

# Aggregate Optimization Chart

**PLANT #:** **P11**

Sample Date: 12/18/23

Concrete Grade: **P1M, 3500HP**

Dates Test Represents: 12/19/2023 through 12/25/2023

Contractor: \_\_\_\_\_

MDOT No.: \_\_\_\_\_



**Superior Materials, LLC**  
30701 W. 10 Mile Rd.  
Suite 500  
Farmington Hills, MI 48336

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
CA	71-47	Presque Isle	720	4.40	2.62	23.5
IA	71-47	Presque Isle	1150	7.03	2.62	37.5
2NS	95-013	Smelter Bay	1200	7.26	2.65	39.1
<b>Total Wt</b>			<b>3070</b>	<b>18.70</b>		<b>100.0</b>

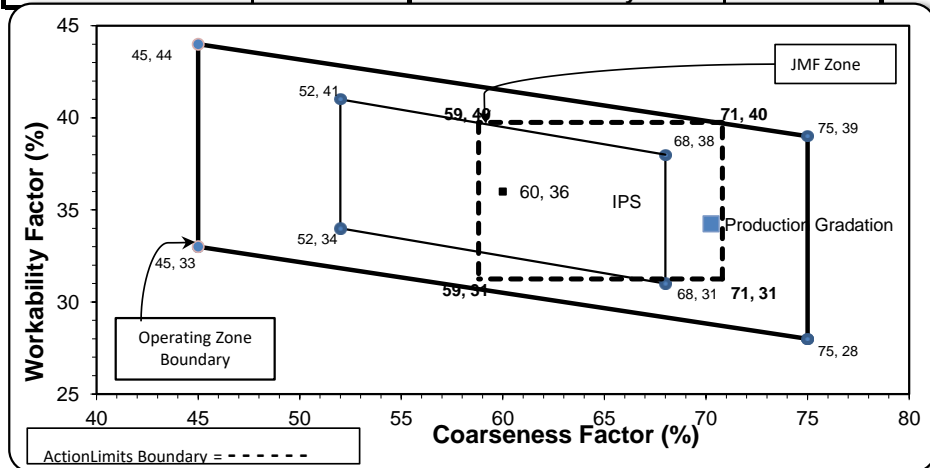
<----- Verify this number is 100%

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.4	100.0	100.0	99.6	0.4	0.4
1"	30.8	100.0	100.0	83.8	15.9	16.2
3/4"	7.6	98.6	100.0	77.8	6.0	22.2
1/2"	2.2	67.4	100.0	64.9	13.0	35.1
3/8"	1.6	38.3	100.0	53.8	11.0	46.2
#4	1.4	3.0	96.3	39.1	14.7	60.9
#8	1.3	1.4	85.5	34.2	4.8	65.8
#16	1.3	1.1	70.7	28.4	5.9	71.6
#30	1.2	1.0	50.6	20.4	7.9	79.6
#50	1.2	1.0	23.7	9.9	10.5	90.1
#100	1.1	0.9	7.2	3.4	6.5	96.6
LBW	1.0	0.8	1.5	1.1	2.3	98.9

\*Maximum % Retained must be above the 3/8" sieve.  
\*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.  
\*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.  
\*% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Coarseness Factor: **70**      Workability Factor: **34**



Initial Production Sample (IPS)

Coarseness Factor: **65**  
Workability Factor: **36**

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

PREPARED BY:  
SM, LLC Technical Service

Approved By: