

**Department of  
Design and  
Construction**

Lorraine Grillo  
Commissioner

Safety & Site Support Division  
Office of Quality Assurance

John M. DeVito, SCTPP  
Director  
Quality Assurance Unit

**Concrete and Asphalt Generic Mix Design Approval # 2019 – 639**

30-30 Thomson Avenue  
Long Island City, NY 11101

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

**Date:** 12/12/19  
**To:** Larry Santana  
Willets Point Asphalt Corp.  
**From:** John M. DeVito, Director  
Quality Assurance

**Date Submitted:** 12/10/19

**Plant:** Willets Point Asphalt Corp.

**NYSDOT Facility Numbers:** H0354

**Laboratory:** N/A

**Mix Design Type:** 6FRA Top

**Mix Design Serial Number:** WilletsPointAsphalt/6FRA/Top/Generic/NYCDDC/140/19

**Reference Generic Mix Design – Mix Design Date:** 12/10/2019

**Reference Generic Mix Design – Expiration Date:** 12/31/2021 (See Comment 1 Below)

- 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: Scott Cruz, QA Inspector

Recommended for Acceptance by: Juan Martinez, PE, Deputy Director

# QA & CONSTRUCTION SAFETY BUREAU

## ASPHALT JOB MIX FORMULA SHEET - 6F RA TOP MIX

PLANT NAME: WILLETS POINT ASPHALT CORP  
 NYSDOT FACILITY #: H0354  
 PLANT ADDRESS: FLUSHING  
 NEW YORK

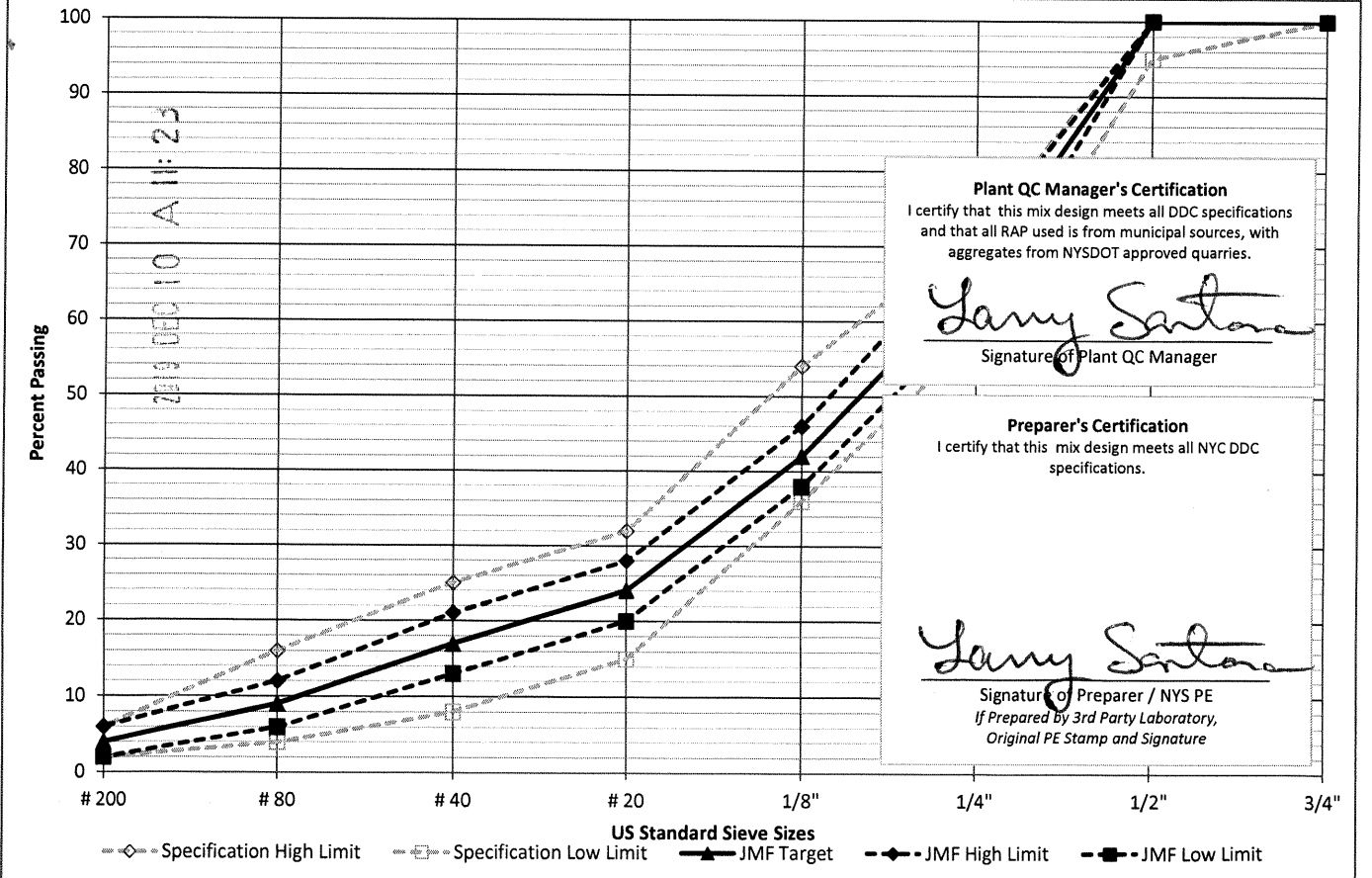
MIX DESIGN DATE: 12/10/2019  
 PREPARED BY: LARRY SANTANA  
 COMPANY: WILLETS POINT ASPHALT  
 PLANT QC MGR: LARRY SANTANA

Item	Supplier / Quarry	NYSDOT Source	Friction Agg.	Agg. Blend %	Mix %	Lbs / Ton	
					0.0%	0	
#1 Stone	Tilcon, Mt Hope,NJ	8-32R	Yes	28.7%	27.7%	553	
#1A Stone	Tilcon, Mt Hope,NJ	8-32R	Yes	18.0%	17.4%	347	
					0.0%	0	
Manufactured Sand	Tilcon, Mt Hope,NJ	8-32R	N/A	23.3%	22.5%	449	
Screenings	Tilcon, Mt Hope,NJ	8-32R	N/A	0.0%	0.0%	0	
RAP	Willets Pt Asphalt Corp.	N/A	Yes	30.0%	28.9%	578	
	RAP % Asphalt: 6.2%			RAP AC	1.8%	36	
All RAP to be from Municipal Sources - Aggregates from State Quarries					RAP Aggregate	27.1%	542
		N/A			0.0%	0	
	RAP % Asphalt:			RAP AC	0.0%	0	
All RAP to be from Municipal Sources - Aggregates from State Quarries					RAP Aggregate	0.0%	0
Virgin Asphalt	Grade: PG64-22	SG (G <sub>b</sub> ):	1.034		3.6%	72	
Total Asphalt Content (P <sub>b</sub> )					5.4%	108	
				100.0%	100.0%	2,000	

Project No: Generic  
**APPROVED**  
 NYC DDC (QA/QCS BUREAU)  
 Date: 12/12/19 Reviewed By: S.C.  
 LOG No: 2019-639  
 QA&CS APPROVAL STAMP

**WILLETSPOINTASPHALT/6FRA/TOP/GENERIC/NYCDDC/140/19 EXP:12/31/2021**

Sieve Size	1-1/2"	1"	3/4"	1/2"	1/4"	1/8"	# 20	# 40	# 80	# 200	P <sub>b</sub>
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	100	66	42	24	17	9	4	5.4
JMF Range	100-100	100-100	100-100	100-100	61-71	38-46	20-28	13-21	6-12	2-6	5-6.1



# QA & CONSTRUCTION SAFETY BUREAU

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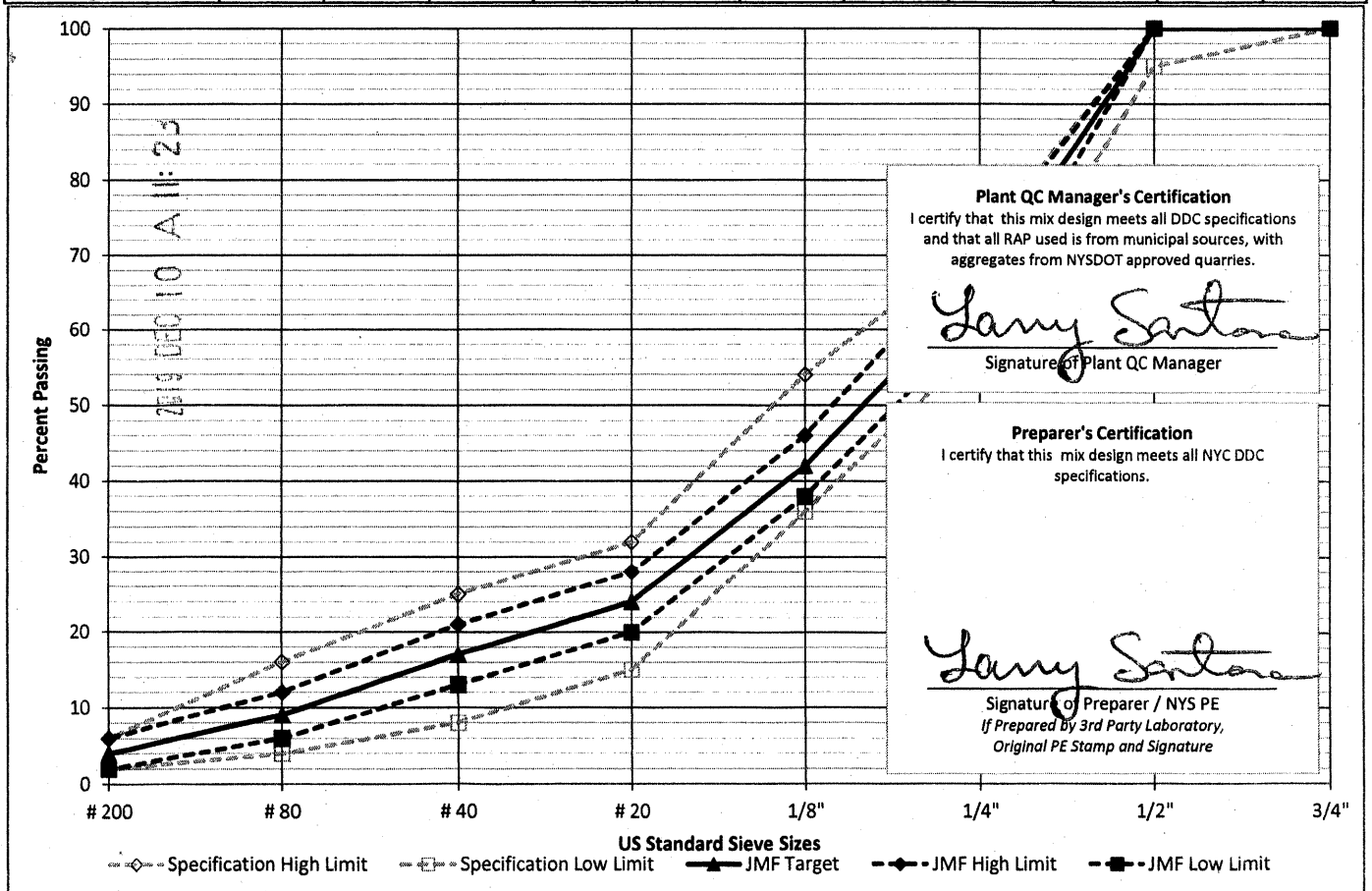
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	RAP % Asphalt: 6.2%			RAP AC	1.8%	36
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QA&CS APPROVAL STAMP

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# QA & CONSTRUCTION SAFETY BUREAU

## MIX VOLUMETRIC PROPERTIES WORKSHEET - 6F RA TOP MIX

PLANT: WILLETS POINT ASPHALT CORP	NYSDOT FACILITY #: H0354	MIX DESIGN DATE: 12/10/2019
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Agg. Blend %	Constituent Material	NYSDOT Source	G <sub>sa</sub>	G <sub>sb</sub>	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%
28.7%	#1 Stone	8-32R	2.721	2.698	27.4%	27.3%	27.1%	27.0%	26.8%
18.0%	#1A Stone	8-32R	2.715	2.690	17.2%	17.1%	17.0%	16.9%	16.8%
0.0%	Not Used	---	---	---	0.0%	0.0%	0.0%	0.0%	0.0%
23.3%	Manufactured Sand	8-32R	2.691	2.658	22.3%	22.1%	22.0%	21.9%	21.8%
0.0%	Screenings	8-32R	2.693	2.640	0.0%	0.0%	0.0%	0.0%	0.0%
30.0%	RAP		2.692	2.649	30.5%	30.4%	30.2%	30.1%	29.9%
0.0%	Not Used		---	---	0.0%	0.0%	0.0%	0.0%	0.0%
	Virgin Asphalt				2.6%	3.1%	3.6%	4.1%	4.6%
100.0%					100.0%	100.0%	100.0%	100.0%	100.0%

Mix General Properties			Trial Batch				
			1	2	3	4	5
P <sub>b</sub>	Percent Total Asphalt Binder, %		4.5%	5.0%	5.5%	6.0%	6.5%
P <sub>ba</sub>	Percent Absorbed Asphalt Binder, %		0.36%	0.30%	0.40%	0.34%	0.29%
P <sub>be</sub>	Percent Effective Asphalt Binder, %		4.16%	4.71%	5.12%	5.68%	6.23%
DP	Dust Proportion (0.6 - 1.2 desired)		0.9	1.1	1.2	1.3	1.4
G <sub>mm</sub>	Mix Maximum Specific Gravity		2.515	2.493	2.480	2.459	2.438
G <sub>mb</sub>	Mix Bulk Specific Gravity		2.341	2.356	2.376	2.383	2.392
G <sub>sb</sub>	Aggregate Bulk Gravity		2.672	2.672	2.672	2.672	2.672
G <sub>se</sub>	Aggregate Effective Gravity		2.697	2.693	2.700	2.696	2.692
G <sub>sa</sub>	Aggregate Apparent Specific Gravity		2.704	2.704	2.704	2.704	2.704

Mix Acceptance Properties			Low Limit	High Limit	Trial Batch				
					1	2	3	4	5
VMA	Voids in Mineral Aggregate, %	15.5%			16.3%	16.2%	16.0%	16.2%	16.3%
<i>Note: All five trial batches must meet the minimum VMA requirement.</i>									
VFA	Voids Filled with Asphalt, %	65%	75%		57.6%	66.1%	73.8%	80.9%	88.4%
P <sub>a</sub>	Percent Air Voids, %	3.0%	5.0%		6.9%	5.5%	4.2%	3.1%	1.9%
---	Marshall Stability (Corrected), lb	1500			2590	2880	3200	2940	2550
---	Marshall Flow, 0.01"	8	12		8.7	9.3	10.5	11.2	11.8
---	Marshall Quotient, lb/0.01"	150			299	308	306	264	216