

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P11**

Sample Date: 10/14/26

Concrete Grade: **P1M-3500HP**

Contractor: _____

Dates Test Represents: 10/15/2026 through 10/21/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	780	4.86	2.57	25.2
IA	71-47	Presque Isle	1130	7.05	2.57	36.6
2NS	63-115	Ray Rd	1180	7.08	2.67	38.2
Total Wt			3090	18.99		100.0

<----- 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"	98.9	100.0	100.0	99.7	0.3	0.3
1"	27.4	100.0	100.0	81.7	18.0	18.3
3/4"	4.1	100.0	100.0	75.8	5.9	24.2
1/2"	1.6	79.2	100.0	67.6	8.2	32.4
3/8"	1.6	52.4	100.0	57.8	9.8	42.2
#4	1.6	10.0	96.2	40.8	17.0	59.2
#8	1.5	3.4	80.5	32.4	8.4	67.6
#16	1.4	2.3	63.3	25.4	7.0	74.6
#30	1.4	2.1	46.0	18.7	6.7	81.3
#50	1.4	2.0	25.1	10.7	8.0	89.3
#100	1.2	1.8	7.1	3.7	7.0	96.3
LBW	1.0	1.6	1.1	1.3	2.4	98.7



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.

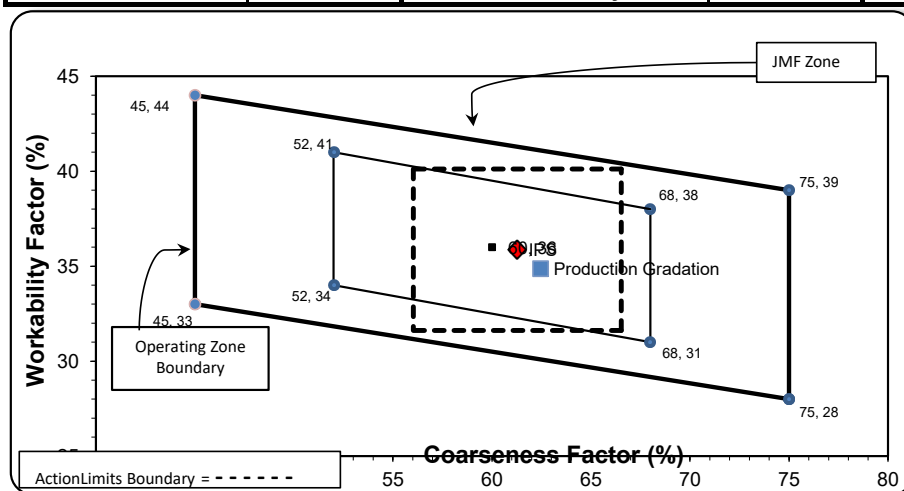
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	32	34.9
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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-21**

Sample Date: 10/14/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 10/15/2026 through 10/21/2026

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	780	4.86	2.57	25.2
IA	71-47	Presque Isle	1130	7.05	2.57	36.6
2NS	81-019	Pleasant Lk	1180	7.14	2.65	38.2
Total Wt			3090	19.05		100.0

<----- 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"	98.9	100.0	100.0	99.7	0.3	0.3
1"	27.4	100.0	100.0	81.7	18.0	18.3
3/4"	4.1	100.0	100.0	75.8	5.9	24.2
1/2"	1.6	79.2	100.0	67.6	8.2	32.4
3/8"	1.6	52.4	100.0	57.8	9.8	42.2
#4	1.6	10.0	98.2	41.6	16.2	58.4
#8	1.5	3.4	83.4	33.5	8.1	66.5
#16	1.4	2.3	61.9	24.8	8.6	75.2
#30	1.4	2.1	40.9	16.7	8.1	83.3
#50	1.4	2.0	16.1	7.2	9.5	92.8
#100	1.2	1.8	3.2	2.2	5.0	97.8
LBW	1.0	1.6	0.8	1.1	1.0	98.9



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**% Retained must be at least 4% for each sieve except max.,

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**% Retained must be at least 4% for the 3/4" sieve when

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

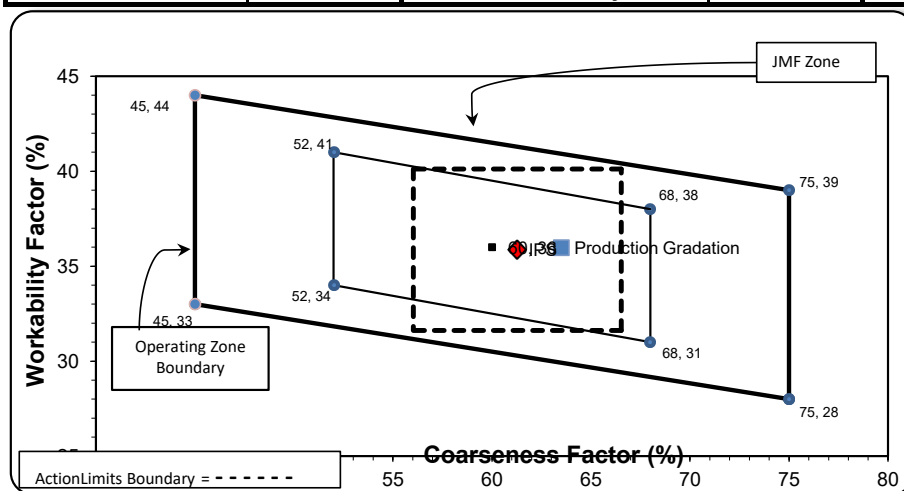
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	33	36.0
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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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Approved By:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-35**

Sample Date: 10/14/26

Concrete Grade: **P1M-3500HP**

Contractor: _____

Dates Test Represents: 10/15/2026 through 10/21/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	StoneCo	1350	8.04	2.69	42.9
IA	58-003	StoneCo	600	3.57	2.69	19.0
2NS	81-019	Pleasant Lk	1200	7.26	2.65	38.1
Total Wt			3150	18.87		100.0

<----- 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"	100.0	100.0	100.0	100.0	0.0	0.0
1"	69.2	100.0	100.0	86.8	13.2	13.2
3/4"	44.0	100.0	100.0	76.0	10.8	24.0
1/2"	18.0	91.8	100.0	63.3	12.7	36.7
3/8"	9.6	76.9	100.0	56.9	6.4	43.1
#4	2.3	17.8	98.1	41.7	15.1	58.3
#8	1.7	3.2	85.3	33.8	7.9	66.2
#16	1.4	2.2	64.8	25.7	8.1	74.3
#30	1.2	1.8	42.8	17.2	8.5	82.8
#50	1.1	1.6	14.9	6.5	10.7	93.5
#100	1.0	1.4	3.6	2.1	4.4	97.9
LBW	1.0	1.2	1.2	1.1	1.0	98.9



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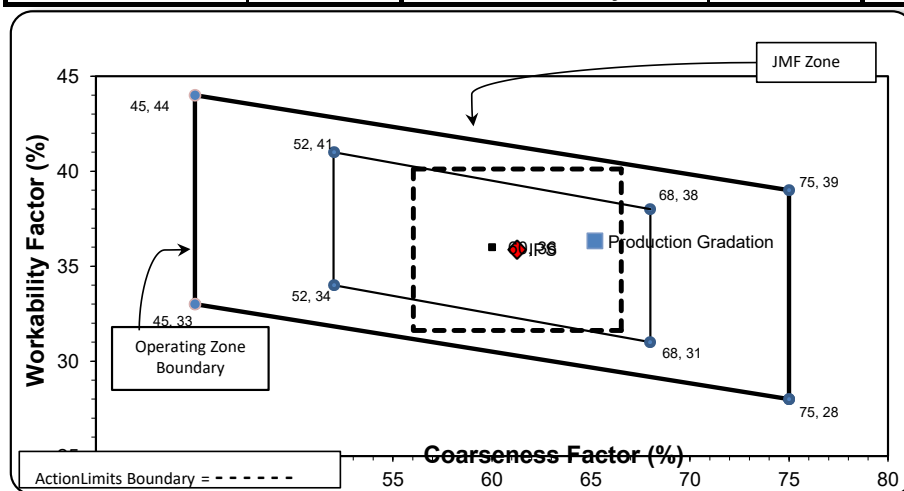
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	65	Workability Factor:	34	36.3
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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
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#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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