

Quadrant: N
Section: 11A
Sublot: 1

Laboratory Diary

General Description of Mix and Materials

Design Method: Super
 Compactive Effort: 75 gyrations
 Binder Performance Grade: 67-22
 Modifier Type: Neat
 Aggregate Type: Lms Scrns/Sand
 Design Gradation Type: DGA

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"):	100	100
9.5 mm (3/8"):	100	100
4.75 mm (#4):	99	98
2.36 mm (#8):	76	73
1.18 mm (#16):	53	54
0.60 mm (#30):	36	37
0.30 mm (#50):	23	21
0.15 mm (#100):	15	14
0.075 mm (#200):	11.5	10.8
Binder Content (Pb):	6.1	6.0
Eff. Binder Content (Pbe):	5.6	5.5
Dust-to-Eff. Binder Ratio:	2.0	1.9
RAP Binder Replacement (%):	11.4	0.0
RAS Binder Replacement (%):	8.6	0.0
Total Binder Replacement (%):	20.0	0.0
Rice Gravity (Gmm):	2.441	2.466
Bulk Gravity (Gmb):	2.343	2.415
Air Voids (Va):	4.0	2.1
Agg. Bulk Gravity (Gsb):	2.647	2.67
VMA:	16.9	15
VFA:	76	86

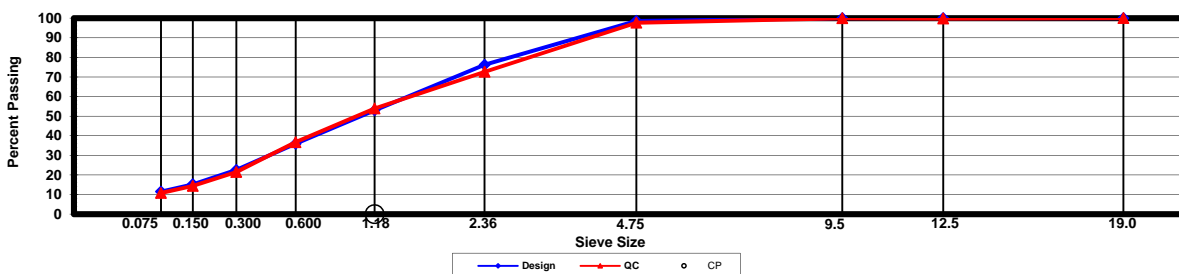
Construction Diary

Relevant Conditions for Construction

Completion Date: September 1, 2015
 24 Hour High Temperature (F): 92
 24 Hour Low Temperature (F): 70
 24 Hour Rainfall (in): 0.00
 Planned Sublot Lift Thickness (in): 0.8
 Paving Machine: Roadtec

Plant Configuration and Placement Details

Component	% Setting
Binder Content (Plant Setting)	6.0
Calera Limestone Screenings	50.0
Coarse Sand	30.0
Opelika Limestone Screenings	19.0
Evotherm P15	0.5
Hydrated Lime	1.0
As-Built Sublot Lift Thickness (in):	0.8
Total Thickness of All New Sublots (in):	1.1
Approx. Underlying HMA Thickness (in):	Pending
Type of Tack Coat Utilized:	NTSS-1HM
Undiluted Target Tack Rate (gal/sy):	0.05
Approx. Avg. Temperature at Plant (F):	340
Avg. Measured Mat Compaction:	90.9%



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:

NA

Quadrant: N
Section: 11B
Sublot: 1

Laboratory Diary

General Description of Mix and Materials

Design Method: Super
 Compactive Effort: 80 gyrations
 Binder Performance Grade: 67-22
 Modifier Type: NA
 Aggregate Type: RAP/Sand/Grn
 Design Gradation Type: Fine

Avg. Lab Properties of Plant Produced Mix

Sieve Size	Design	QC
25 mm (1"):	100	100
19 mm (3/4"):	100	100
12.5 mm (1/2"):	100	99
9.5 mm (3/8"):	96	95
4.75 mm (#4):	64	69
2.36 mm (#8):	52	51
1.18 mm (#16):	42	41
0.60 mm (#30):	29	27
0.30 mm (#50):	14	12
0.15 mm (#100):	8	7
0.075 mm (#200):	5.2	4.8
Binder Content (Pb):	6.2	6.1
Eff. Binder Content (Pbe):	5.5	5.3
Dust-to-Binder Ratio:	0.9	0.9
Rice Gravity (Gmm):	2.447	2.449
Avg. Bulk Gravity (Gmb):	2.349	2.371
Avg Air Voids (Va):	4.0	3.2
Agg. Bulk Gravity (Gsb):	2.636	2.633
Avg VMA:	16.4	15.5
Avg. VFA:	76	79

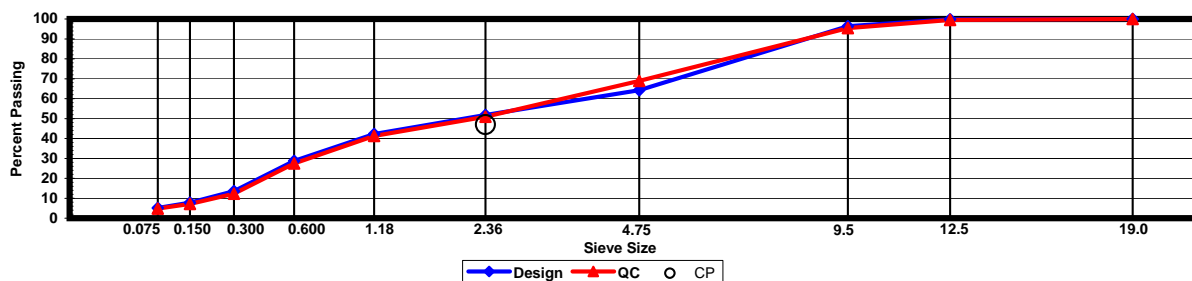
Construction Diary

Relevant Conditions for Construction

Completion Date: August 11, 2009
 24 Hour High Temperature (F): 95
 24 Hour Low Temperature (F): 76
 24 Hour Rainfall (in): 0.00
 Planned Subot Lift Thickness (in): 1.3
 Paving Machine: Roadtec

Plant Configuration and Placement Details

Component	% Setting
Asphalt Content (Plant Setting)	5.6
89 Columbus Granite	24.0
Shorter Coarse Sand	26.0
Fine Fraction Local RAP	15.0
Coarse Fraction Local RAP	35.0
As-Built Sublot Lift Thickness (in):	1.2
Total Thickness of All 2009 Sublots (in):	7.1
Approx. Underlying HMA Thickness (in):	0.0
Type of Tack Coat Utilized:	PG67-22
Target Tack Application Rate (gal/sy):	0.05
Approx. Avg. Temperature at Plant (F):	275
Avg. Measured Mat Compaction:	92.1%



General Notes:

- Mixes are referenced by quadrant (E=East, N=North, W=West, and S=South), section # (sequential) and subplot (top=1);
- The total HMA thickness of all structural study sections (N1-N11 and S8-S12) ranges from 5-3/4 to 14 inches by design;
- All non-structural sections are supported by a uniform perpetual foundation in order to study surface mix performance;
- SMA and OGFC refer to stone matrix asphalt and open-graded friction course, respectively; and
- All liquid asphalt purchased for use in Track reconstruction contained LOF 6500 antistripping additive at a rate of 0.5 percent

Quadrant: N
Section: 11
Sublot: 2

Laboratory Diary

General Description of Mix and Materials

Design Method: Super
 Compactive Effort: 80 gyrations
 Binder Performance Grade: 67-22
 Modifier Type: NA
 Aggregate Type: RAP/Lms/Sand
 Design Gradation Type: Fine

Avg. Lab Properties of Plant Produced Mix

Sieve Size	Design	QC
25 mm (1"):	100	99
19 mm (3/4"):	94	93
12.5 mm (1/2"):	87	86
9.5 mm (3/8"):	78	79
4.75 mm (#4):	54	58
2.36 mm (#8):	46	47
1.18 mm (#16):	37	39
0.60 mm (#30):	26	27
0.30 mm (#50):	14	14
0.15 mm (#100):	8	8
0.075 mm (#200):	5.1	5.7
Binder Content (Pb):	4.8	4.7
Eff. Binder Content (Pbe):	4.2	4.1
Dust-to-Binder Ratio:	1.2	1.4
Rice Gravity (Gmm):	2.542	2.541
Avg. Bulk Gravity (Gmb):	2.440	2.446
Avg Air Voids (Va):	4.0	3.7
Agg. Bulk Gravity (Gsb):	2.698	2.697
Avg VMA:	13.9	13.6
Avg. VFA:	72	72

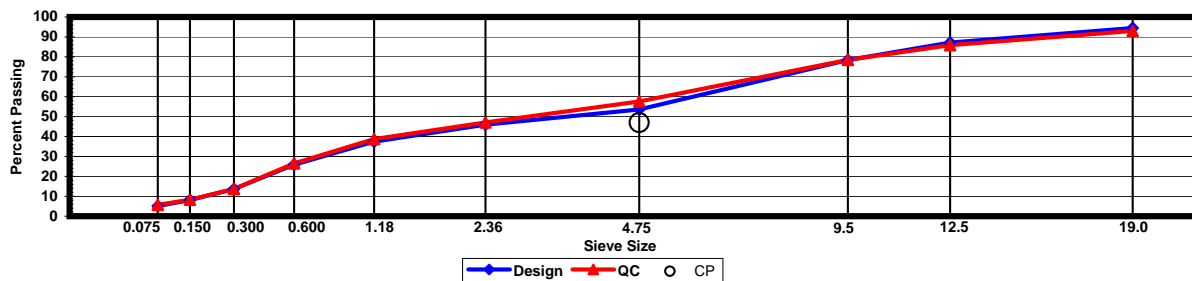
Construction Diary

Relevant Conditions for Construction

Completion Date: August 4, 2009
 24 Hour High Temperature (F): 94
 24 Hour Low Temperature (F): 73
 24 Hour Rainfall (in): 0.00
 Planned Subot Lift Thickness (in): 2.8
 Paving Machine: Roadtec

Plant Configuration and Placement Details

Component	% Setting
Asphalt Content (Plant Setting)	5.8
78 Opelika Limestone	15.0
57 Opelika Limestone	15.0
Shorter Coarse Sand	20.0
Fine Fraction Local RAP	20.0
Coarse Fraction Local RAP	30.0
As-Built Sublot Lift Thickness (in):	3.0
Total Thickness of All 2009 Sublots (in):	7.1
Approx. Underlying HMA Thickness (in):	0.0
Type of Tack Coat Utilized:	NTSS-1HM
Target Tack Application Rate (gal/sy):	0.05
Approx. Avg. Temperature at Plant (F):	275
Avg. Measured Mat Compaction:	93.1%



General Notes:

- 1) Mixes are referenced by quadrant (E=East, N=North, W=West, and S=South), section # (sequential) and subplot (top=1);
- 2) The total HMA thickness of all structural study sections (N1-N11 and S8-S12) ranges from 5-3/4 to 14 inches by design;
- 3) All non-structural sections are supported by a uniform perpetual foundation in order to study surface mix performance;
- 4) SMA and OGFC refer to stone matrix asphalt and open-graded friction course, respectively; and
- 5) All liquid asphalt purchased for use in Track reconstruction contained LOF 6500 antistripping additive at a rate of 0.5 percent

Quadrant: N
Section: 11
Sublot: 3

Laboratory Diary

General Description of Mix and Materials

Design Method: Super
 Compactive Effort: 80 gyrations
 Binder Performance Grade: 67-22
 Modifier Type: NA
 Aggregate Type: RAP/Lms/Sand
 Design Gradation Type: Fine

Avg. Lab Properties of Plant Produced Mix

Sieve Size	Design	QC
25 mm (1"):	100	97
19 mm (3/4"):	94	89
12.5 mm (1/2"):	87	83
9.5 mm (3/8"):	78	75
4.75 mm (#4):	54	54
2.36 mm (#8):	46	44
1.18 mm (#16):	37	37
0.60 mm (#30):	26	25
0.30 mm (#50):	14	13
0.15 mm (#100):	8	8
0.075 mm (#200):	5.1	5.3
Binder Content (Pb):	4.8	4.6
Eff. Binder Content (Pbe):	4.2	4.0
Dust-to-Binder Ratio:	1.2	1.3
Rice Gravity (Gmm):	2.542	2.544
Avg. Bulk Gravity (Gmb):	2.440	2.439
Avg Air Voids (Va):	4.0	4.1
Agg. Bulk Gravity (Gsb):	2.698	2.695
Avg VMA:	13.9	13.7
Avg. VFA:	72	70

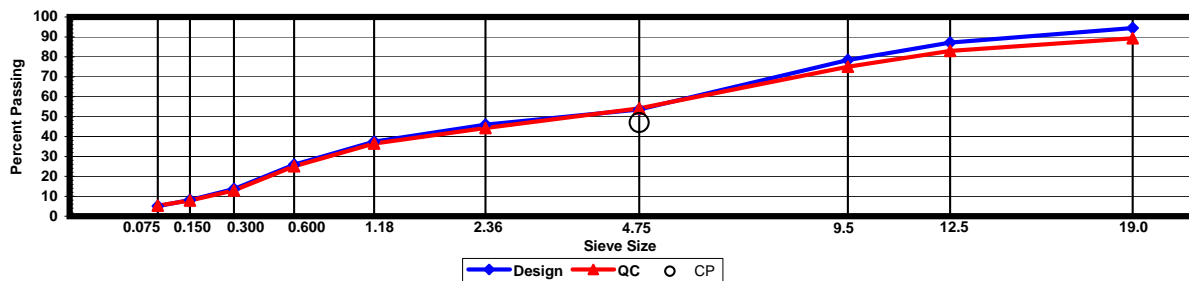
Construction Diary

Relevant Conditions for Construction

Completion Date: August 4, 2009
 24 Hour High Temperature (F): 94
 24 Hour Low Temperature (F): 73
 24 Hour Rainfall (in): 0.00
 Planned Subot Lift Thickness (in): 3.0
 Paving Machine: Roadtec

Plant Configuration and Placement Details

Component	% Setting
Asphalt Content (Plant Setting)	5.8
78 Opelika Limestone	15.0
57 Opelika Limestone	15.0
Shorter Coarse Sand	20.0
Fine Fraction Local RAP	20.0
Coarse Fraction Local RAP	30.0
As-Built Sublot Lift Thickness (in):	2.9
Total Thickness of All 2009 Sublots (in):	7.1
Approx. Underlying HMA Thickness (in):	0.0
Type of Tack Coat Utilized:	NA
Target Tack Application Rate (gal/sy):	NA
Approx. Avg. Temperature at Plant (F):	275
Avg. Measured Mat Compaction:	94.2%



General Notes:

- Mixes are referenced by quadrant (E=East, N=North, W=West, and S=South), section # (sequential) and subplot (top=1);
- The total HMA thickness of all structural study sections (N1-N11 and S8-S12) ranges from 5-3/4 to 14 inches by design;
- All non-structural sections are supported by a uniform perpetual foundation in order to study surface mix performance;
- SMA and OGFC refer to stone matrix asphalt and open-graded friction course, respectively; and
- All liquid asphalt purchased for use in Track reconstruction contained LOF 6500 antistripping additive at a rate of 0.5 percent