

Quadrant: S
Section: 13
Sublot: 1

Laboratory Diary

General Description of Mix and Materials

Design Method: AZ
 Compactive Effort: 75 blows
 Binder Performance Grade: ARB20
 Modifier Type: GTR
 Aggregate Type: Granite/Sand/C-RAP
 Design Gradation Type: GAP

Avg. Lab Properties of Plant Produced Mix

Sieve Size	Target	QC
25 mm (1"):	100	100
19 mm (3/4"):	100	100
12.5 mm (1/2"):	96	96
9.5 mm (3/8"):	79	85
4.75 mm (#4):	40	35
2.36 mm (#8):	24	22
1.18 mm (#16):	19	19
0.60 mm (#30):	12	14
0.30 mm (#50):	7	8
0.15 mm (#100):	5	5
0.075 mm (#200):	3.4	3.6
Binder Content (Pb):	7.4	7.4
Eff. Binder Content (Pbe):	6.7	6.7
Dust-to-Eff. Binder Ratio:	0.6	0.5
RAP Binder Replacement (%):	7.5	7.5
RAS Binder Replacement (%):	0.0	0.0
Total Binder Replacement (%):	7.5	7.5
Rice Gravity (Gmm):	2.418	2.402
Bulk Gravity (Gmb):	2.273	2.319
Air Voids (Va):	6.0	3.4
Agg. Bulk Gravity (Gsb):	2.649	2.63
VMA:	19.9	18
VFA:	71	81

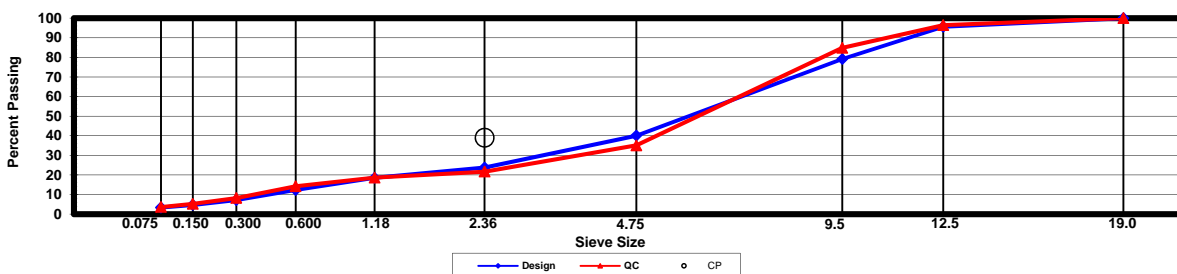
Construction Diary

Relevant Conditions for Construction

Completion Date: August 14, 2015
 24 Hour High Temperature (F): 91
 24 Hour Low Temperature (F): 73
 24 Hour Rainfall (in): 0.00
 Planned Sublot Lift Thickness (in): 1.5
 Paving Machine: Roadtec

Plant Configuration and Placement Details

Component	% Setting
Binder Content (Plant Setting)	7.4
78 Granite	55.0
89 Granite	19.0
Coarse Sand	11.0
EAP Coarse RAP	15.0
Evotherm P15	0.5
As-Built Sublot Lift Thickness (in):	1.6
Total Thickness of All New Sublots (in):	6.7
Approx. Underlying HMA Thickness (in):	5.0
Type of Tack Coat Utilized:	NTSS-1HM
Undiluted Target Tack Rate (gal/sy):	0.10
Approx. Avg. Temperature at Plant (F):	305
Avg. Measured Mat Compaction:	92.7%



General Notes:

- References are by quadrant (E=East, N=North, W=West, S=South, L=Lee Rd 159, U=US-280), section #, and sublot (top=1).
- DGA, SMA, & OGFC refer to dense graded asphalt, stone matrix asphalt, & open-graded friction course, respectively.
- Production Gsb estimated using the actual production Gse and the difference between Gse and Gsb in the mix design.

Section and/or Sublot Specific Notes:

Binder for this surface mix contained 20% (by total binder mass) -#16 mesh ground tire rubber to build on the success of the base layer in S13 on the 2012 Track, this time in a surface mix application at the request of ALDOT in order to support implementation of the new mix technology.

Quadrant: S
Section: 13
Sublot: 2

Laboratory Diary

General Description of Mix and Materials

Design Method: Super
 Compactive Effort: 60 gyrations
 Binder Performance Grade: HiMA
 Modifier Type: Kraton
 Aggregate Type: Lms/Sand/Grn/RAP
 Design Gradation Type: DGA

Avg. Lab Properties of Plant Produced Mix

Sieve Size	Target	QC
25 mm (1"):	100	100
19 mm (3/4"):	97	96
12.5 mm (1/2"):	85	83
9.5 mm (3/8"):	65	71
4.75 mm (#4):	49	48
2.36 mm (#8):	44	39
1.18 mm (#16):	35	33
0.60 mm (#30):	22	25
0.30 mm (#50):	12	15
0.15 mm (#100):	7	8
0.075 mm (#200):	4.8	5.0
Binder Content (Pb):	4.6	4.3
Eff. Binder Content (Pbe):	4.1	3.8
Dust-to-Eff. Binder Ratio:	1.2	1.3
RAP Binder Replacement (%):	20.0	18.8
RAS Binder Replacement (%):	0.0	0.0
Total Binder Replacement (%):	20.0	18.8
Rice Gravity (Gmm):	2.562	2.543
Bulk Gravity (Gmb):	2.460	2.467
Air Voids (Va):	4.0	3.0
Agg. Bulk Gravity (Gsb):	2.725	2.69
VMA:	13.9	12
VFA:	71	75

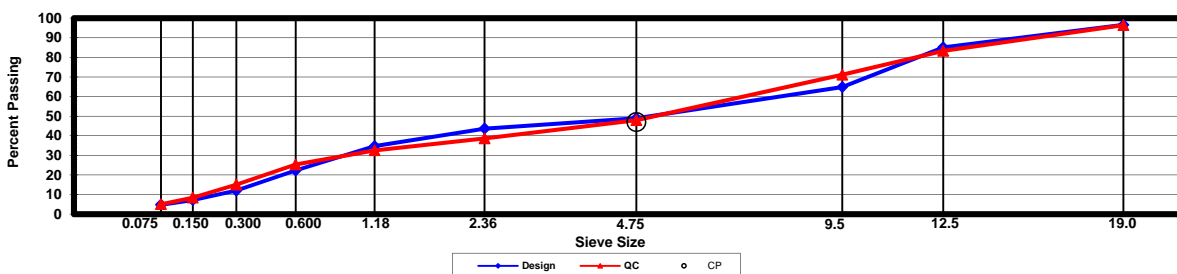
Construction Diary

Relevant Conditions for Construction

Completion Date: July 30, 2015
 24 Hour High Temperature (F): 98
 24 Hour Low Temperature (F): 74
 24 Hour Rainfall (in): 0.00
 Planned Sublot Lift Thickness (in): 2.3
 Paving Machine: Roadtec

Plant Configuration and Placement Details

Component	% Setting
Binder Content (Plant Setting)	4.7
78 Limestone	32.0
57 Limestone	17.0
Coarse Sand	23.0
M10 Granite	11.0
EAP -1/2 RAP	17.0
Evotherm P15	0.5
As-Built Sublot Lift Thickness (in):	2.2
Total Thickness of All New Sublots (in):	6.7
Approx. Underlying HMA Thickness (in):	2.8
Type of Tack Coat Utilized:	NTSS-1HM
Undiluted Target Tack Rate (gal/sy):	0.08
Approx. Avg. Temperature at Plant (F):	320
Avg. Measured Mat Compaction:	95.3%



General Notes:

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- Production Gsb estimated using the actual production Gse and the difference between Gse and Gsb in the mix design.

Section and/or Sublot Specific Notes:

NA

Quadrant: S
Section: 13
Sublot: 3

Laboratory Diary

General Description of Mix and Materials

Design Method: Super
 Compactive Effort: 60 gyrations
 Binder Performance Grade: HiMA
 Modifier Type: Kraton
 Aggregate Type: Lms/Sand/Grn/RAP
 Design Gradation Type: DGA

Avg. Lab Properties of Plant Produced Mix

Sieve Size	Target	QC
25 mm (1"):	100	100
19 mm (3/4"):	97	98
12.5 mm (1/2"):	85	88
9.5 mm (3/8"):	65	78
4.75 mm (#4):	49	55
2.36 mm (#8):	44	43
1.18 mm (#16):	35	35
0.60 mm (#30):	22	24
0.30 mm (#50):	12	13
0.15 mm (#100):	7	8
0.075 mm (#200):	4.8	5.0
Binder Content (Pb):	4.6	4.7
Eff. Binder Content (Pbe):	4.1	4.2
Dust-to-Eff. Binder Ratio:	1.2	1.2
RAP Binder Replacement (%):	20.0	17.4
RAS Binder Replacement (%):	0.0	0.0
Total Binder Replacement (%):	20.0	17.4
Rice Gravity (Gmm):	2.562	2.556
Bulk Gravity (Gmb):	2.460	2.460
Air Voids (Va):	4.0	3.8
Agg. Bulk Gravity (Gsb):	2.725	2.72
VMA:	13.9	14
VFA:	71	73

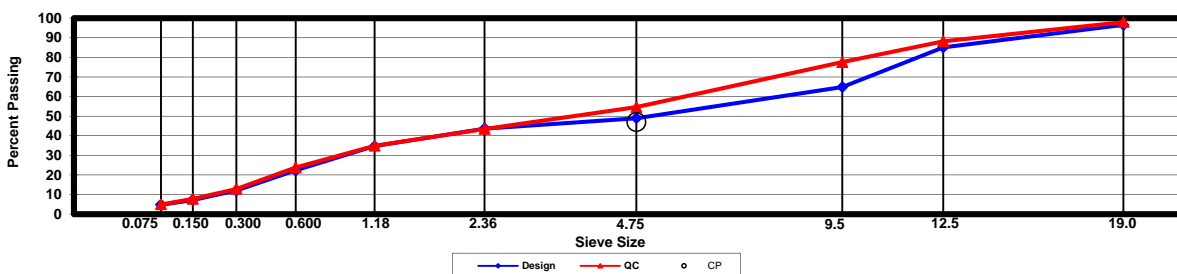
Construction Diary

Relevant Conditions for Construction

Completion Date: July 29, 2015
 24 Hour High Temperature (F): 96
 24 Hour Low Temperature (F): 74
 24 Hour Rainfall (in): 0.07
 Planned Sublot Lift Thickness (in): 2.3
 Paving Machine: Roadtec

Plant Configuration and Placement Details

Component	% Setting
Binder Content (Plant Setting)	4.7
78 Limestone	32.0
57 Limestone	17.0
Coarse Sand	23.0
M10 Granite	11.0
EAP -1/2 RAP	17.0
Evotherm P15	0.5
As-Built Sublot Lift Thickness (in):	2.8
Total Thickness of All New Sublots (in):	6.7
Approx. Underlying HMA Thickness (in):	0.0
Type of Tack Coat Utilized:	NA
Undiluted Target Tack Rate (gal/sy):	NA
Approx. Avg. Temperature at Plant (F):	320
Avg. Measured Mat Compaction:	95.5%



General Notes:

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- Production Gsb estimated using the actual production Gse and the difference between Gse and Gsb in the mix design.

Section and/or Sublot Specific Notes:

NA