



Department of Design and Construction

Thomas Foley
Commissioner

Safety & Site Support Division
Office of Quality Assurance

Alla Ayzenshtat
Associate Commissioner
Safety & Site Support

Concrete and Asphalt Generic Mix Design Approval 2022 - 123

30-30 Thomson Avenue
Long Island City, NY 11101

Tel. 718 / 391-1395
Fax 718 / 391-2885
www.nyc.gov/buildnyc

Date: 4/19/2022
To: Maxon Thomas
City Asphalt
From: Juan Martinez, PE, Deputy Director
Office of Quality Assurance

Date Submitted: 4/5/2022

Plant: City Asphalt

NYSDOT Facility Numbers: H0395

Laboratory: N/A

Mix Design Type: 6FRA Top

Generic Mix Design Serial Number: CityAsphalt/6FRA/Top/Generic/NYCDDC/039/22

Generic Mix Design Date: 4/4/2022

Generic Mix Design Expiration Date: 4/30/2024

- Comments:**
- 1) This mix design is approved only for the NYSDOT Facility Numbers listed above.
 - 2) Approval is limited to the material sources and aggregate sizes shown on the mix design.
 - 3) Dosage of admixtures may be adjusted by the plant within manufacturer's written guidelines, but admixtures not listed may not be added.

Reviewed & Prepared by: Christopher Vagnone, QA Inspector Christopher Vagnone

Recommended for Acceptance by: Kelvin Law, PE, Engineer In Charge Kevin Law

QA & CONSTRUCTION SAFETY BUREAU

ASPHALT JOB MIX FORMULA SHEET - 6F RA TOP MIX

PLANT NAME: **City Asphalt**
 NYSDOT FACILITY #: **H0395**
 PLANT ADDRESS: **1900 South Ave.**
Staten Island, NY 10314

MIX DESIGN DATE: **4/4/2022**
 PREPARED BY: **Maxon Thomas**
 COMPANY: **City Asphalt**
 PLANT QC MGR: **Maxon Thomas**

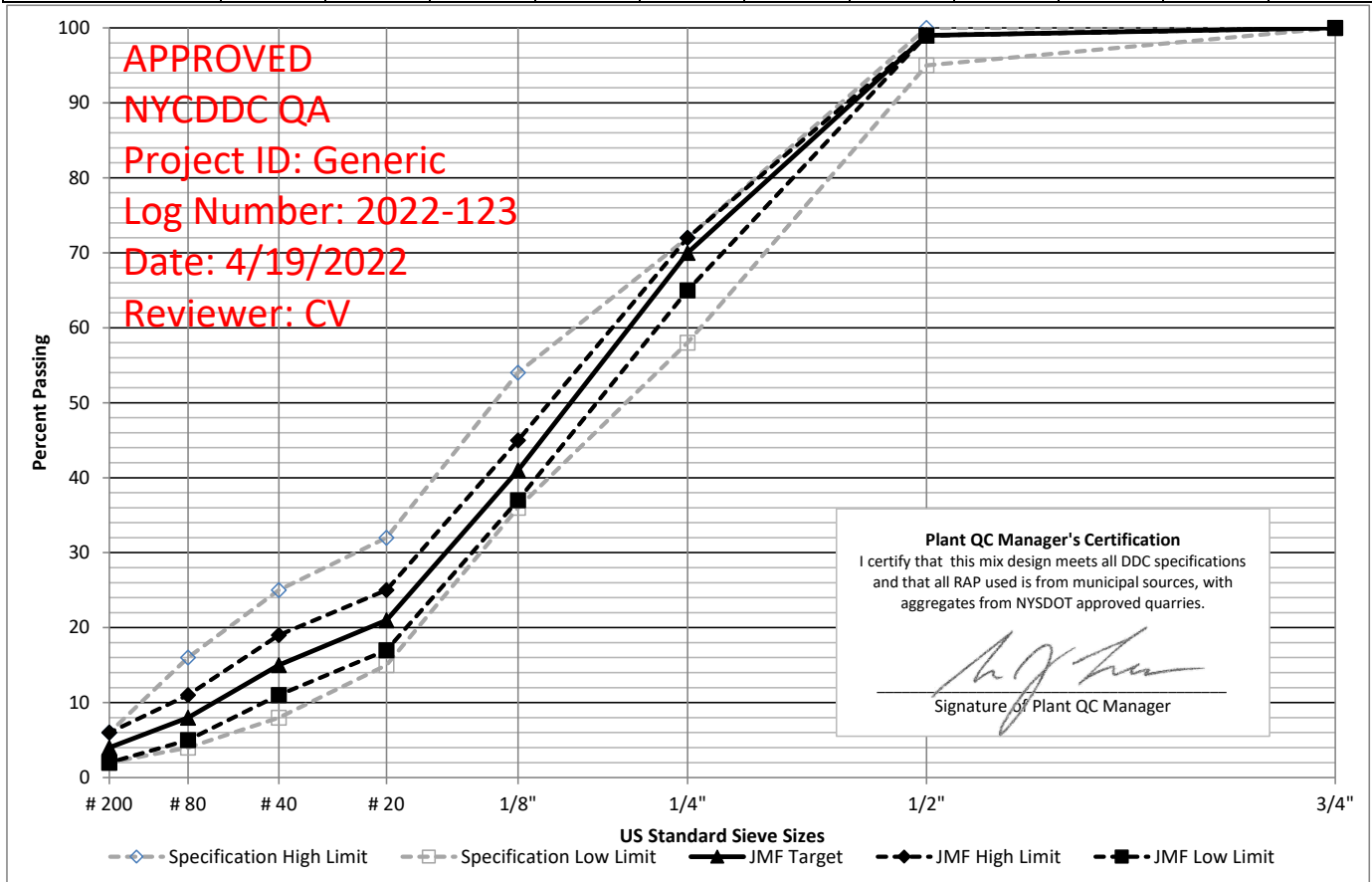
Item	Supplier / Quarry	NYSDOT Source	Friction Agg.	Agg. Blend %	Mix %	Lbs / Ton	
					0.0%	0	
#1 Stone	Tilcon - West Nyack, NY	8-8R	Yes	21.6%	20.9%	418	
#1A Stone	Tilcon - Haverstraw, NY	8-10R	Yes	19.3%	18.7%	373	
					0.0%	0	
Manufactured Sand	Tilcon - Mount Hope, NJ	8-32R	N/A	19.0%	18.4%	367	
			N/A		0.0%	0	
Fine RAP	City Asphalt	N/A	Yes	32.6%	31.5%	630	
	RAP % Asphalt: 5.6%			RAP AC	1.8%	36	
All RAP to be from Municipal Sources - Aggregates from State Quarries					RAP Aggregate	29.7%	594
Coarse RAP	City Asphalt	N/A	Yes	7.5%	7.3%	145	
	RAP % Asphalt: 3.0%			RAP AC	0.2%	4	
All RAP to be from Municipal Sources - Aggregates from State Quarries					RAP Aggregate	7.1%	141
Virgin Asphalt	Grade: PG64-22	SG (G _b):	1.042		3.3%	66	
Total Asphalt Content (P _b)					5.3%	106	
					100.0%	2,000	

QA&CS APPROVAL STAMP

CityAsphalt/6FRA/Top/Generic/NYCDDDC/039/22 EXPIRES: 4/30/2024

QA&CS SERIAL NUMBER & EXPIRATION DATE

Sieve Size	1-1/2"	1"	3/4"	1/2"	1/4"	1/8"	# 20	# 40	# 80	# 200	P _b
Specification Limits	100-100	100-100	100-100	95-100	58-72	36-54	15-32	8-25	4-16	2-6	5-6.2
JMF Target	100	100	100	99	70	41	21	15	8	4	5.3
JMF Range	100-100	100-100	100-100	99-99	65-72	37-45	17-25	11-19	5-11	2-6	5-6



QA & CONSTRUCTION SAFETY BUREAU
ASPHALT COMBINED GRADATION WORKSHEET - 6F RA TOP MIX

PLANT NAME: City Asphalt

NYSDOT FACILITY #: H0395

MIX DESIGN DATE: 4/4/2022

Average Bin Gradations

Sieve	Not Used		#1 Stone		#1A Stone		Not Used		Manufactured Sand		Not Used		Fine RAP		Coarse RAP	
	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass	% Ret.	% Pass
1.5"	100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0	
1"		100.0	0.0	100.0	0.0	100.0		100.0	0.0	100.0		100.0	0.0	100.0	0.0	100.0
3/4"		100.0	0.0	100.0	0.0	100.0		100.0	0.0	100.0		100.0	0.0	100.0	0.0	100.0
1/2"		100.0	5.0	95.0	0.0	100.0		100.0	0.0	100.0		100.0	0.0	100.0	4.6	95.4
1/4"		100.0	71.0	24.0	24.0	76.0		100.0	0.0	100.0		100.0	8.8	91.2	72.8	22.6
1/8"		100.0	19.0	5.0	68.0	8.0		100.0	7.8	92.2		100.0	29.5	61.7	6.9	15.7
#20		100.0	4.3	0.7	6.9	1.1		100.0	53.2	39.0		100.0	25.2	36.5	4.0	11.7
#40		100.0	0.4	0.3	0.5	0.6		100.0	15.0	24.0		100.0	8.9	27.6	2.1	9.6
#80		100.0	0.1	0.2	0.3	0.3		100.0	12.5	11.5		100.0	11.5	16.1	3.4	6.2
#200		100.0	0.1	0.1	0.2	0.1		100.0	7.8	3.7		100.0	5.8	10.3	2.2	4.0
Pan			0.1		0.1				3.7				10.3		4.0	
Totals	0.0		100.0		100.0		0.0		100.0		0.0		100.0		100.0	

Stockpiles Sampled By: Jonathan Santiago Date Sampled: 2/17/2022

Gradation Technician: Jonathan Santiago Date Tested: 2/17/2022

Coarse Aggregate Specific Gravity per ASTM C127

Discard portion of sample that passes the 1/8 sieve.

Only Perform this test if aggregate is 10% or more coarse (less than 90% passing the 1/8" sieve)

	Not Used	#1 Stone	#1A Stone	Not Used	Manufactured Sand	Not Used	Fine RAP	Coarse RAP
% Coarse Agg.	---	95.0%	92.0%	---	7.8%	---	38.3%	84.3%
Test Required?	NO	YES	YES	NO	NO	NO	YES	YES
A) Wt. in Air		850.3	874.8				937.6	937.6
B) Wt. SSD		859.8	882.4				949.2	949.2
C) Wt. in Water		565.1	577.6				608.8	608.8
G _{sb} (A/(B-C))	---	2.885	2.870	---	---	---	2.754	2.754
G _{sa} (A/(A-C))	---	2.981	2.943	---	---	---	2.852	2.852

Fine Aggregate Specific Gravity per ASTM C128

Discard portion of sample that does not pass the #4 sieve.

Only Perform this test if 10% or more passes the 1/8" Sieve.

	Not Used	#1 Stone	#1A Stone	Not Used	Manufactured Sand	Not Used	Fine RAP	Coarse RAP
% Fine Agg.	---	5.0%	8.0%	---	92.2%	---	61.7%	15.7%
Test Required?	NO	NO	NO	NO	YES	NO	YES	YES
A) Wt. in Air					498.6		491.6	491.6
B) Wt. Flask + Water					649.1		649.1	649.1
C) Wt. Flask + Water + Sample					963.2		967.3	967.3
S) Wt. SSD					500.6		494.0	494.0
G _{sb} (A/(B+S-C))	---	---	---	---	2.673	---	2.796	2.796
G _{sa} (A/(B+A-C))	---	---	---	---	2.702	---	2.835	2.835

Combined Aggregate Specific Gravity

	Not Used	#1 Stone	#1A Stone	Not Used	Manufactured Sand	Not Used	Fine RAP	Coarse RAP
Combined G _{sb}	---	2.885	2.870	---	2.673	---	2.780	2.761
Combined G _{sa}	---	2.981	2.943	---	2.702	---	2.841	2.849

S. G. Technician: Jonathan Santiago Date Tested: 2/17/2022

Combined Average Gradations, % Passing

Bin	Agg Blend	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200
Not Used	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.6%	21.6	21.6	21.6	20.5	5.2	1.1	0.2	0.1	0.0	0.0
#1A Stone	19.3%	19.3	19.3	19.3	19.3	14.7	1.5	0.2	0.1	0.1	0.0
Not Used	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	19.0%	19.0	19.0	19.0	19.0	17.5	7.4	4.6	2.2	0.7	
Not Used	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	32.6%	32.6	32.6	32.6	32.6	29.7	20.1	11.9	9.0	5.2	3.4
Coarse RAP	7.5%	7.5	7.5	7.5	7.2	1.7	1.2	0.9	0.7	0.5	0.3
Total	100.0%	100.0	100.0	100.0	98.6	70.3	41.4	20.6	14.5	8.0	4.4
Specification Limits		100-100	100-100	100-100	95-100	58-72	36-54	15-32	8-25	4-16	2-6

PLANT NAME: City Asphalt

NYS DOT FACILITY #: H0395

MIX DESIGN DATE: 4/4/2022

BATCH 1 Batch P_b: 4.3%
 Batch Grams: 1285.0

Batch Weights, Retained on Sieve - Grams															
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.6%	20.7%	265.6		0.0	0.0	0.0	13.3	188.6	50.5	11.4	1.1	0.3	0.3	0.3
#1A Stone	19.3%	18.5%	237.3		0.0	0.0	0.0	0.0	57.0	161.4	16.4	1.2	0.7	0.5	0.2
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	19.0%	18.2%	233.7		0.0	0.0	0.0	0.0	0.0	18.2	124.3	35.0	29.2	18.2	8.6
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	32.6%	33.0%	424.7	23.8	0.0	0.0	0.0	0.0	37.4	125.3	107.0	37.8	48.8	24.6	20.0
Coarse RAP	7.5%	7.4%	95.1	2.9	0.0	0.0	0.0	4.4	69.2	6.6	3.8	2.0	3.2	2.1	1.0
Virgin Asphalt		2.2%	28.6	28.6											
Total Mix	100.0%	100.0%	1285.0	55.3	0.0	0.0	0.0	17.7	352.1	361.9	262.9	77.1	82.3	45.7	30.1

4.30%

BATCH 2 Batch P_b: 4.8%
 Batch Grams: 1285.0

Batch Weights, Retained on Sieve - Grams															
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.6%	20.6%	264.2		0.0	0.0	0.0	13.2	187.6	50.2	11.4	1.1	0.3	0.3	0.3
#1A Stone	19.3%	18.4%	236.1		0.0	0.0	0.0	0.0	56.7	160.5	16.3	1.2	0.7	0.5	0.2
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	19.0%	18.1%	232.4		0.0	0.0	0.0	0.0	0.0	18.1	123.7	34.9	29.1	18.1	8.6
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	32.6%	32.9%	422.5	23.7	0.0	0.0	0.0	0.0	37.2	124.6	106.5	37.6	48.6	24.5	19.9
Coarse RAP	7.5%	7.4%	94.6	2.8	0.0	0.0	0.0	4.4	68.9	6.5	3.8	2.0	3.2	2.1	0.9
Virgin Asphalt		2.7%	35.2	35.2											
Total Mix	100.0%	100.0%	1285.0	61.7	0.0	0.0	0.0	17.6	350.3	360.0	261.5	76.7	81.8	45.4	29.9

4.80%

BATCH 3 Batch P_b: 5.3%
 Batch Grams: 1285.0

Batch Weights, Retained on Sieve - Grams															
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.6%	20.5%	262.8		0.0	0.0	0.0	13.1	186.6	49.9	11.3	1.1	0.3	0.3	0.3
#1A Stone	19.3%	18.3%	234.9		0.0	0.0	0.0	0.0	56.4	159.7	16.2	1.2	0.7	0.5	0.2
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	19.0%	18.0%	231.2		0.0	0.0	0.0	0.0	0.0	18.0	123.0	34.7	28.9	18.0	8.6
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	32.6%	32.7%	420.2	23.5	0.0	0.0	0.0	0.0	37.0	124.0	105.9	37.4	48.3	24.4	19.8
Coarse RAP	7.5%	7.3%	94.1	2.8	0.0	0.0	0.0	4.3	68.5	6.5	3.8	2.0	3.2	2.1	0.9
Virgin Asphalt		3.2%	41.7	41.7											
Total Mix	100.0%	100.0%	1285.0	68.1	0.0	0.0	0.0	17.5	348.5	358.1	260.2	76.3	81.4	45.2	29.7

5.30%

BATCH 4 Batch P_b: 5.8%
 Batch Grams: 1275.0

Batch Weights, Retained on Sieve - Grams															
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.6%	20.3%	259.4		0.0	0.0	0.0	13.0	184.2	49.3	11.2	1.0	0.3	0.3	0.3
#1A Stone	19.3%	18.2%	231.8		0.0	0.0	0.0	0.0	55.6	157.6	16.0	1.2	0.7	0.5	0.2
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	19.0%	17.9%	228.2		0.0	0.0	0.0	0.0	0.0	17.8	121.4	34.2	28.5	17.8	8.4
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	32.6%	32.5%	414.8	23.2	0.0	0.0	0.0	0.0	36.5	122.4	104.5	36.9	47.7	24.1	19.5
Coarse RAP	7.5%	7.3%	92.9	2.8	0.0	0.0	0.0	4.3	67.6	6.4	3.7	2.0	3.2	2.0	0.9
Virgin Asphalt		3.8%	47.9	47.9											
Total Mix	100.0%	100.0%	1275.0	74.0	0.0	0.0	0.0	17.2	343.9	353.5	256.8	75.3	80.3	44.6	29.4

5.80%

BATCH 5 Batch P_b: 6.3%
 Batch Grams: 1275.0

Batch Weights, Retained on Sieve - Grams															
Bin	Agg. Blend	Mix Blend	Batch Grams	Asph. Grams	1.5"	1"	3/4"	1/2"	1/4"	1/8"	#20	#40	#80	#200	Pan
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
#1 Stone	21.6%	20.2%	258.0		0.0	0.0	0.0	12.9	183.2	49.0	11.1	1.0	0.3	0.3	0.3
#1A Stone	19.3%	18.1%	230.6		0.0	0.0	0.0	0.0	55.3	156.8	15.9	1.2	0.7	0.5	0.2
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Manufactured Sand	19.0%	17.8%	227.0		0.0	0.0	0.0	0.0	0.0	17.7	120.8	34.0	28.4	17.7	8.4
Not Used	0.0%	0.0%	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fine RAP	32.6%	32.4%	412.6	23.1	0.0	0.0	0.0	0.0	36.3	121.7	104.0	36.7	47.4	23.9	19.4
Coarse RAP	7.5%	7.2%	92.4	2.8	0.0	0.0	0.0	4.2	67.2	6.4	3.7	1.9	3.1	2.0	0.9
Virgin Asphalt		4.3%	54.5	54.5											
Total Mix	100.0%	100.0%	1275.0	80.3	0.0	0.0	0.0	17.2	342.1	351.6	255.4	74.9	79.9	44.4	29.2

6.30%

QA & CONSTRUCTION SAFETY BUREAU

ASPHALT MAXIMUM DENSITY & MARSHALL PROPERTIES WORKSHEET - 6F RA TOP MIX

PLANT NAME: City Asphalt

NYSDOT FACILITY #: H0395

MIX DESIGN DATE: 4/4/2022

Theoretical Maximum Specific Gravity G_{mm} per ASTM D2041

Trial Batch	1		2		3		4		5	
P_b	4.3%		4.8%		5.3%		5.8%		6.3%	
A) Sample in Air (grams)	1612.5	1611.7	1620.2	1630.5	1648.1	1652.8	1670.0	1680.5	1700.0	1699.9
B) Pycnometer in Water (Grams)	1435.1	1441.8	1435.1	1441.8	1435.1	1441.8	1435.1	1441.8	1435.1	1441.8
C) Sample & Pycnometer in Water (Grams)	2428.0	2434.8	2431.4	2444.3	2446.6	2455.8	2456.0	2469.7	2468.0	2474.4
$G_{mm} (A/(A+B-C))$	2.602	2.605	2.597	2.596	2.589	2.587	2.573	2.575	2.548	2.547
Average G_{mm}	2.604		2.597		2.588		2.574		2.548	

Density Technician: Jonathan Santiago Date Tested: 2/17/2022

Computation of Marshall Mix Properties (75 Blows per Side)

Weight In Air	SSD Weight	Weight In Water	Sample Volume	Bulk SG G_{mb}	Max SG G_{mm}	% Air P_a	Unit Weight	Meas. Stability	Corr. Factor	Corr. Stability	Marshall Flow	Marshall Quotient
Grams	Grams	Grams	CC	---	---	%	PCF	lbs	lbs	lbs	0.01"	lb/0.01"
A	B	C	D	E	F	G	H	J	K	L	M	N
---	---	---	B-C	A/D	---	(F-E)/F	E*62.4	---	---	J*K	---	L/M

TRIAL BATCH 1 $P_b = 4.3\%$													
Specimen A	1281.2	1282.7	757.5	525.2	2.439	2.604	6.32%		3083	0.96	2960	7.9	375
Specimen B	1281.6	1282.9	757.8	525.1	2.441	2.604	6.27%		3125	0.96	3000	8.5	353
Specimen C	1282.4	1283.7	758.3	525.4	2.441	2.604	6.27%		3114	0.96	2990	8.8	340
Average					2.440	2.604	6.30%	152.3			2980	8.4	356

TRIAL BATCH 2 $P_b = 4.8\%$													
Specimen A	1282.3	1283.5	763.2	520.3	2.465	2.597	5.10%		3218	1	3220	10.0	322
Specimen B	1282.1	1283.1	763.1	520.0	2.466	2.597	5.06%		3265	1	3270	9.8	334
Specimen C	1282.6	1283.7	763.2	520.5	2.464	2.597	5.11%		3225	1	3230	10.2	317
Average					2.465	2.597	5.08%	153.8			3240	10.0	324

TRIAL BATCH 3 $P_b = 5.3\%$													
Specimen A	1280.4	1281.6	766.5	515.1	2.486	2.588	3.95%		3491	1	3490	10.8	323
Specimen B	1280.6	1281.8	766.0	515.8	2.483	2.588	4.07%		3485	1	3490	10.8	323
Specimen C	1280.7	1281.9	766.2	515.7	2.483	2.588	4.04%		3477	1	3480	11.0	316
Average					2.484	2.588	4.02%	155.0			3490	10.9	321

TRIAL BATCH 4 $P_b = 5.8\%$													
Specimen A	1281.4	1283.5	769.3	514.2	2.492	2.574	3.18%		3452	1	3450	11.3	305
Specimen B	1281.9	1283.0	769.2	513.8	2.495	2.574	3.07%		3395	1	3400	11.8	288
Specimen C	1282.0	1283.6	769.5	514.1	2.494	2.574	3.12%		3411	1	3410	11.7	291
Average					2.494	2.574	3.11%	155.6			3420	11.6	295

TRIAL BATCH 5 $P_b = 6.3\%$													
Specimen A	1280.0	1280.7	769.0	511.7	2.501	2.548	1.83%		3208	1	3210	12.5	257
Specimen B	1281.1	1281.9	769.3	512.6	2.499	2.548	1.91%		3194	1	3190	12.8	249
Specimen C	1281.5	1282.0	769.2	512.8	2.499	2.548	1.92%		3188	1	3190	12.2	261
Average					2.500	2.548	1.88%	156.0			3200	12.5	256

Marshall Technician: Jonathan Santiago Date Tested: 2/17/2022

QA & CONSTRUCTION SAFETY BUREAU

MIX VOLUMETRIC PROPERTIES WORKSHEET - 6F RA TOP MIX

PLANT: City Asphalt	NYS DOT FACILITY #: H0395	MIX DESIGN DATE: 4/4/2022
---------------------	---------------------------	---------------------------

Agg. Blend %	Constituent Material	NYS DOT Source	G _{sa}	G _{sb}	Total Mix Composition by Weight				
					Trial Batch				
					1	2	3	4	5
0.0%	Not Used	---	---	---	0.0%	0.0%	0.0%	0.0%	0.0%
21.6%	#1 Stone	8-8R	2.981	2.885	20.7%	20.6%	20.5%	20.3%	20.2%
19.3%	#1A Stone	8-10R	2.943	2.870	18.5%	18.4%	18.3%	18.2%	18.1%
0.0%	Not Used	---	---	---	0.0%	0.0%	0.0%	0.0%	0.0%
19.0%	Manufactured Sand	8-32R	2.702	2.673	18.2%	18.1%	18.0%	17.9%	17.8%
0.0%	Not Used	---	---	---	0.0%	0.0%	0.0%	0.0%	0.0%
32.6%	Fine RAP		2.841	2.780	33.0%	32.9%	32.7%	32.5%	32.4%
7.5%	Coarse RAP		2.849	2.761	7.4%	7.4%	7.3%	7.3%	7.2%
	Virgin Asphalt				2.2%	2.7%	3.2%	3.8%	4.3%
100.0%					100.0%	100.0%	100.0%	100.0%	100.0%

Mix General Properties		Trial Batch						
		1	2	3	4	5		
P _b	Percent Total Asphalt Binder, %			4.3%	4.8%	5.3%	5.8%	6.3%
P _{ba}	Percent Absorbed Asphalt Binder, %			-0.05%	0.16%	0.34%	0.45%	0.34%
P _{be}	Percent Effective Asphalt Binder, %			4.35%	4.65%	4.97%	5.38%	5.98%
DP	Dust Proportion (0.6 - 1.2 desired)			1.0	1.1	1.1	1.2	1.4
G _{mm}	Mix Maximum Specific Gravity			2.604	2.597	2.588	2.574	2.548
G _{mb}	Mix Bulk Specific Gravity			2.440	2.465	2.484	2.494	2.500
G _{sb}	Aggregate Bulk Gravity			2.796	2.796	2.796	2.796	2.796
G _{se}	Aggregate Effective Gravity			2.792	2.808	2.822	2.830	2.822
G _{sa}	Aggregate Apparent Specific Gravity			2.862	2.862	2.862	2.862	2.862

Mix Acceptance Properties		Low Limit	High Limit	Trial Batch				
				1	2	3	4	5
VMA	Voids in Mineral Aggregate, %	15.5%		✓ 16.5%	✓ 16.1%	✓ 15.9%	✓ 16.0%	✓ 16.2%
	<i>Note: All five trial batches must meet the minimum VMA requirement.</i>							
VFA	Voids Filled with Asphalt, %	65%	75%	✗ 61.8%	✓ 68.4%	✓ 74.7%	✗ 80.5%	✗ 88.4%
P _a	Percent Air Voids, %	3.0%	5.0%	✗ 6.3%	✗ 5.1%	✓ 4.0%	✓ 3.1%	✗ 1.9%
---	Marshall Stability (Corrected), lb	1500		✓ 2980	✓ 3240	✓ 3490	✓ 3420	✓ 3200
---	Marshall Flow, 0.01"	8	12	✓ 8.4	✓ 10.0	✓ 10.9	✓ 11.6	✗ 12.5
---	Marshall Quotient, lb/0.01"	150		✓ 356	✓ 324	✓ 321	✓ 295	✓ 256

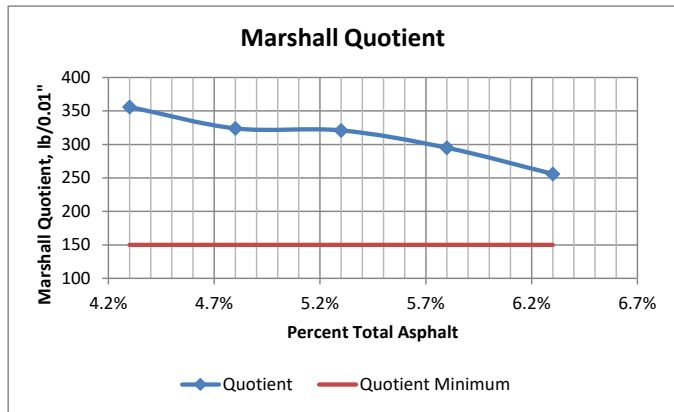
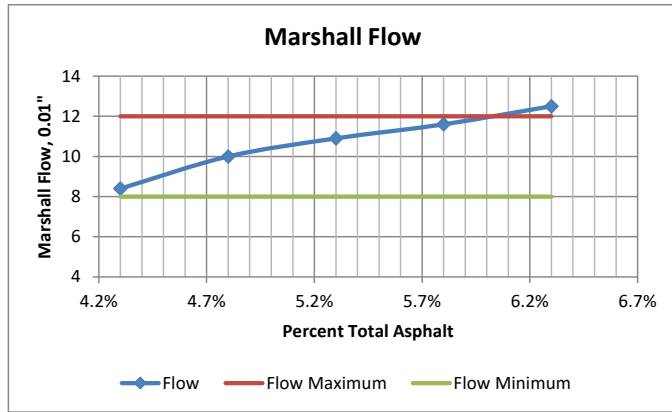
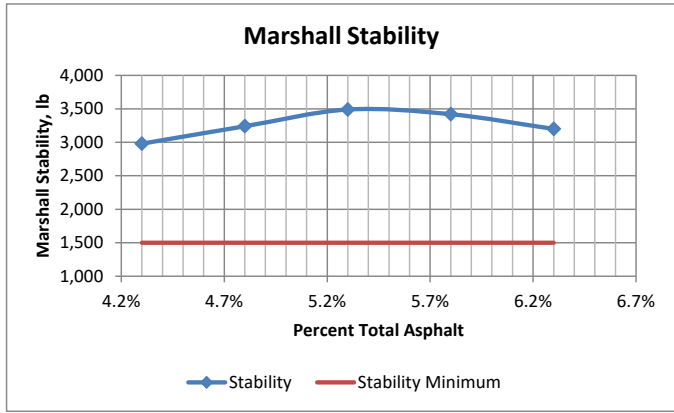
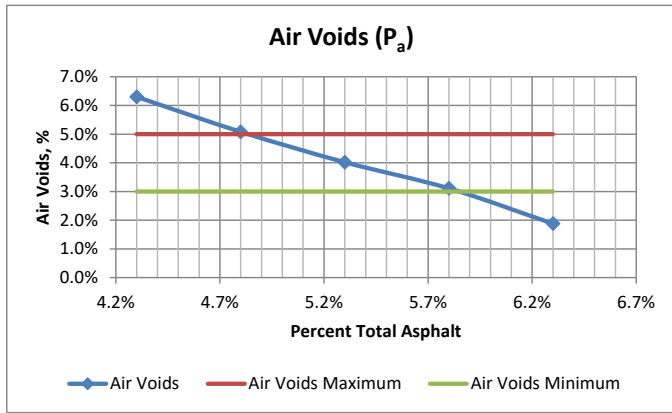
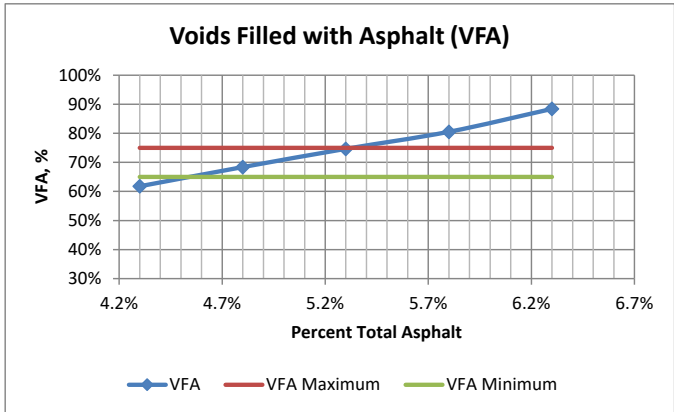
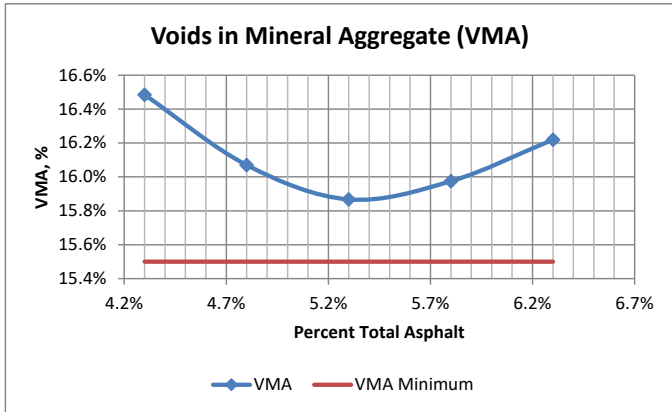
QA & CONSTRUCTION SAFETY BUREAU

PROPERTY CURVES & DESIRED ASPHALT CONTENT WORKSHEET - 6F RA TOP MIX

PLANT NAME: City Asphalt

NYSDOT FACILITY #: H0395

MIX DESIGN DATE: 4/4/2022



Property	High	Low
Voids in Mineral Aggregate (VMA), %	6.3%	4.3%
Voids Filled with Asphalt (VFA), %	5.6%	4.5%
Percent Air Voids, (P _a) %	5.8%	4.9%
Marshall Stability (Corrected), lb	6.3%	4.3%
Marshall Flow, 0.01"	6.0%	4.3%
Marshall Quotient, lb/0.01"	6.3%	4.3%
Overlap	6.3%	4.3%

Properties at Desired AC%
15.9%
74.7%
4.0%
3490
10.9
310.4

Midpoint	5.3%
----------	------

Desired Total Asphalt Content P _b	5.3%
--	------

Desired Asphalt Content is the midpoint, unless the midpoint is on the VMA curve's positive slope. If this is the case, the Desired Asphalt Content is as close as possible to the bottom of the VMA curve, within the Overlap Range.