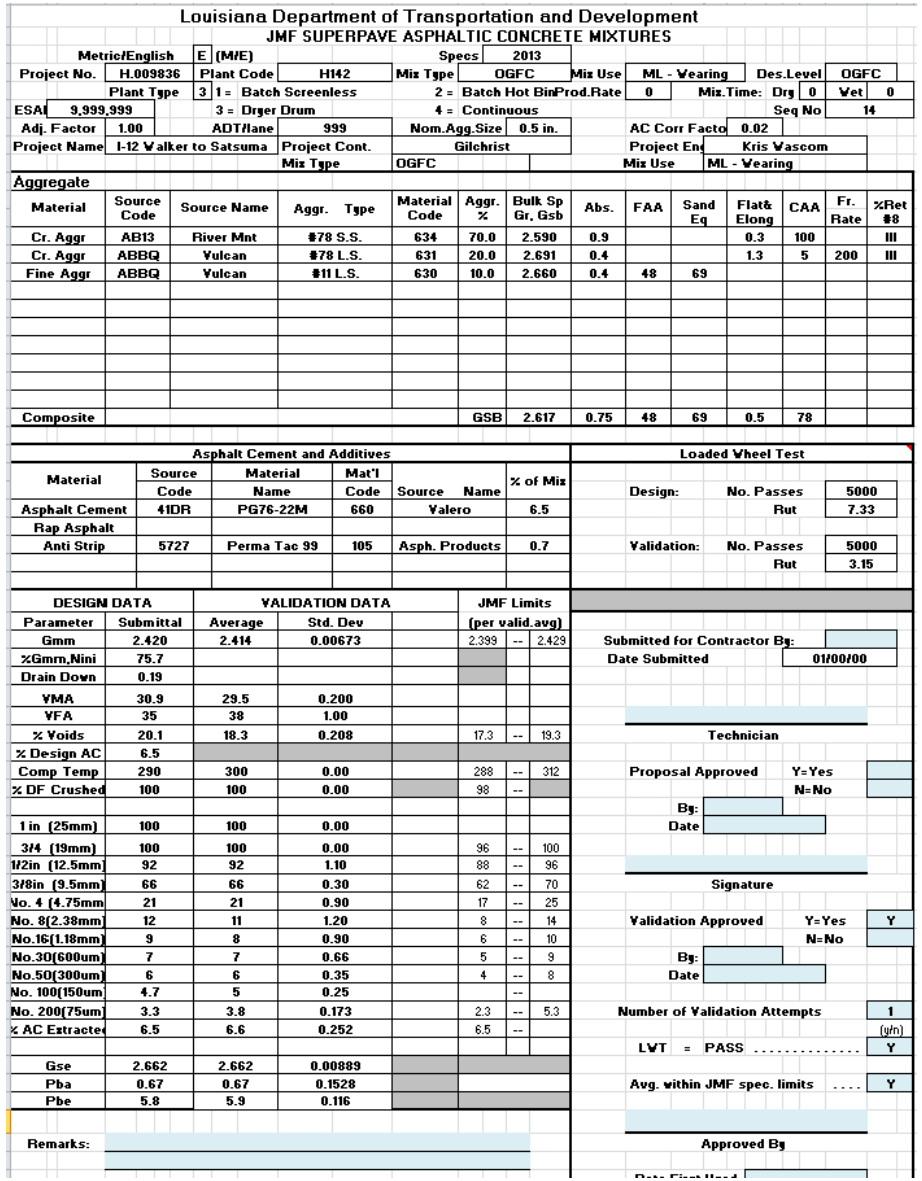
Approved for this Project by: _____ Date: _____

Remarks: _____

LaPave 5.01.2013 v13.10.28.15 11/4/2015

JMF Tab

Printable JMF page in DOTD format
Populates from design and validation tabs



Louisiana Department of Transportation and Development
JMF SUPERPAVE ASPHALTIC CONCRETE MIXTURES

Metric/English	E	(M/E)		Specs	2013								
Project No.	H.009836	Plant Code	H142	Mix Type	OGFC	Mix Use	ML - Wearing	Des.Level	OGFC				
Plant Type	3	1 = Batch Screenless		2 = Batch Hot Bin		Prod.Rate	0	Mix.Time:	Dry	0	Wet	0	
ESAL	9,999,999	3 = Dryer Drum		4 = Continuous					Seq No	14			
Adj. Factor	1.00	ADT/lane	999	Nom.Agg.Size	0.5 in.			AC Corr Facto	0.02				
Project Name	I-12 Walker to Satsuma	Project Cont.		Gilchrist				Project Eng	Kris Wascom				
		Mix Type		OGFC				Mix Use	ML - Wearing				

Aggregate

Material	Source Code	Source Name	Aggr. Type	Material Code	Aggr. %	Bulk Sp Gr. Gsb	Abs.	FAA	Sand Eq	Flat& Elong	CAA	Fr. Rate	%Ret #8
Cr. Aggr	AB13	River Mnt	#78 S.S.	634	70.0	2.590	0.9			0.3	100		III
Cr. Aggr	ABBQ	Vulcan	#78 L.S.	631	20.0	2.691	0.4			1.3	5	200	III
Fine Aggr	ABBQ	Vulcan	#11 L.S.	630	10.0	2.660	0.4	48	69				
Composite					GSB	2.617	0.75	48	69	0.5	78		

Asphalt Cement and Additives

Material	Source Code	Material Name	Mat'l Code	Source Name	% of Mix
Asphalt Cement	41DR	PG76-22M	660	Valero	6.5
Rap Asphalt					
Anti Strip	5727	Perma Tac 99	105	Asph. Products	0.7

Loaded Wheel Test

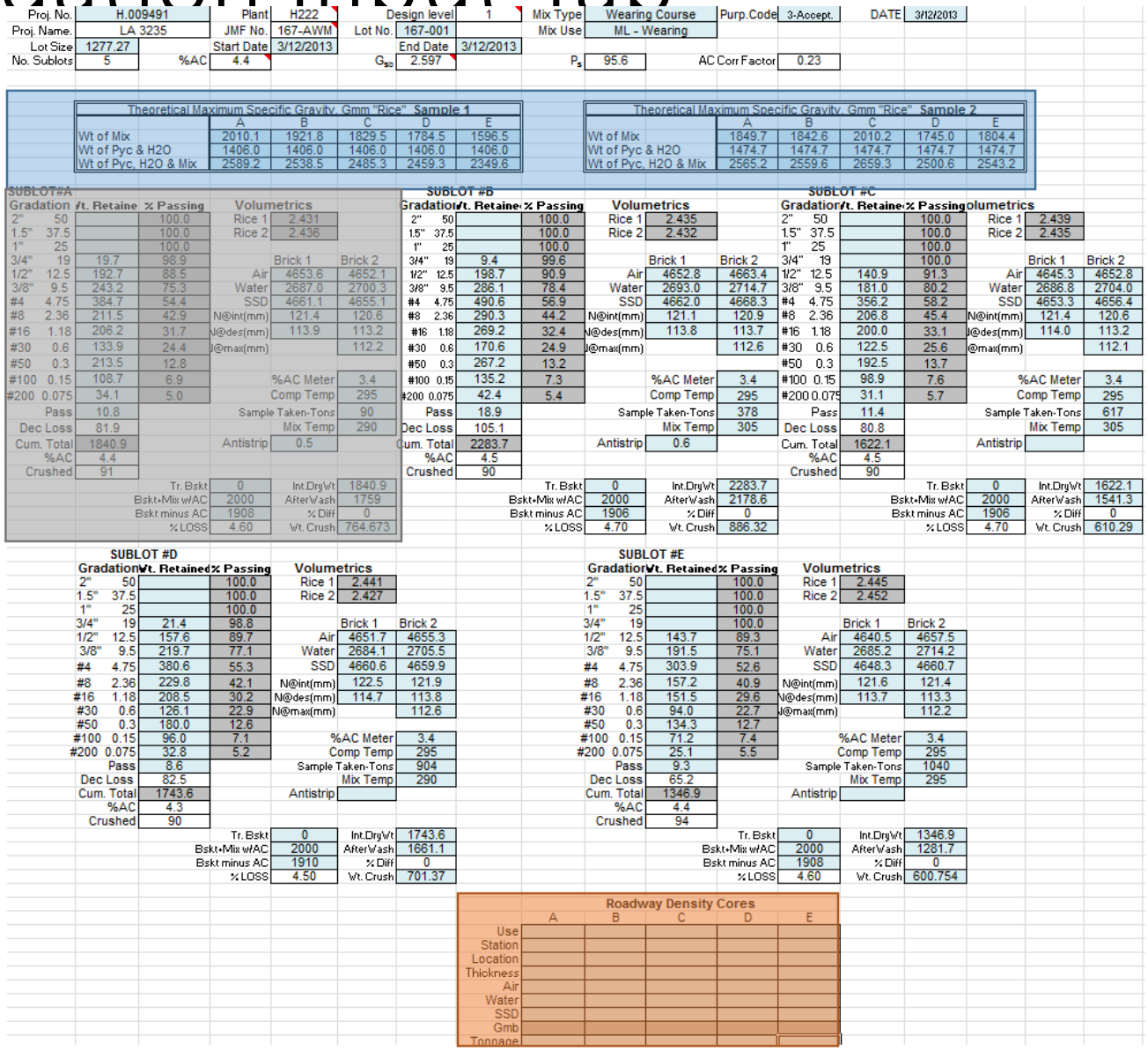
Design:	No. Passes	5000
	Rut	7.33
Validation:	No. Passes	5000
	Rut	3.15

DESIGN DATA		VALIDATION DATA			JMF Limits (per valid.avg)		
Parameter	Submittal	Average	Std. Dev				
Gmm	2.420	2.414	0.00673		2.399	--	2.429
%Gmm,Nini	75.7						
Drain Down	0.19						
VMA	30.9	29.5	0.200				
VFA	35	38	1.00				
% Voids	20.1	18.3	0.208		17.3	--	19.3
% Design AC	6.5						
Comp Temp	290	300	0.00		288	--	312
% DF Crushed	100	100	0.00		98	--	
1 in (25mm)	100	100	0.00				
3/4 (19mm)	100	100	0.00		96	--	100
1/2in (12.5mm)	92	92	1.10		88	--	96
3/8in (9.5mm)	66	66	0.30		62	--	70
No. 4 (4.75mm	21	21	0.90		17	--	25
No. 8(2.38mm)	12	11	1.20		8	--	14
No.16(1.18mm)	9	8	0.90		6	--	10
No.30(600um)	7	7	0.66		5	--	9
No.50(300um)	6	6	0.35		4	--	8
No. 100(150um	4.7	5	0.25			--	
No. 200(75um)	3.3	3.8	0.173		2.3	--	5.3
% AC Extracte	6.5	6.6	0.252		6.5	--	
Gse	2.662	2.662	0.00889				
Pba	0.67	0.67	0.1528				
Pbe	5.8	5.9	0.116				

Remarks:

Submitted for Contractor By:	
Date Submitted	01/00/00
Technician	
Proposal Approved Y=Yes	
N=No	
By:	
Date	
Signature	
Validation Approved Y=Yes	Y
N=No	
By:	
Date	
Number of Validation Attempts	1
	(y/n)
LWT = PASS	Y
Avg. within JMF spec. limits	Y
Approved By	

502 Validation Input Tab



Proj. No.	H.009491	Plant	H222	Design level	1	Mix Type	Wearing Course	Purp.Code	3-Accept.	DATE	3/12/2013
Proj. Name.	LA 3235	JMF No.	167-AWM	Lot No.	167-001	Mix Use	ML - Wearing				
Lot Size	1277.27	Start Date	3/12/2013			End Date	3/12/2013				
No. Sublots	5	%AC	4.4	G_{sb}	2.597	P_s	95.6	AC Corr Factor	0.23		

Theoretical Maximum Specific Gravity, Gmm "Rice" Sample 1

	A	B	C	D	E
Wt of Mix	2010.1	1921.8	1829.5	1784.5	1596.5
Wt of Pyc & H2O	1406.0	1406.0	1406.0	1406.0	1406.0
Wt of Pyc, H2O & Mix	2589.2	2538.5	2485.3	2459.3	2349.6

Theoretical Maximum Specific Gravity, Gmm "Rice" Sample 2

	A	B	C	D	E
Wt of Mix	1849.7	1842.6	2010.2	1745.0	1804.4
Wt of Pyc & H2O	1474.7	1474.7	1474.7	1474.7	1474.7
Wt of Pyc, H2O & Mix	2565.2	2559.6	2659.3	2500.6	2543.2

SUBLOT#A

Gradation	Wt. Retained	% Passing
2" 50		100.0
1.5" 37.5		100.0
1" 25		100.0
3/4" 19	19.7	98.9
1/2" 12.5	192.7	88.5
3/8" 9.5	243.2	75.3
#4 4.75	384.7	54.4
#8 2.36	211.5	42.9
#16 1.18	206.2	31.7
#30 0.6	133.9	24.4
#50 0.3	213.5	12.8
#100 0.15	108.7	6.9
#200 0.075	34.1	5.0
Pass	10.8	
Dec Loss	81.9	
Cum. Total	1840.9	
%AC	4.4	
Crushed	91	

Volumetrics			
Rice 1	2.431		
Rice 2	2.436		
		Brick 1	Brick 2
Air		4653.6	4652.1
Water		2687.0	2700.3
SSD		4661.1	4655.1
N@int(mm)		121.4	120.6
N@des(mm)		113.9	113.2
N@max(mm)			112.2
%AC Meter		3.4	
Comp Temp		295	
Sample Taken-Tons		90	
Mix Temp		290	
Antistrip		0.5	

Tr. Bskt	0	Int.DryWt	1840.9
Bskt+Mix w/AC	2000	AfterWash	1759
Bskt minus AC	1908	% Diff	0
% LOSS	4.60	Wt. Crush	764.673

SUBLOT #B

Gradation	Wt. Retained	% Passing
2" 50		100.0
1.5" 37.5		100.0
1" 25		100.0
3/4" 19	9.4	99.6
1/2" 12.5	198.7	90.9
3/8" 9.5	286.1	78.4
#4 4.75	490.6	56.9
#8 2.36	290.3	44.2
#16 1.18	269.2	32.4
#30 0.6	170.6	24.9
#50 0.3	267.2	13.2
#100 0.15	135.2	7.3
#200 0.075	42.4	5.4
Pass	18.9	
Dec Loss	105.1	
Cum. Total	2283.7	
%AC	4.5	
Crushed	90	

Volumetrics			
Rice 1	2.435		
Rice 2	2.432		
		Brick 1	Brick 2
Air		4652.8	4663.4
Water		2693.0	2714.7
SSD		4662.0	4668.3
N@int(mm)		121.1	120.9
N@des(mm)		113.8	113.7
N@max(mm)			112.6
%AC Meter		3.4	
Comp Temp		295	
Sample Taken-Tons		378	
Mix Temp		305	
Antistrip		0.6	

Tr. Bskt	0	Int.DryWt	2283.7
Bskt+Mix w/AC	2000	AfterWash	2178.6
Bskt minus AC	1906	% Diff	0
% LOSS	4.70	Wt. Crush	886.32

SUBLOT #C

Gradation	Wt. Retained	% Passing
2" 50		100.0
1.5" 37.5		100.0
1" 25		100.0
3/4" 19		100.0
1/2" 12.5	140.9	91.3
3/8" 9.5	181.0	80.2
#4 4.75	356.2	58.2
#8 2.36	206.8	45.4
#16 1.18	200.0	33.1
#30 0.6	122.5	25.6
#50 0.3	192.5	13.7
#100 0.15	98.9	7.6
#200 0.075	31.1	5.7
Pass	11.4	
Dec Loss	80.8	
Cum. Total	1622.1	
%AC	4.5	
Crushed	90	

Volumetrics			
Rice 1	2.439		
Rice 2	2.435		
		Brick 1	Brick 2
Air		4645.3	4652.8
Water		2686.8	2704.0
SSD		4653.3	4656.4
N@int(mm)		121.4	120.6
N@des(mm)		114.0	113.2
N@max(mm)			112.1
%AC Meter			3.4
Comp Temp			295
Sample Taken-Tons			617
Mix Temp			305
Antistrip			

Tr. Bskt	0	Int.DryWt	1622.1
Bskt+Mix w/AC	2000	AfterWash	1541.3
Bskt minus AC	1906	% Diff	0
% LOSS	4.70	Wt. Crush	610.29

SUBLOT #D

Gradation	Wt. Retained	% Passing
2" 50		100.0
1.5" 37.5		100.0
1" 25		100.0
3/4" 19	21.4	98.8
1/2" 12.5	157.6	89.7
3/8" 9.5	219.7	77.1
#4 4.75	380.6	55.3
#8 2.36	229.8	42.1
#16 1.18	208.5	30.2
#30 0.6	126.1	22.9
#50 0.3	180.0	12.6
#100 0.15	96.0	7.1
#200 0.075	32.8	5.2
Pass	8.6	
Dec Loss	82.5	
Cum. Total	1743.6	
%AC	4.3	
Crushed	90	

Volumetrics			
Rice 1	2.441		
Rice 2	2.427		
		Brick 1	Brick 2
Air		4651.7	4655.3
Water		2684.1	2705.5
SSD		4660.6	4659.9
N@int(mm)		122.5	121.9
N@des(mm)		114.7	113.8
N@max(mm)			112.6
%AC Meter			3.4
Comp Temp			295
Sample Taken-Tons			904
Mix Temp			290
Antistrip			

Tr. Bskt	0	Int.DryWt	1743.6
Bskt+Mix w/AC	2000	AfterWash	1661.1
Bskt minus AC	1910	% Diff	0
% LOSS	4.50	Wt. Crush	701.37

SUBLOT #E

Gradation	Wt. Retained	% Passing
2" 50		100.0
1.5" 37.5		100.0
1" 25		100.0
3/4" 19		100.0
1/2" 12.5	143.7	89.3
3/8" 9.5	191.5	75.1
#4 4.75	303.9	52.6
#8 2.36	157.2	40.9
#16 1.18	151.5	29.6
#30 0.6	94.0	22.7
#50 0.3	134.3	12.7
#100 0.15	71.2	7.4
#200 0.075	25.1	5.5
Pass	9.3	
Dec Loss	65.2	
Cum. Total	1346.9	
%AC	4.4	
Crushed	94	

Volumetrics			
Rice 1	2.445		
Rice 2	2.452		
		Brick 1	Brick 2
Air		4640.5	4657.5
Water		2685.2	2714.2
SSD		4648.3	4660.7
N@int(mm)		121.6	121.4
N@des(mm)		113.7	113.3
N@max(mm)			112.2
%AC Meter			3.4
Comp Temp			295
Sample Taken-Tons			1040
Mix Temp			295
Antistrip			

Tr. Bskt	0	Int.DryWt	1346.9
Bskt+Mix w/AC	2000	AfterWash	1281.7
Bskt minus AC	1908	% Diff	0
% LOSS	4.60	Wt. Crush	600.754

Roadway Density Cores

	A	B	C	D	E
Use					
Station					
Location					
Thickness					
Air					
Water					
SSD					
Gmb					
Tonnage					

502 Validation Input Tab

Theoretical Maximum Specific Gravity, Gmm "Rice" **Sample 1**					
	A	B	C	D	E
Wt of Mix	2010.1	1921.8	1829.5	1784.5	1596.5
Wt of Pyc & H2O	1406.0	1406.0	1406.0	1406.0	1406.0
Wt of Pyc, H2O & Mix	2589.2	2538.5	2485.3	2459.3	2349.6

Theoretical Maximum Specific Gravity, Gmm "Rice" **Sample 2**					
	A	B	C	D	E
Wt of Mix	1849.7	1842.6	2010.2	1745.0	1804.4
Wt of Pyc & H2O	1474.7	1474.7	1474.7	1474.7	1474.7
Wt of Pyc, H2O & Mix	2565.2	2559.6	2659.3	2500.6	2543.2

- Gmm for each Sublot of Validation (A-E)
- Two Samples

502 Validation Input Tab

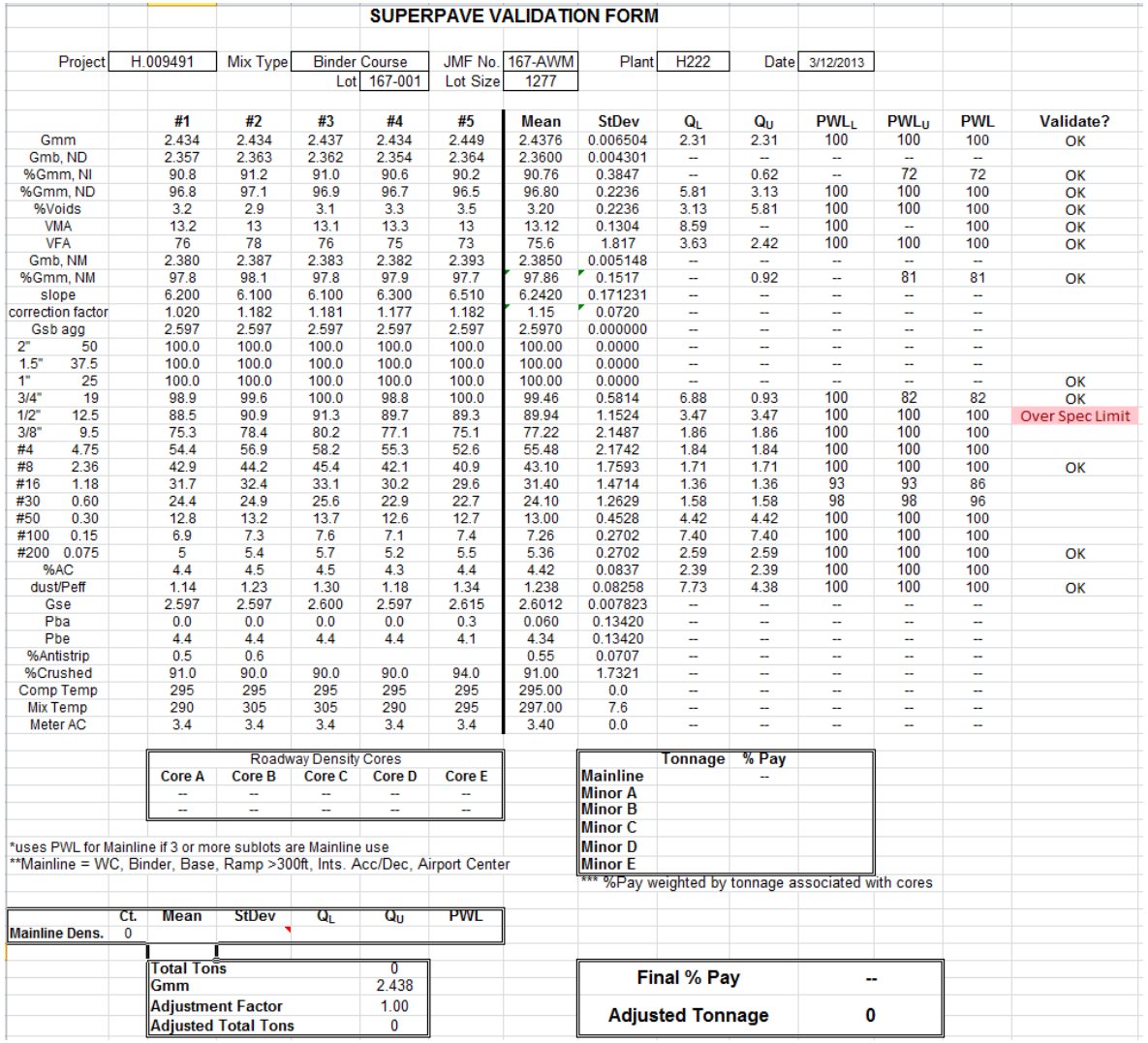
- P-lot inputs for each sublot in validation

SUBLOT#A							
Gradation		Wt. Retaine	% Passing		Volumetrics		
2"	50		100.0		Rice 1	2.431	
1.5"	37.5		100.0		Rice 2	2.436	
1"	25		100.0				
3/4"	19	19.7	98.9			Brick 1	Brick 2
1/2"	12.5	192.7	88.5		Air	4653.6	4652.1
3/8"	9.5	243.2	75.3		Water	2687.0	2700.3
#4	4.75	384.7	54.4		SSD	4661.1	4655.1
#8	2.36	211.5	42.9		N@int(mm)	121.4	120.6
#16	1.18	206.2	31.7		N@des(mm)	113.9	113.2
#30	0.6	133.9	24.4		J@max(mm)		112.2
#50	0.3	213.5	12.8				
#100	0.15	108.7	6.9			%AC Meter	3.4
#200	0.075	34.1	5.0			Comp Temp	295
	Pass	10.8				Sample Taken-Tons	90
	Dec Loss	81.9				Mix Temp	290
	Cum. Total	1840.9			Antistrip	0.5	
	%AC	4.4					
	Crushed	91					
				Tr. Bskt	0	Int.DryWt	1840.9
				Bskt+Mix wAC	2000	AfterWash	1759
				Bskt minus AC	1908	% Diff	0
				% LOSS	4.60	Wt. Crush	764.673

502 Validation Tab

Summary for validation inputs

- Runs statistics for validation
- Flags if parameters are not meeting spec of selected mix type in JMF
- 502 will show PWL and %pay if cores are entered



SUPERPAVE VALIDATION FORM

Project	H.009491	Mix Type	Binder Course	JMF No.	167-AWM	Plant	H222	Date	3/12/2013
			Lot 167-001	Lot Size	1277				

	#1	#2	#3	#4	#5	Mean	StDev	Q_L	Q_U	PWL_L	PWL_U	PWL	Validate?
Gmm	2.434	2.434	2.437	2.434	2.449	2.4376	0.006504	2.31	2.31	100	100	100	OK
Gmb, ND	2.357	2.363	2.362	2.354	2.364	2.3600	0.004301	--	--	--	--	--	
%Gmm, NI	90.8	91.2	91.0	90.6	90.2	90.76	0.3847	--	0.62	--	72	72	OK
%Gmm, ND	96.8	97.1	96.9	96.7	96.5	96.80	0.2236	5.81	3.13	100	100	100	OK
%Voids	3.2	2.9	3.1	3.3	3.5	3.20	0.2236	3.13	5.81	100	100	100	OK
VMA	13.2	13	13.1	13.3	13	13.12	0.1304	8.59	--	100	--	100	OK
VFA	76	78	76	75	73	75.6	1.817	3.63	2.42	100	100	100	OK
Gmb, NM	2.380	2.387	2.383	2.382	2.393	2.3850	0.005148	--	--	--	--	--	
%Gmm, NM	97.8	98.1	97.8	97.9	97.7	97.86	0.1517	--	0.92	--	81	81	OK
slope	6.200	6.100	6.100	6.300	6.510	6.2420	0.171231	--	--	--	--	--	
correction factor	1.020	1.182	1.181	1.177	1.182	1.15	0.0720	--	--	--	--	--	
Gsb agg	2.597	2.597	2.597	2.597	2.597	2.5970	0.000000	--	--	--	--	--	
2" 50	100.0	100.0	100.0	100.0	100.0	100.00	0.0000	--	--	--	--	--	
1.5" 37.5	100.0	100.0	100.0	100.0	100.0	100.00	0.0000	--	--	--	--	--	
1" 25	100.0	100.0	100.0	100.0	100.0	100.00	0.0000	--	--	--	--	--	OK
3/4" 19	98.9	99.6	100.0	98.8	100.0	99.46	0.5814	6.88	0.93	100	82	82	OK
1/2" 12.5	88.5	90.9	91.3	89.7	89.3	89.94	1.1524	3.47	3.47	100	100	100	Over Spec Limit
3/8" 9.5	75.3	78.4	80.2	77.1	75.1	77.22	2.1487	1.86	1.86	100	100	100	
#4 4.75	54.4	56.9	58.2	55.3	52.6	55.48	2.1742	1.84	1.84	100	100	100	
#8 2.36	42.9	44.2	45.4	42.1	40.9	43.10	1.7593	1.71	1.71	100	100	100	OK
#16 1.18	31.7	32.4	33.1	30.2	29.6	31.40	1.4714	1.36	1.36	93	93	86	
#30 0.60	24.4	24.9	25.6	22.9	22.7	24.10	1.2629	1.58	1.58	98	98	96	
#50 0.30	12.8	13.2	13.7	12.6	12.7	13.00	0.4528	4.42	4.42	100	100	100	
#100 0.15	6.9	7.3	7.6	7.1	7.4	7.26	0.2702	7.40	7.40	100	100	100	
#200 0.075	5	5.4	5.7	5.2	5.5	5.36	0.2702	2.59	2.59	100	100	100	OK
%AC	4.4	4.5	4.5	4.3	4.4	4.42	0.0837	2.39	2.39	100	100	100	
dust/Peff	1.14	1.23	1.30	1.18	1.34	1.238	0.08258	7.73	4.38	100	100	100	OK
Gse	2.597	2.597	2.600	2.597	2.615	2.6012	0.007823	--	--	--	--	--	
Pba	0.0	0.0	0.0	0.0	0.3	0.060	0.13420	--	--	--	--	--	
Pbe	4.4	4.4	4.4	4.4	4.1	4.34	0.13420	--	--	--	--	--	
%Antistrip	0.5	0.6				0.55	0.0707	--	--	--	--	--	
%Crushed	91.0	90.0	90.0	90.0	94.0	91.00	1.7321	--	--	--	--	--	
Comp Temp	295	295	295	295	295	295.00	0.0	--	--	--	--	--	
Mix Temp	290	305	305	290	295	297.00	7.6	--	--	--	--	--	
Meter AC	3.4	3.4	3.4	3.4	3.4	3.40	0.0	--	--	--	--	--	

Roadway Density Cores				
Core A	Core B	Core C	Core D	Core E
--	--	--	--	--
--	--	--	--	--

	Tonnage	% Pay
Mainline		--
Minor A		
Minor B		
Minor C		
Minor D		
Minor E		

*uses PWL for Mainline if 3 or more sublots are Mainline use
**Mainline = WC, Binder, Base, Ramp >300ft, Ints. Acc/Dec, Airport Center

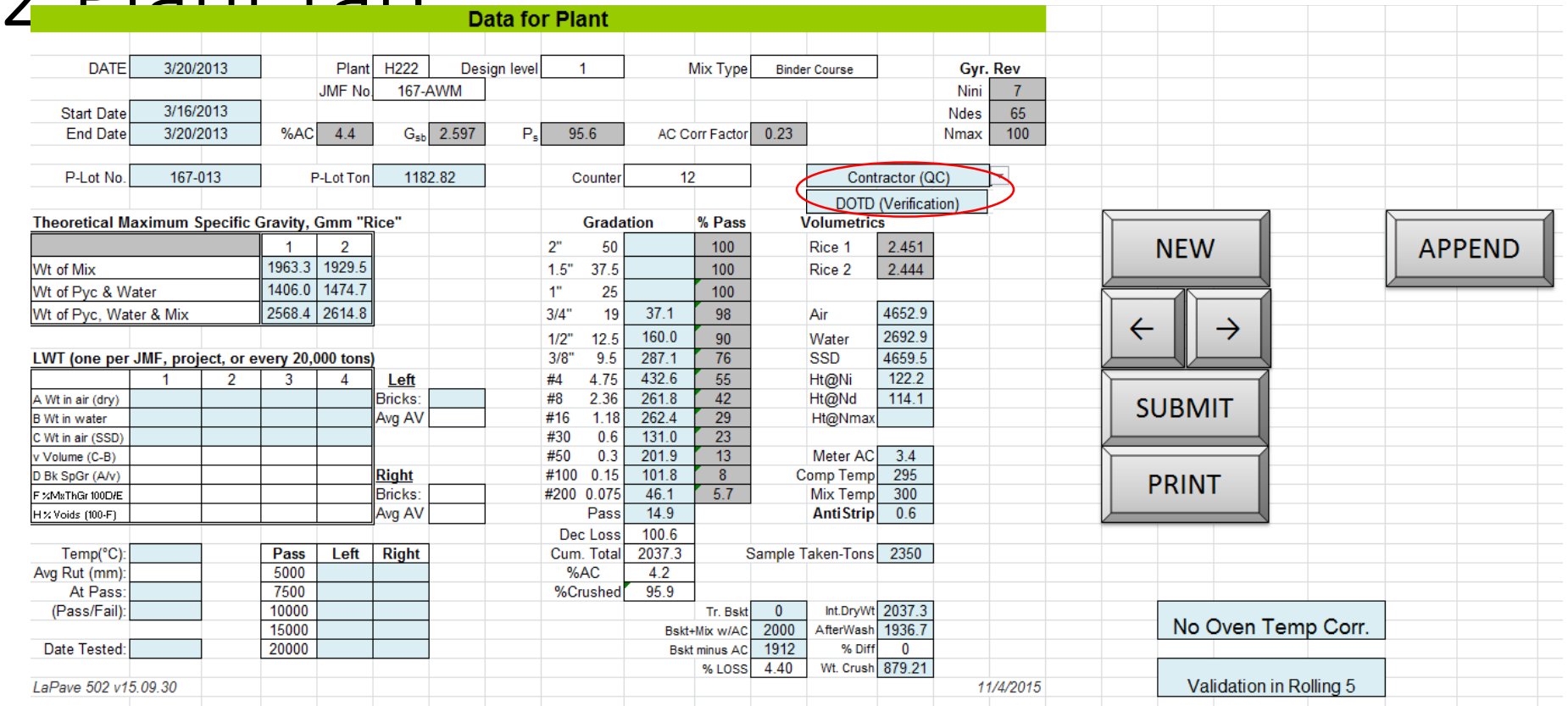
*** %Pay weighted by tonnage associated with cores

	Ct.	Mean	StDev	Q_L	Q_U	PWL
Mainline Dens.	0					

Total Tons	0
Gmm	2.438
Adjustment Factor	1.00
Adjusted Total Tons	0

Final % Pay	--
Adjusted Tonnage	0

502 Plant tab



Input for P-Lot

- Separates contractor and verification data, using same template
- Can update and resubmit data

[New] – blanks entries for new sublot
[<-] and [->] - scroll previous and next
[Submit] – saves sublot
[Append] – imports lot/sublot data from another Lapave file

502 Plant tab

Rolling 5 P-lots
- Independent of project
- Shows statistics and PWL for last 5
- Key parameters will check against spec for selected mix type
- Additional parameters for information only

Notice that this will start at the active p-lot selected and show the four previous p-lots

Rolling 5 for Plant

Rolling 5	Active					JMF	MEAN	StDev	QL	QU	PWL	
P-Lot No.	167-013	167-012	167-011	167-010	167-009							
P-Lot Ton	1182.82	992.68	1019.6	1008.7	994.74							
Gmm	2.448	2.446	2.444	2.441	2.442	2.4376	2.4442	0.002864	5.24	5.24	100	OK
Gmb,ND	2.366	2.359	2.365	2.363	2.366	2.36	2.3638	0.002950	8.14	8.14	100	
%Gmm,NI	90.2	89.7	90.3	90.7	90.9	90.76	90.36	0.4669	--	1.37	94	OK
%Gmm,ND	96.7	96.4	96.8	96.8	96.9	96.80	96.72	0.1924	6.34	4.05	100	
VFA	74	73	75	75	76	75.6	74.6	1.140	4.91	4.74	100	OK
VMA	12.9	13.2	12.9	13.0	12.9	13.12	12.98	0.1304	7.52	--	100	OK
%Voids	3.3	3.6	3.2	3.2	3.1	3.20	3.28	0.1924	4.05	6.34	100	OK
Extracted AC	4.2	4.2	4.4	4.6	4.7	4.40	4.42	0.2280	0.88	0.88	60	OK
Comp Temp	295	295	295	295	295	295	295.0	0.0	--	--	--	
Gradation						**JMF**	**MEAN**	**StDev**	**QL**	**QU**	**PWL**	
2" 50	100.0	100.0	100.0	100.0	100.0	100.00	100.00	0.0000	--	--	--	
1.5" 37.5	100.0	100.0	100.0	100.0	100.0	100.00	100.00	0.0000	--	--	--	
1" 25	100.0	100.0	100.0	100.0	100.0	100.00	100.00	0.0000	--	--	--	OK
3/4" 19	98.2	99.4	98.5	100.0	98.8	99.46	98.98	0.7225	5.54	1.41	95	OK
1/2" 12.5	90.3	89.1	88.4	88.7	88.4	89.94	88.98	0.7918	5.05	5.05	100	OK
3/8" 9.5	76.2	77.3	76.8	76.1	75.5	77.22	76.38	0.6907	5.79	5.79	100	
#4 4.75	55.0	54.1	57.0	55.2	55.2	55.48	55.30	1.0536	3.80	3.80	100	
#8 2.36	42.1	40.4	43.5	42.1	42.8	43.10	42.18	1.1520	2.60	2.60	100	OK
#16 1.18	29.3	28.6	30.6	30.3	30.5	31.40	29.86	0.87	2.29	2.29	100	
#30 0.6	22.8	21.6	23.3	22.8	23.2	24.10	22.74	0.6768	2.96	2.96	100	
#50 0.3	12.9	13.1	13.9	12.6	12.8	13.00	13.06	0.5030	3.98	3.98	100	
#100 0.15	7.9	8.1	8.6	6.9	7.1	7.26	7.72	0.7085	2.82	2.82	100	
#200 0.075	5.7	5.8	6.0	5.0	5.1	5.36	5.52	0.4438	1.58	1.58	96	OK
Other Factors (Informational Tools Only)						**JMF**	**MEAN**	**StDev**	**QL**	**QU**	**PWL**	
GmbEst,ND	2.308	2.292	2.324	2.309	2.314	--	2.3094	0.011610	--	--	--	
GmbEst,Nmax						2.385			--	--	--	
%Gmm,Nmax						97.86			--	--	--	
Design AC	4.4	4.4	4.4	4.4	4.4	--	4.40	0.0000	--	--	--	
%Antistrip	0.6	0.6	0.6	0.6	0.6	0.55	0.60	0.0000	--	--	--	
Meter AC	3.4	3.4	3.4	3.4	3.4	--	3.40	0.0000	--	--	--	
%Crushed	95.9	96.7	96.0	97.0	96.8	91.00	96.48	0.4970	--	--	--	
Mix Temp	300	290	300	305	310	295	301.0	7.4	--	--	--	
Gse	2.614	2.611	2.609	2.605	2.606	2.601	2.609	0.003674	--	--	--	
Pba	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.084	--	--	--	
Pbe	4.1	4.2	4.2	4.3	4.3	4.3	4.2	0.084	--	--	--	
dust/Peff	1.39	1.38	1.43	1.16	1.19	1.24	1.31	0.1251	--	--	--	
slope	6.72	6.92	6.72	6.30	6.20		6.57	0.307	--	--	--	
corrctn factor	1.0251	1.0292	1.0176	1.0234	1.0225	1.009	1.0236	0.00421	--	--	--	

502 P-Lot compare sample

Statistical Comparisons for Production -- Plant

JMF No.	167-AWM	Plant	H222	Mix Type	Binder Course

Plant Verification Check DOTD Verification P-lot: 167-013

Verification		Plant QC		Abs Difference	Allowable Tolerance
Counter	3	Counter	12		
P-lot	167-013	P-lot	167-013		
Gmm	2.448	Gmm	2.448	0.000	0.015
Gmb	2.366	Gmb	2.366	0.000	0.024
% Voids	3.3	% Voids	3.3	0.0	1.3
VMA	12.9	VMA	12.9	0.0	0.5
% AC	5.25	% AC	4.4	0.9	0.4
No. 4	55	No. 4	55	0.0	6.0
No. 8	42.1	No. 8	42.1	0.0	5.0
No. 200	5.7	No. 200	5.7	0.0	1.2
LWT		LWT			

Statistical comparisons of contractor and verification plant data

- Top part - select P-Lot that had sample taken for both to compare directly

502 Plant Statistics check

Statistical comparisons of contractor and verification plant data

- Bottom part – select P-lot to start for both contractor and verification data
- Analysis shows F and T tests for up to rolling 30 plant QC and rolling 10 verification

Plant F & T tests

Plant QC start: 167-013 DOTD Verification start: 167-013

	Equal
Gmm	Yes
GmbND	Yes
% Void	Yes
VMA	Yes
VFA	Yes
%AC	No
No. 4	Yes
No. 8	Yes
No. 200	Yes

Rolling 30 Plant QC

P-Lot	Gmm	GmbND	%Void	VMA	VFA	%AC	No. 4	No. 8	No. 200
167-013	2.448	2.366	3.3	12.9	74	4.4	55	42.1	5.7
167-012	2.446	2.359	3.6	13.2	73	4.2	54.1	40.4	5.8
167-011	2.444	2.365	3.2	12.9	75	4.4	57	43.5	6
167-010	2.441	2.363	3.2	13	75	4.6	55.2	42.1	5
167-009	2.442	2.366	3.1	12.9	76	4.7	55.2	42.8	5.1
167-008	2.444	2.366	3.2	12.9	75	4.8	60.5	46	5.9
167-007	2.455	2.366	3.6	12.9	72	4.3	55.9	43.9	5.5
167-006	2.447	2.360	3.6	13.1	73	4.3	53.4	41.2	5.5
167-005	2.445	2.364	3.3	13	75	4.5	55.5	42.9	5.4
167-004	2.442	2.356	3.5	13	73	4.6	53.9	41.4	5.2
167-003	2.450	2.364	3.5	12.7	72	4.3	50.5	39.3	5
167-02	2.440	2.359	3.3	12.9	74	4.4	51.8	39.7	5.2
Val E	2.449	2.364	3.5	13	73	**4.4**	**52.6**	40.9	5.5
Val D	2.434	2.354	3.3	13.3	75	4.3	55.3	42.1	5.2
Val C	2.437	2.362	3.1	13.1	76	4.5	58.2	45.4	5.7
Val B	2.434	2.363	2.9	13	78	4.5	56.9	44.2	5.4
Val A	2.434	2.357	3.2	13.2	76	4.4	54.4	42.9	5

Rolling 30 DOTD Verification

P-Lot	Gmm	GmbND	%Void	VMA	VFA	%AC	No. 4	No. 8	No. 200
167-013	2.448	2.366	3.3	12.9	74	5.25	55	42.1	5.7
167-009	2.45	2.364	3.5	13	73	5.5	50.4	39.1	5.3
167-02	2.44	2.359	3.3	13.2	75	5.5	51.8	39.7	5.2

Gmm	d1 Verification	d2 Acceptance
Average	2.446	2.443
St Dev	0.0053	0.0060
Variance	0.0000	0.0000
df	2	16
F	0.7738	
F Critical	3.630	
Variance?	Equal	
P(T<=t)	0.4394	
Equal Datasets?	Yes	

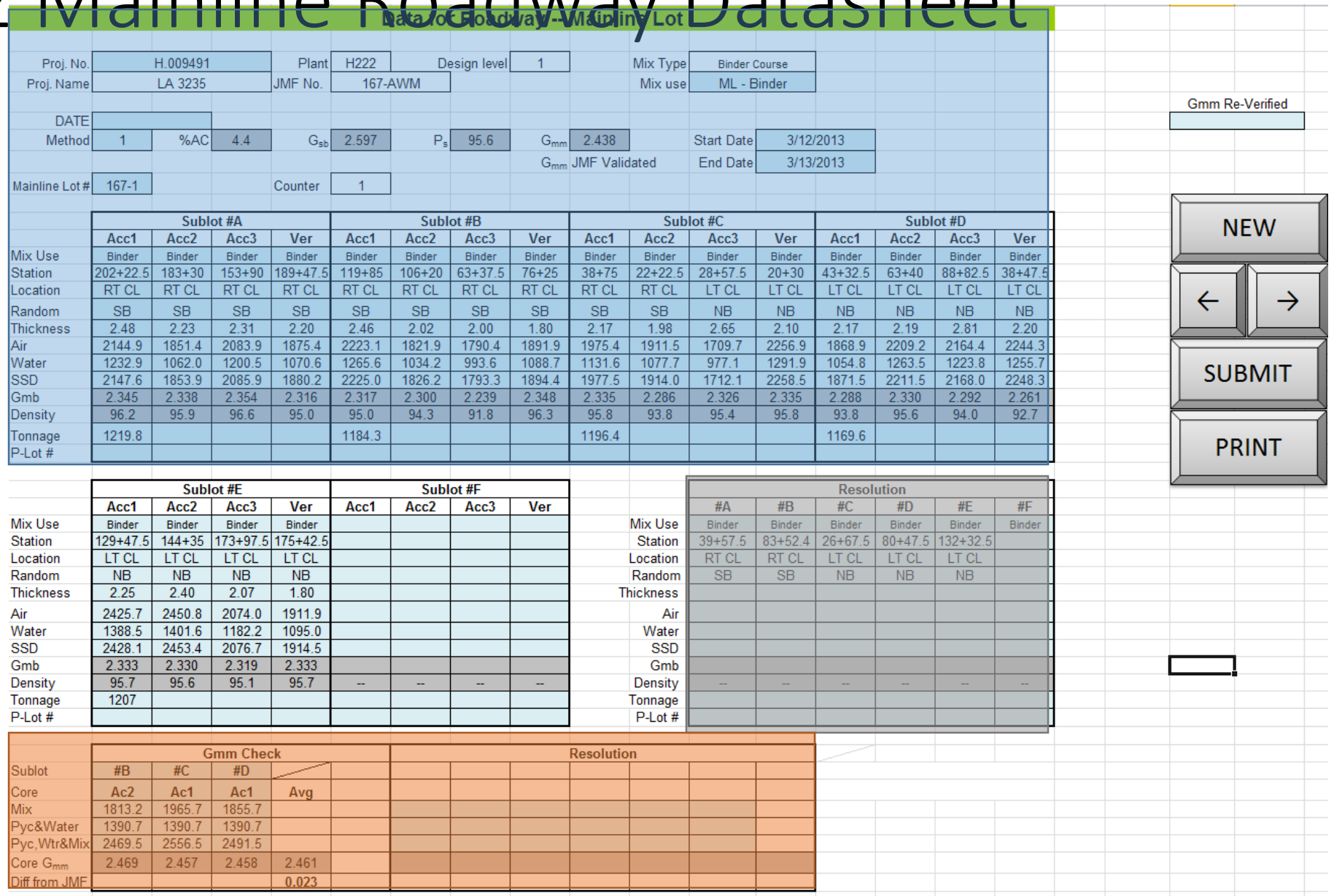
GmbND	d1 Verification	d2 Acceptance
Average	2.363	2.362
St Dev	0.0036	0.0038
Variance	0.0000	0.0000
df	2	16
F	0.8889	
F Critical	3.630	
Variance?	Equal	
P(T<=t)	0.6793	
Equal Datasets?	Yes	

%Void	d1 Verification	d2 Acceptance
Average	3.367	3.318
St Dev	0.1155	0.2038
Variance	0.0133	0.0415
df	2	16
F	0.3209	
F Critical	3.630	
Variance?	Equal	
P(T<=t)	0.6943	
Equal Datasets?	Yes	

VMA	d1 Verification	d2 Acceptance
Average	13.033	13.000
St Dev	0.1528	0.1458
Variance	0.0233	0.0213
df	2	16
F	1.0980	
F Critical	3.630	
Variance?	Equal	
P(T<=t)	0.7207	
Equal Datasets?	Yes	

VFA	d1 Verification	d2 Acceptance
Average	74.000	74.412
St Dev	1.0000	1.6225

502 Mainline Roadway Datasheet



Data for Roadway - Mainline Lot

Proj. No.	H.009491		Plant	H222	Design level	1		Mix Type	Binder Course		
Proj. Name	LA 3235		JMF No.	167-AWM				Mix use	ML - Binder		
DATE											
Method	1	%AC	4.4	G_{sb}	2.597	P_s	95.6	G_{mm}	2.438	Start Date	3/12/2013
								G_{mm} JMF Validated		End Date	3/13/2013
Mainline Lot #	167-1			Counter	1						

	Sublot #A				Sublot #B				Sublot #C				Sublot #D			
	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver
Mix Use	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder
Station	202+22.5	183+30	153+90	189+47.5	119+85	106+20	63+37.5	76+25	38+75	22+22.5	28+57.5	20+30	43+32.5	63+40	88+82.5	38+47.5
Location	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	LT CL	LT CL	LT CL	LT CL	LT CL	LT CL
Random	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	NB	NB	NB	NB	NB	NB
Thickness	2.48	2.23	2.31	2.20	2.46	2.02	2.00	1.80	2.17	1.98	2.65	2.10	2.17	2.19	2.81	2.20
Air	2144.9	1851.4	2083.9	1875.4	2223.1	1821.9	1790.4	1891.9	1975.4	1911.5	1709.7	2256.9	1868.9	2209.2	2164.4	2244.3
Water	1232.9	1062.0	1200.5	1070.6	1265.6	1034.2	993.6	1088.7	1131.6	1077.7	977.1	1291.9	1054.8	1263.5	1223.8	1255.7
SSD	2147.6	1853.9	2085.9	1880.2	2225.0	1826.2	1793.3	1894.4	1977.5	1914.0	1712.1	2258.5	1871.5	2211.5	2168.0	2248.3
Gmb	2.345	2.338	2.354	2.316	2.317	2.300	2.239	2.348	2.335	2.286	2.326	2.335	2.288	2.330	2.292	2.261
Density	96.2	95.9	96.6	95.0	95.0	94.3	91.8	96.3	95.8	93.8	95.4	95.8	93.8	95.6	94.0	92.7
Tonnage	1219.8				1184.3				1196.4				1169.6			
P-Lot #																

	Sublot #E				Sublot #F			
	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver
Mix Use	Binder	Binder	Binder	Binder				
Station	129+47.5	144+35	173+97.5	175+42.5				
Location	LT CL	LT CL	LT CL	LT CL				
Random	NB	NB	NB	NB				
Thickness	2.25	2.40	2.07	1.80				
Air	2425.7	2450.8	2074.0	1911.9				
Water	1388.5	1401.6	1182.2	1095.0				
SSD	2428.1	2453.4	2076.7	1914.5				
Gmb	2.333	2.330	2.319	2.333				
Density	95.7	95.6	95.1	95.7	--	--	--	--
Tonnage	1207							
P-Lot #								

Resolution						
	#A	#B	#C	#D	#E	#F
Mix Use	Binder	Binder	Binder	Binder	Binder	Binder
Station	39+57.5	83+52.4	26+67.5	80+47.5	132+32.5	
Location	RT CL	RT CL	LT CL	LT CL	LT CL	
Random	SB	SB	NB	NB	NB	
Thickness						
Air						
Water						
SSD						
Gmb						
Density	--	--	--	--	--	--
Tonnage						
P-Lot #						

	Gmm Check				Resolution						
Sublot	#B	#C	#D								
Core	Ac2	Ac1	Ac1	Avg							
Mix	1813.2	1965.7	1855.7								
Pyc&Water	1390.7	1390.7	1390.7								
Pyc,Wtr&Mix	2469.5	2556.5	2491.5								
Core G_{mm}	2.469	2.457	2.458	2.461							
Diff from JMF				0.023							

Gmm Re-Verified

NEW

SUBMIT

PRINT

502 Example Acceptance and Verfication core data

Data for Roadway -- Mainline Lot

Proj. No	H.009491			Plant	H222		Design level	1		Mix Type	Binder Course					
Proj. Name	LA 3235			JMF No.	167-AWM					Mix use	ML - Binder					
DATE																
Method	1	%AC	4.4	G_{sb}	2.597	P_s	95.6	G_{mm}	2.438		Start Date	3/12/2013				
								G_{mm} JMF Validated			End Date	3/13/2013				
Mainline Lot #	167-1			Counter	1											

	Sublot #A				Sublot #B				Sublot #C				Sublot #D			
	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver
Mix Use	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder	Binder
Station	202+22.5	183+30	153+90	189+47.5	119+85	106+20	63+37.5	76+25	38+75	22+22.5	28+57.5	20+30	43+32.5	63+40	88+82.5	38+47.5
Location	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL	LT CL	LT CL	LT CL	LT CL	LT CL	LT CL
Random	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	NB	NB	NB	NB	NB	NB
Thickness	2.48	2.23	2.31	2.20	2.46	2.02	2.00	1.80	2.17	1.98	2.65	2.10	2.17	2.19	2.81	2.20
Air	2144.9	1851.4	2083.9	1875.4	2223.1	1821.9	1790.4	1891.9	1975.4	1911.5	1709.7	2256.9	1868.9	2209.2	2164.4	2244.3
Water	1232.9	1062.0	1200.5	1070.6	1265.6	1034.2	993.6	1088.7	1131.6	1077.7	977.1	1291.9	1054.8	1263.5	1223.8	1255.7
SSD	2147.6	1853.9	2085.9	1880.2	2225.0	1826.2	1793.3	1894.4	1977.5	1914.0	1712.1	2258.5	1871.5	2211.5	2168.0	2248.3
Gmb	2.345	2.338	2.354	2.316	2.317	2.300	2.239	2.348	2.335	2.286	2.326	2.335	2.288	2.330	2.292	2.261
Density	96.2	95.9	96.6	95.0	95.0	94.3	91.8	96.3	95.8	93.8	95.4	95.8	93.8	95.6	94.0	92.7
Tonnage	1219.8				1184.3				1196.4				1169.6			
P-Lot #																

Roadway inputs

- Make sure project is selected and lot is entered
- Entry fields will change if Minor is selected for mix use

[New] – blanks entries for new sublot

[<-] and [->] - scroll previous and next [Submit] – saves sublot

[Append] – imports lot/sublot data from another Lapave file

502 Mainline example resolution data input

	Resolution					
	#A	#B	#C	#D	#E	#F
Mix Use	Binder	Binder	Binder	Binder	Binder	Binder
Station	39+57.5	83+52.4	26+67.5	80+47.5	132+32.5	
Location	RT CL	RT CL	LT CL	LT CL	LT CL	
Random	SB	SB	NB	NB	NB	
nickness						
Air						
Water						
SSD						
Gmb						
Density	--	--	--	--	--	--
Tonnage						
P-Lot #						

Roadway inputs

- Entry fields for resolution cores, enter data if required for resolution

502 Mainline Gmm verification, one to three cores per lot

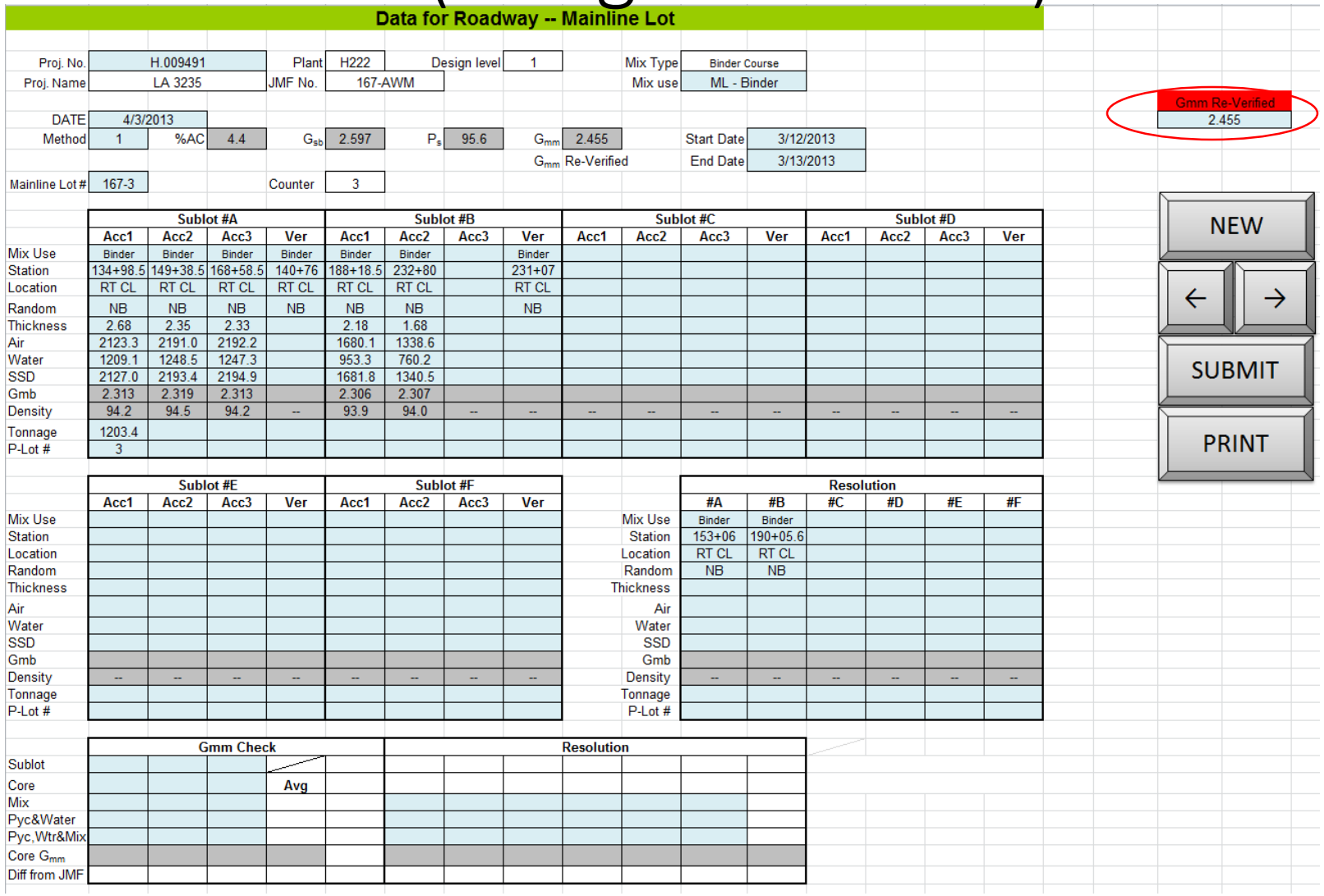
	Gmm Check					Resolution						
Sublot	#B	#C	#D									
Core	Ac2	Ac1	Ac1	Avg								
Mix	1813.2	1965.7	1855.7									
Pyc&Water	1390.7	1390.7	1390.7									
Pyc,Wtr&Mix	2469.5	2556.5	2491.5									
Core G_{mm}	2.469	2.457	2.458	2.461								
Diff from JMF				0.023								

Roadway inputs

- Entry fields for Gmm check
- Sublot and core are drop downs to assign after random selections are determined
- Entry field for resolution Gmm if more required, flag will show
- Resolution will be used to compute lot information if it is computed

	Gmm Check					Resolution						
Sublot	#B	#B	#B			#A	#B	#C	#D	#E		
Core				Avg		Res	Res	Res	Res	Res		Avg
Mix	1979.7	2055.1	2016.4			2056.4	2056.4	2056.4	2056.4	2056.4		
Pyc&Water	1390.7	1390.7	1390.7			2064.1	2064.1	2064.1	2064.1	2064.1		
Pyc,Wtr&Mix	2571.3	2611.4	2584.7			3283	3283	3283	3283	3283		
Core G_{mm}	2.477	2.463	2.452	2.464		2.455	2.455	2.455	2.455	2.455		2.455
Diff from JMF				0.026								0.017

502 Mainline data sheet example to reset Gmm (using Resolution)



Data for Roadway -- Mainline Lot

Proj. No.	H.009491		Plant	H222	Design level	1		Mix Type	Binder Course		
Proj. Name	LA 3235		JMF No.	167-AWM				Mix use	ML - Binder		
DATE	4/3/2013										
Method	1	%AC	4.4	G_{sb}	2.597	P_s	95.6	G_{mm}	2.455	Start Date	3/12/2013
								G_{mm} Re-Verified		End Date	3/13/2013
Mainline Lot #	167-3			Counter	3						

Gmm Re-Verified
2.455

NEW

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	Sublot #A				Sublot #B				Sublot #C				Sublot #D			
	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver
Mix Use	Binder	Binder	Binder	Binder	Binder	Binder		Binder								
Station	134+98.5	149+38.5	168+58.5	140+76	188+18.5	232+80		231+07								
Location	RT CL	RT CL	RT CL	RT CL	RT CL	RT CL		RT CL								
Random	NB	NB	NB	NB	NB	NB		NB								
Thickness	2.68	2.35	2.33		2.18	1.68										
Air	2123.3	2191.0	2192.2		1680.1	1338.6										
Water	1209.1	1248.5	1247.3		953.3	760.2										
SSD	2127.0	2193.4	2194.9		1681.8	1340.5										
Gmb	2.313	2.319	2.313		2.306	2.307										
Density	94.2	94.5	94.2	--	93.9	94.0	--	--	--	--	--	--	--	--	--	--
Tonnage	1203.4															
P-Lot #	3															

	Sublot #E				Sublot #F			
	Acc1	Acc2	Acc3	Ver	Acc1	Acc2	Acc3	Ver
Mix Use								
Station								
Location								
Random								
Thickness								
Air								
Water								
SSD								
Gmb								
Density	--	--	--	--	--	--	--	--
Tonnage								
P-Lot #								

	Resolution						
	#A	#B	#C	#D	#E	#F	
Mix Use	Binder	Binder					
Station	153+06	190+05.6					
Location	RT CL	RT CL					
Random	NB	NB					
Thickness							
Air							
Water							
SSD							
Gmb							
Density	--	--	--	--	--	--	
Tonnage							
P-Lot #							

	Gmm Check					Resolution						
Sublot												
Core				Avg								
Mix												
Pyc&Water												
Pyc,Wtr&Mix												
Core G_{mm}												
Diff from JMF												

If a new Gmm target is determined for the JMF, it can be entered into the re-verified field
Computations will use the re-verified instead of the design/validation Gmm

502 Mainline Lot Summary and Pay Adjustment calculations (read-only, no input)

Data for Roadway -- Mainline Lot Pay

Mainline Density

Mainline	Ac1	Ac2	Ac3	Ver	Res
Sublot #A	94.9	95.8	95.4	94.4	93.7
Sublot #B	95.7	93.8	93.4	94.4	95.7
Sublot #C	95.0	93.0	94.7	94.3	95.8
Sublot #D	93.6	93.2	94.0	93.8	94.0
Sublot #E	94.7	92.2	94.1	94.7	94.6
Sublot #F	--	--	--	--	--

Method	1
Testing Laboratory	District Lab
Ac Count	15
Ac Mean	94.2
Ac Stdev	1.053
Testing Laboratory	Contractor
Ver Count	5
Ver Mean	94.3
Ver Stdev	0.327
Difference of Means	0.10
Rolling F & T Equal	Yes

Mainline Acceptance Density PWL

Ac Count	15	QL	2.12
Ac Mean	94.2	QU	--
Ac Stdev	1.053	PWL	99
Mainline Min	92		
Pay %	100		

Mainline Resolution Density PWL

Res Count	5	QL	2.87
Res Mean	94.8	QU	--
Res Stdev	0.961	PWL	100
Mainline Min	92		

Mainline Lot #	167-2
Total Tons	5703.9
G_{mm}	2.455
G_{mm} from	Resolution
Adjustment Factor	1.00
Adjusted Total Tons	5703.9

Previous Lot

Lot#	167-1
Mix Use	ML - Binder
From	Acceptance
Pay %	100

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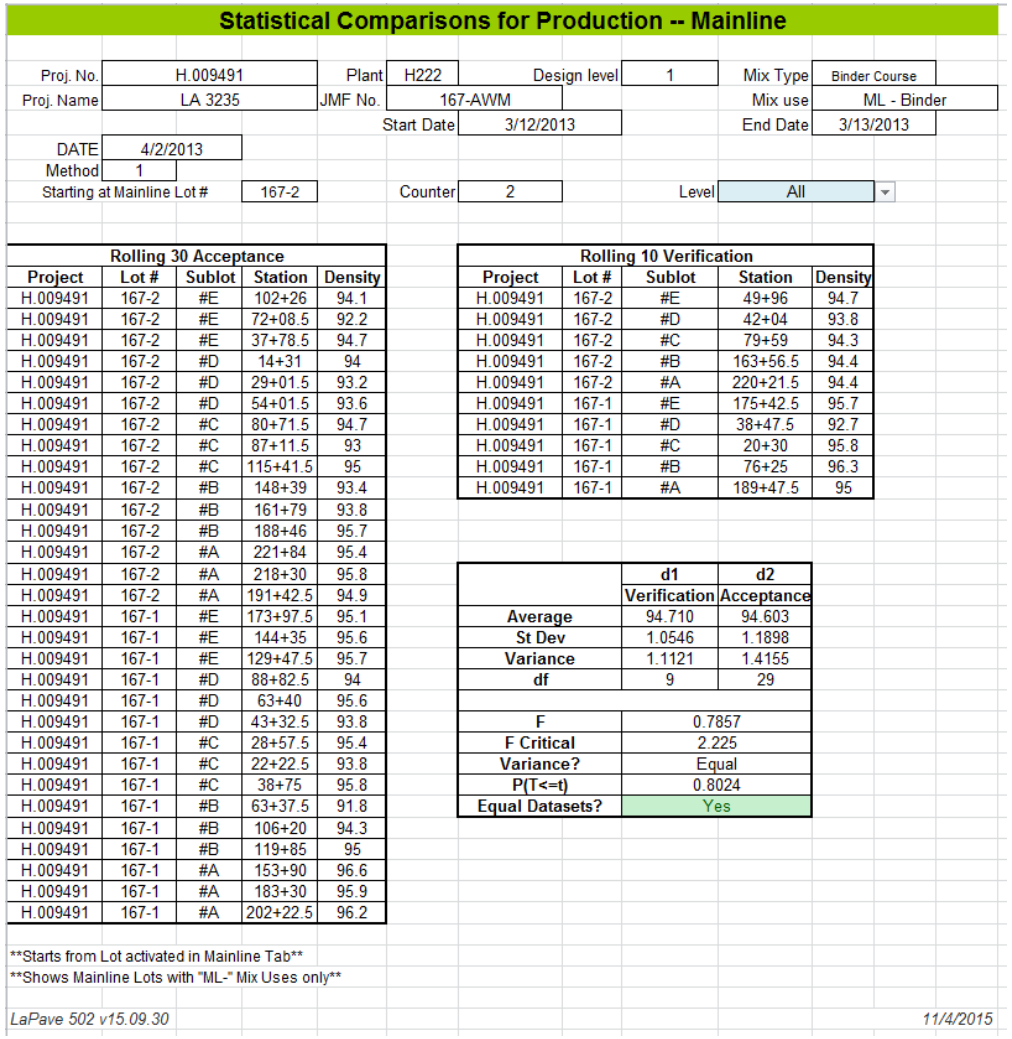
Summary of active mainline lot selected

- Show statistics, density summary, and pay
- Does not include IRI pay adjustments

502 Mainline Statistics comparing Acceptance and Verification (read only)

Rolling statistics starting at active mainline lot selected in Mainline tab

- Rolling 30 for acceptance and rolling 10 for verification
- F and T tests between the data sets
- Can be run project specific or across all lots entered for mix design
- Ignores minor lots



Statistical Comparisons for Production -- Mainline

Proj. No.	H.009491		Plant	H222	Design level	1	Mix Type	Binder Course	
Proj. Name	LA 3235		JMF No.	167-AWM			Mix use	ML - Binder	
			Start Date	3/12/2013			End Date	3/13/2013	
DATE	4/2/2013								
Method	1								
Starting at Mainline Lot #	167-2		Counter	2			Level	All	

Rolling 30 Acceptance

Project	Lot #	Sublot	Station	Density
H.009491	167-2	#E	102+26	94.1
H.009491	167-2	#E	72+08.5	92.2
H.009491	167-2	#E	37+78.5	94.7
H.009491	167-2	#D	14+31	94
H.009491	167-2	#D	29+01.5	93.2
H.009491	167-2	#D	54+01.5	93.6
H.009491	167-2	#C	80+71.5	94.7
H.009491	167-2	#C	87+11.5	93
H.009491	167-2	#C	115+41.5	95
H.009491	167-2	#B	148+39	93.4
H.009491	167-2	#B	161+79	93.8
H.009491	167-2	#B	188+46	95.7
H.009491	167-2	#A	221+84	95.4
H.009491	167-2	#A	218+30	95.8
H.009491	167-2	#A	191+42.5	94.9
H.009491	167-1	#E	173+97.5	95.1
H.009491	167-1	#E	144+35	95.6
H.009491	167-1	#E	129+47.5	95.7
H.009491	167-1	#D	88+82.5	94
H.009491	167-1	#D	63+40	95.6
H.009491	167-1	#D	43+32.5	93.8
H.009491	167-1	#C	28+57.5	95.4
H.009491	167-1	#C	22+22.5	93.8
H.009491	167-1	#C	38+75	95.8
H.009491	167-1	#B	63+37.5	91.8
H.009491	167-1	#B	106+20	94.3
H.009491	167-1	#B	119+85	95
H.009491	167-1	#A	153+90	96.6
H.009491	167-1	#A	183+30	95.9
H.009491	167-1	#A	202+22.5	96.2

Rolling 10 Verification

Project	Lot #	Sublot	Station	Density
H.009491	167-2	#E	49+96	94.7
H.009491	167-2	#D	42+04	93.8
H.009491	167-2	#C	79+59	94.3
H.009491	167-2	#B	163+56.5	94.4
H.009491	167-2	#A	220+21.5	94.4
H.009491	167-1	#E	175+42.5	95.7
H.009491	167-1	#D	38+47.5	92.7
H.009491	167-1	#C	20+30	95.8
H.009491	167-1	#B	76+25	96.3
H.009491	167-1	#A	189+47.5	95

	d1 Verification	d2 Acceptance
Average	94.710	94.603
St Dev	1.0546	1.1898
Variance	1.1121	1.4155
df	9	29
F	0.7857	
F Critical	2.225	
Variance?	Equal	
P(T<=t)	0.8024	
Equal Datasets?	Yes	

Starts from Lot activated in Mainline Tab
Shows Mainline Lots with "ML-" Mix Uses only

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502 Roadway Report Summarizes all lots of the project (select project by drop down)

Roadway Summary Report

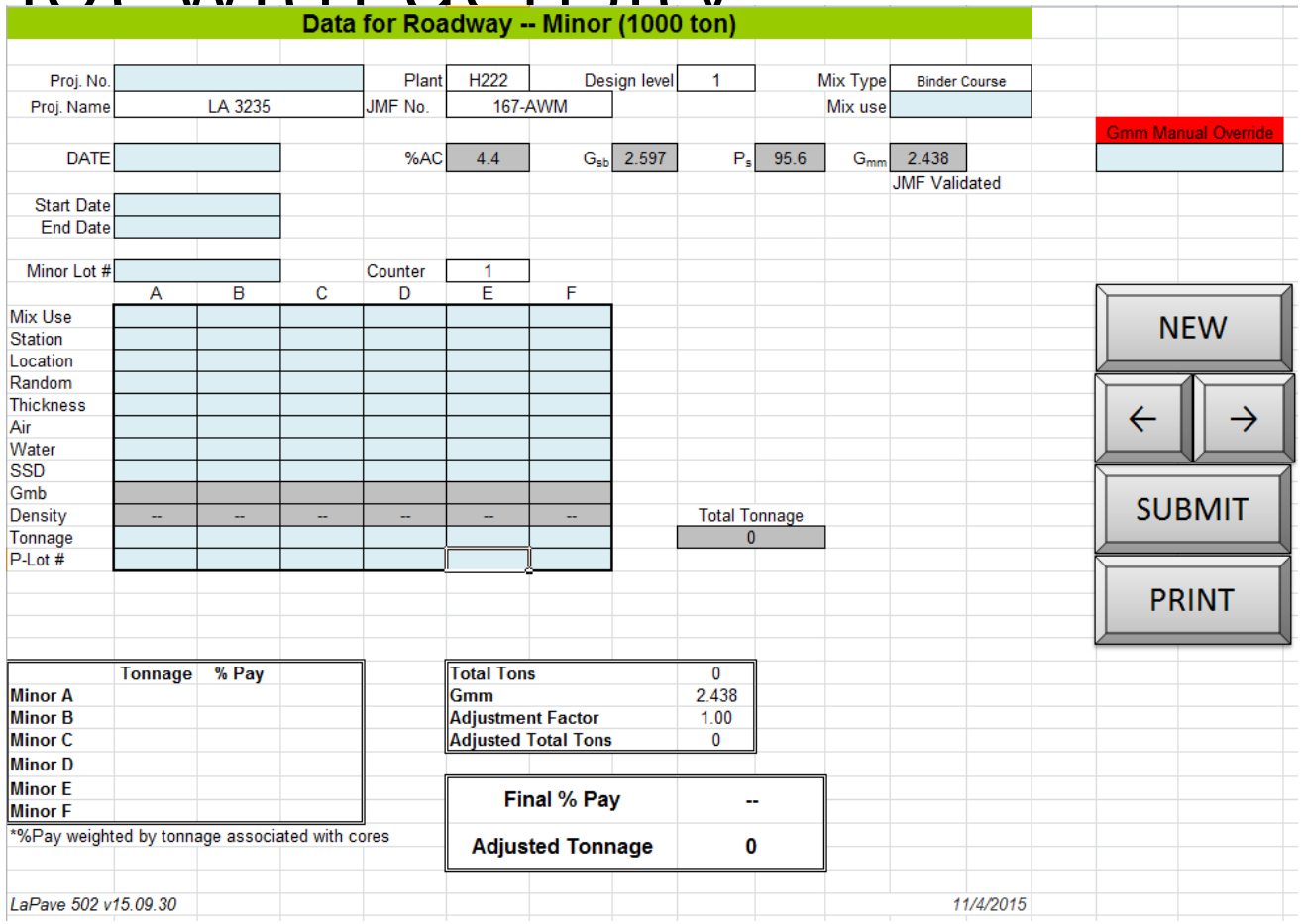
Proj. No.	H.009491	Plant	H222	Design level	1	Mix Type	Binder Course		
Proj. Name	LA 3235	JMF No.	167-AWM			JMF Mix use	ML - Binder		
Project Eng.	Jacob Oncale								
Contractor	Barriere Construction	Show:	Mainline and Minor						

Mainline Lot	Mix Use	Method	Acc Mean	Ver Mean	Diff	Acc PWL	Acc Pay	Res Mean	Res PWL	Res Pay	Gmm	Gmm From	Adj Factor	Total Ton	Adj Ton
167-1	ML - Binder	1	95.0	95.1	0.1	100	100		--	--	2.438	JMF Validated	1.00	5977.1	5977.1
167-2	ML - Binder	1	94.2	94.3	0.1	99	100	94.8	100	100	2.455	Resolution	1.00	5703.9	5703.9
167-3	ML - Binder	1	94.2			100	100		--	--	2.455	Override	1.00	1203.4	1203.4

Summary of all lots in a project

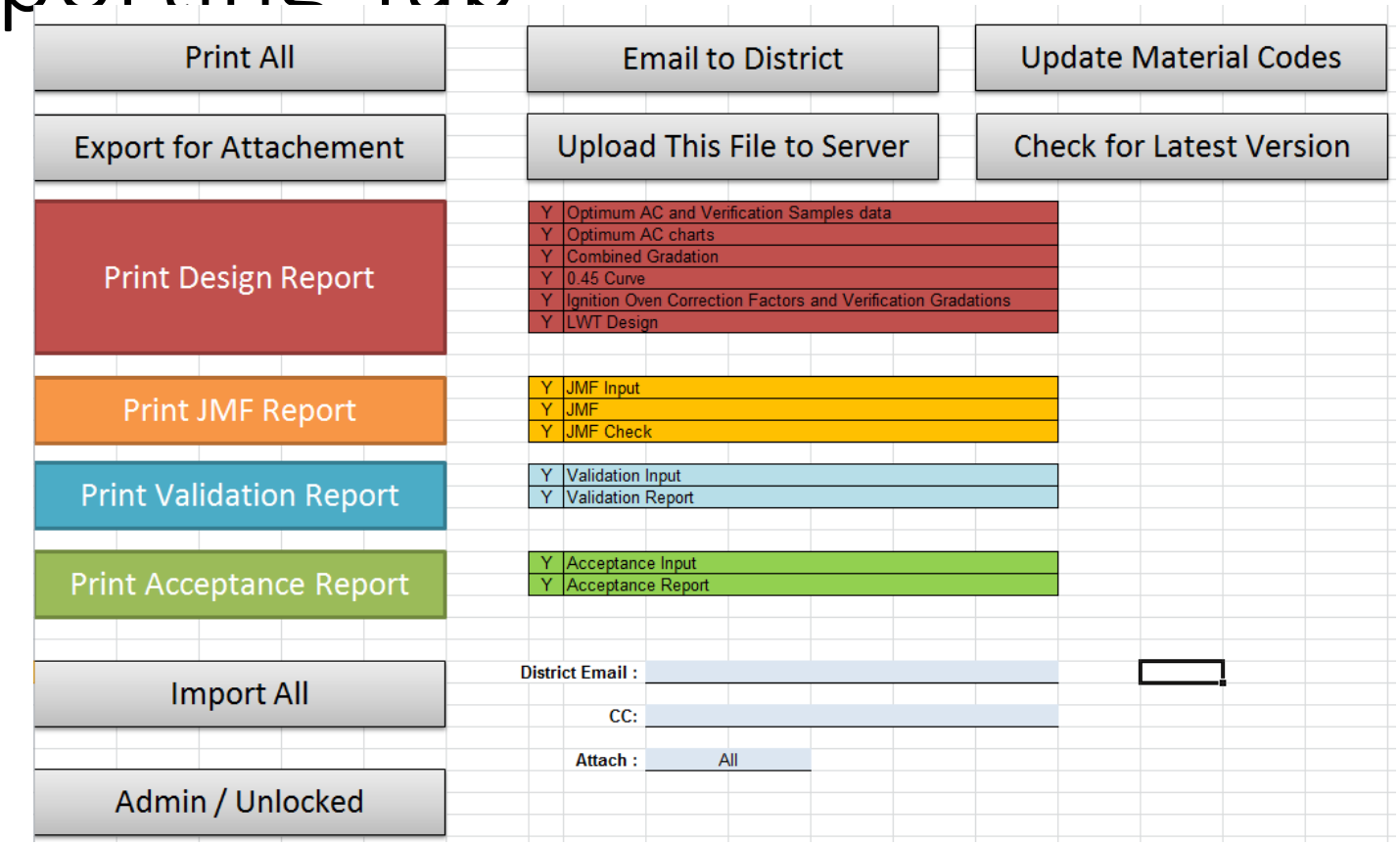
- Lists key parameters and pay

502 Minor lot with density



Used for Minor lots that do not use mainline methods

Reporting Tab



[Import All] - import JMF and qc/acceptance/verification data (import data from old version)
[Check Latest Version] – checks for newer version on the shared location
[Upload File to Server] – uploads to shared location on DOTD network
[Print]s – can select Y/N on sections to print
Working on other features – [Email], [Export Attachment], and [Codes]

Link to example

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