

# Aggregate Optimization Chart

**PLANT #:** **P-102**

Sample Date: 4/3/26

Concrete Grade: **DM, 4500HP**

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

Dates Test Represents: 4/4/2026 through 4/10/2026

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1400	8.34	2.69	46.7
26A	58-003	Stoneco	400	2.38	2.69	13.3
2NS	63-092	Grange Hall	1200	7.18	2.68	40.0
<b>Total Wt</b>			<b>3000</b>	<b>17.90</b>		<b>100.0</b>

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



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

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	85.2	100.0	100.0	93.1	6.9	6.9
1/2"	42.7	99.6	100.0	73.2	19.9	26.8
3/8"	21.1	85.4	100.0	61.2	12.0	38.8
#4	4.2	7.6	97.4	41.9	19.3	58.1
#8	1.8	1.4	84.3	34.7	7.2	65.3
#16	1.2	1.2	69.1	28.4	6.4	71.6
#30	1.2	1.2	49.6	20.6	7.8	79.4
#50	1.1	1.0	20.6	8.9	11.7	91.1
#100	1.0	1.0	2.9	1.8	7.1	98.2
LBW	0.8	0.9	0.7	0.8	1.0	99.2

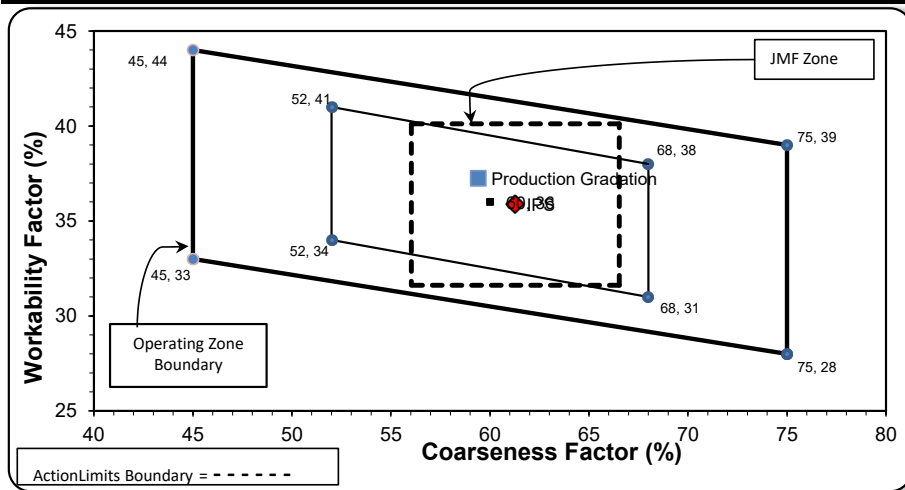
\*Maximum % Retained must be above the 3/8" sieve.  
 \*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.  
 \*\*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.  
 \*\*\*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations  Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>59</b>	<b>Workability Factor:</b>	<b>35</b>	<b>37.2</b>
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<b>Coarseness Factor:</b>	<b>61</b>
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<b>Workability Factor:</b>	<b>36</b>
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

PREPARED BY:  
 SM, LLC Technical Service

Approved By:  
 Nancy Donahue

# Aggregate Optimization Chart

**PLANT #:** **P-103**

Sample Date: 4/3/26

Concrete Grade: **DM, 4500HP**

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

Dates Test Represents: 4/4/2026 through 4/10/2026

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1400	8.34	2.69	46.7
26A	58-003	Stoneco	400	2.38	2.69	13.3
2NS	63-092	Grange Hall	1200	7.18	2.68	40.0
<b>Total Wt</b>			<b>3000</b>	<b>17.90</b>		<b>100.0</b>

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



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Farmington Hills, MI 48336

Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	85.2	100.0	100.0	93.1	6.9	6.9
1/2"	42.7	99.6	100.0	73.2	19.9	26.8
3/8"	21.1	85.4	100.0	61.2	12.0	38.8
#4	4.2	7.6	97.4	41.9	19.3	58.1
#8	1.8	1.4	84.3	34.7	7.2	65.3
#16	1.2	1.2	69.1	28.4	6.4	71.6
#30	1.2	1.2	49.6	20.6	7.8	79.4
#50	1.1	1.0	20.6	8.9	11.7	91.1
#100	1.0	1.0	2.9	1.8	7.1	98.2
LBW	0.8	0.9	0.7	0.8	1.0	99.2

\*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 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") aggregate is used.

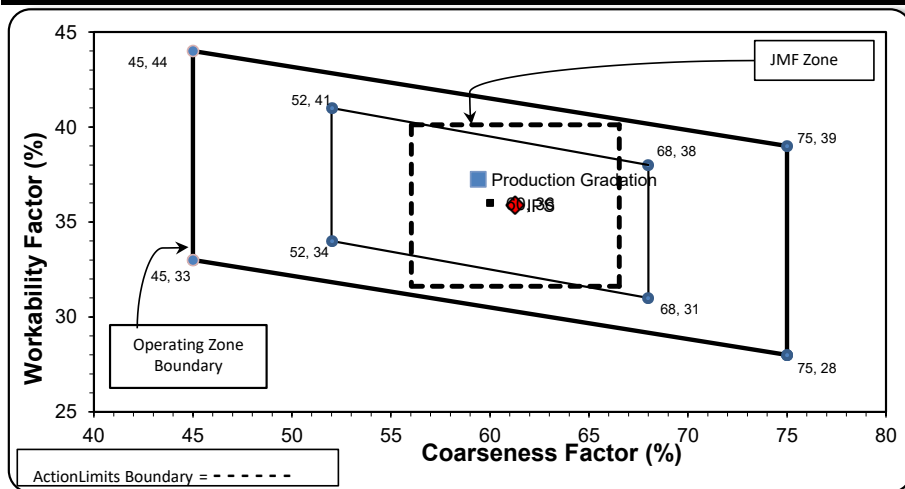
Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>59</b>	<b>Workability Factor:</b>	<b>35</b>	<b>37.2</b>
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<b>Coarseness Factor:</b>	<b>61</b>
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<b>Workability Factor:</b>	<b>36</b>
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

PREPARED BY:  
SM, LLC Technical Service

Approved By:  
Nancy Donahue

# Aggregate Optimization Chart

**PLANT #:** P-02

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

Sample Date: 4/3/26

Concrete Grade: DM, 4500HP

Dates Test Represents: 4/4/2026 through 4/10/2026

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

Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1480	8.82	2.60	50.5
26A	71-47	Presque Isle	300	1.79	2.60	10.2
2NS	63-115	Ray Rd.	1150	6.93	2.66	39.2
<b>Total Wt</b>			<b>2930</b>	<b>17.53</b>		<b>100.0</b>

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



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Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.1	100.0	100.0	99.0	1.0	1.0
3/4"	81.0	100.0	100.0	90.4	8.6	9.6
1/2"	39.8	95.3	100.0	69.1	21.3	30.9
3/8"	18.0	81.8	100.0	56.7	12.4	43.3
#4	2.7	17.6	97.0	41.2	15.5	58.8
#8	1.8	6.2	82.7	34.0	7.2	66.0
#16	1.6	3.7	63.7	26.2	7.8	73.8
#30	1.5	3.0	46.7	19.4	6.8	80.6
#50	1.4	2.7	23.6	10.2	9.1	89.8
#100	1.3	2.5	6.1	3.3	6.9	96.7
LBW	1.1	2.0	1.2	1.2	2.1	98.8

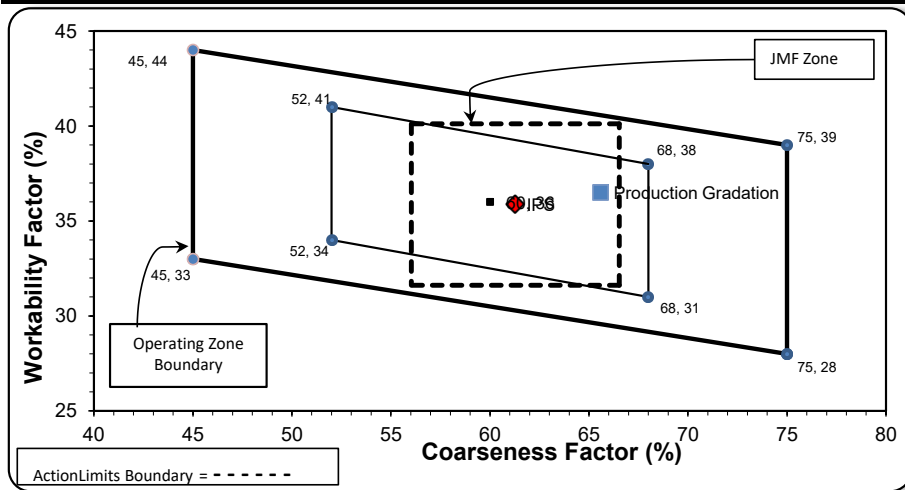
\*Maximum % Retained must be above the 3/8" sieve.  
 \*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.  
 \*\*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.  
 \*\*\*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation  Batch Plant Gradations  Aggregate Supplier Gradations  Adjusted WF Initial Production Sample (IPS)

<b>Coarseness Factor:</b>	<b>66</b>	<b>Workability Factor:</b>	<b>34</b>	<b>Adjusted WF</b>	<b>36.5</b>
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<b>Coarseness Factor:</b>	<b>61</b>
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<b>Workability Factor:</b>	<b>36</b>
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	99.3	0.7	0.7
3/4"	89.2	10.1	10.8
1/2"	70.7	18.5	29.3
3/8"	60.7	10.0	39.3
#4	44.4	16.3	55.6
#8	35.9	8.5	64.1
#16	27.3	8.6	72.7
#30	19.1	8.2	80.9
#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
LBW	0.7	1.2	99.3

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