

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-2**

Sample Date: 7/23/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 7/24/2026 through 7/30/2036

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1420	9.07	2.51	48.0
26A	71-47	Presque Isle	320	2.04	2.51	10.8
2NS	63-115	Ray Rd	1220	7.32	2.67	41.2
Total Wt			2960	18.43		100.0

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

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"	98.4	100.0	100.0	99.2	0.8	0.8
3/4"	81.6	100.0	100.0	91.2	8.1	8.8
1/2"	43.5	92.5	100.0	72.1	19.1	27.9
3/8"	23.3	75.8	100.0	60.6	11.5	39.4
#4	3.2	14.9	95.9	42.7	17.9	57.3
#8	2.0	4.4	79.7	34.3	8.4	65.7
#16	1.8	2.5	63.6	27.3	6.9	72.7
#30	1.7	2.1	47.5	20.6	6.7	79.4
#50	1.6	1.9	25.5	11.5	9.1	88.5
#100	1.5	1.8	7.1	3.8	7.6	96.2
LBW	1.3	1.6	1.1	1.3	2.6	98.8



Superior Materials, LLC

30701 W. 10 Mile Rd.

Suite 500

Farmington Hills, MI 48336

*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.

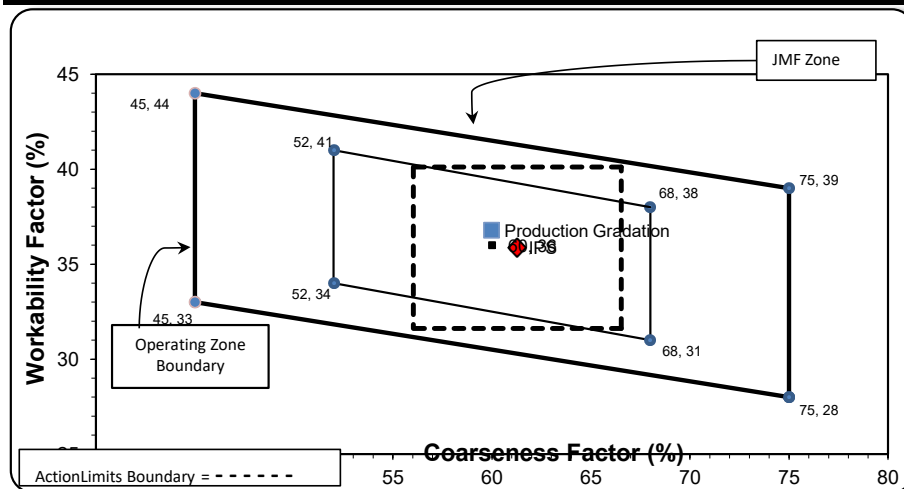
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	34	36.8
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Coarseness Factor:	61
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Workability Factor:	36
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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

Production Gradation Report

PLANT #: **P-2**

Sample Date: 7/23/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 7/24/2026 through 7/30/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1350	8.62	2.51	47.0
26A	71-47	Presque Isle	300	1.92	2.51	10.5
2NS	63-115	Ray Rd	1220	7.32	2.67	42.5
Total Wt			2870	17.86		100.0

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

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"	98.4	100.0	100.0	99.2	0.8	0.8
3/4"	81.6	100.0	100.0	91.3	7.9	8.7
1/2"	43.5	92.5	100.0	72.6	18.7	27.4
3/8"	23.3	75.8	100.0	61.4	11.2	38.6
#4	3.2	14.9	95.9	43.8	17.6	56.2
#8	2.0	4.4	79.7	35.3	8.5	64.7
#16	1.8	2.5	63.6	28.1	7.1	71.9
#30	1.7	2.1	47.5	21.2	6.9	78.8
#50	1.6	1.9	25.5	11.8	9.4	88.2
#100	1.5	1.8	7.1	3.9	7.9	96.1
LBW	1.3	1.6	1.1	1.2	2.7	98.8



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*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.

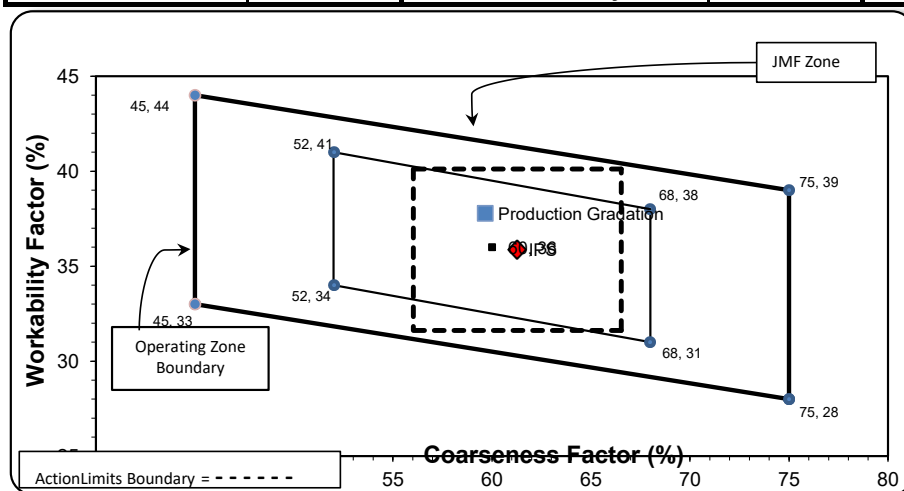
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	60	Workability Factor:	35	37.8
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Coarseness Factor:	61
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Workability Factor:	36
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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:
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Approved By:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Sample Date: 7/23/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 7/24/2026 through 7/30/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stone Co	1550	9.23	2.69	50.8
Intermediate	58-003	Stone Co	350	2.09	2.69	11.5
2NS	63-115	Ray Rd	1150	6.93	2.66	37.7
Total Wt			3050	18.25		100.0

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

Sieve	6AA	Intermediate	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"	87.4	100.0	100.0	93.6	6.4	6.4
1/2"	47.9	92.3	100.0	72.6	21.0	27.4
3/8"	30.2	77.8	100.0	62.0	10.7	38.0
#4	3.7	18.7	98.8	41.3	20.7	58.7
#8	1.4	2.6	84.0	32.7	8.6	67.3
#16	1.0	1.6	66.3	25.7	7.0	74.3
#30	1.0	1.4	48.5	19.0	6.7	81.0
#50	0.9	1.3	24.5	9.8	9.1	90.2
#100	0.9	1.2	6.1	2.9	6.9	97.1
LBW	0.8	1.1	0.5	0.7	2.2	99.3



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*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.

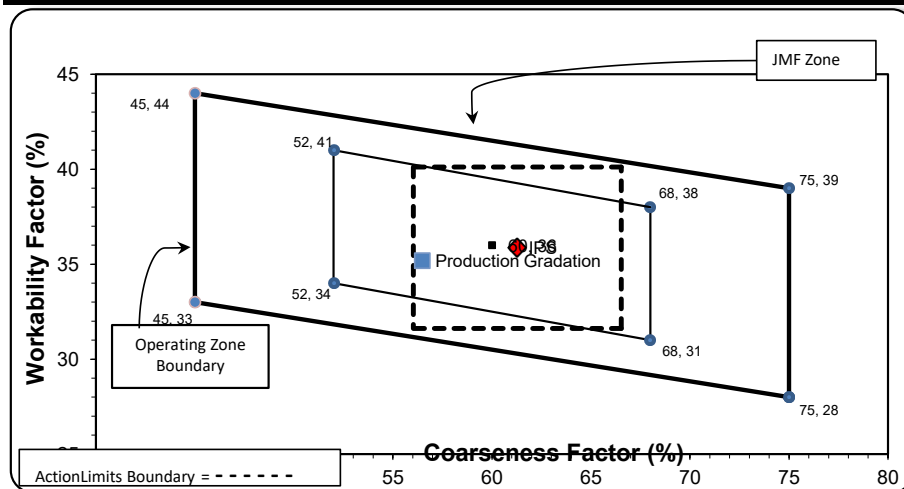
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	56	Workability Factor:	33	35.2
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Coarseness Factor:	61
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Workability Factor:	36
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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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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Sample Date: 7/23/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 7/24/2026 through 7/30/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stone Co	1500	8.94	2.69	50.8
Intermediate	58-003	Stone Co	300	1.79	2.69	10.2
2NS	63-115	Ray Rd	1150	6.93	2.66	39.0
Total Wt			2950	17.65		100.0

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

Sieve	6AA	Intermediate	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"	87.4	100.0	100.0	93.6	6.4	6.4
1/2"	47.9	92.3	100.0	72.7	20.9	27.3
3/8"	30.2	77.8	100.0	62.3	10.5	37.7
#4	3.7	18.7	98.8	42.3	20.0	57.7
#8	1.4	2.6	84.0	33.7	8.6	66.3
#16	1.0	1.6	66.3	26.5	7.2	73.5
#30	1.0	1.4	48.5	19.6	7.0	80.4
#50	0.9	1.3	24.5	10.1	9.4	89.9
#100	0.9	1.2	6.1	3.0	7.2	97.0
LBW	0.8	1.1	0.5	0.7	2.2	99.3



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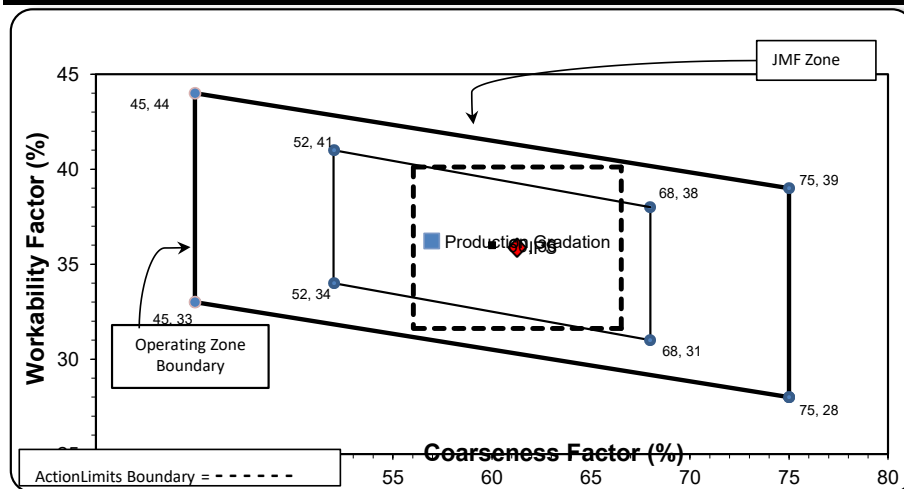
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Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	57	Workability Factor:	34	36.2
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Coarseness Factor:	61
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Workability Factor:	36
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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
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#50	7.4	11.7	92.6
#100	1.9	5.6	98.1
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