

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-2**

Sample Date: 8/13/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 8/14/2026 through 8/20/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1660	10.35	2.57	56.1
26A	71-47	Presque Isle	200	1.25	2.57	6.8
2NS	63-115	Ray Rd	1100	6.60	2.67	37.2
Total Wt			2960	18.20		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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	86.0	100.0	100.0	92.1	7.9	7.9
1/2"	50.8	98.0	100.0	72.3	19.9	27.7
3/8"	28.4	84.2	100.0	58.8	13.5	41.2
#4	3.7	20.8	95.7	39.0	19.7	61.0
#8	2.1	6.2	82.9	32.4	6.6	67.6
#16	1.7	3.1	64.0	24.9	7.5	75.1
#30	1.6	2.5	48.6	19.1	5.8	80.9
#50	1.6	2.3	26.1	10.8	8.4	89.2
#100	1.5	2.1	7.5	3.8	7.0	96.2
LBW	1.3	1.9	0.9	1.2	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

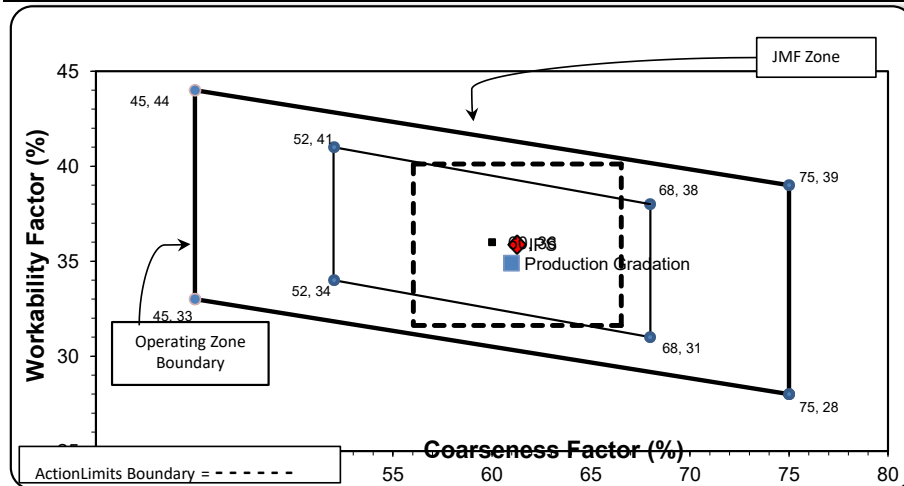
a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	61	Workability Factor:	32	34.9
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Coarseness Factor:		61	
Workability Factor:		36	
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: 8/13/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 8/14/2026 through 8/20/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1550	9.67	2.57	53.8
26A	71-47	Presque Isle	150	0.94	2.57	5.2
2NS	63-115	Ray Rd	1180	7.08	2.67	41.0
Total Wt			2880	17.68		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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	86.0	100.0	100.0	92.5	7.5	7.5
1/2"	50.8	98.0	100.0	73.4	19.0	26.6
3/8"	28.4	84.2	100.0	60.6	12.8	39.4
#4	3.7	20.8	95.7	42.3	18.4	57.7
#8	2.1	6.2	82.9	35.4	6.9	64.6
#16	1.7	3.1	64.0	27.3	8.1	72.7
#30	1.6	2.5	48.6	20.9	6.4	79.1
#50	1.6	2.3	26.1	11.7	9.2	88.3
#100	1.5	2.1	7.5	4.0	7.7	96.0
LBW	1.3	1.9	0.9	1.2	2.8	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

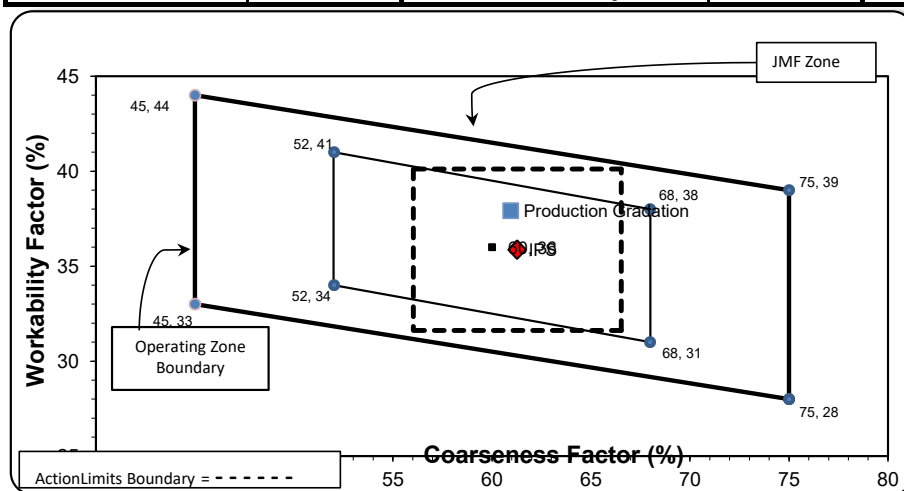
a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	61	Workability Factor:	35	37.9
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Coarseness Factor:		61	
Workability Factor:		36	
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-102**

Sample Date: 8/13/26

Concrete Grade: **DM-4500HP**

Contractor: Dan's Excavating Inc.

Dates Test Represents: 8/14/2026 through 8/20/2026

1 inch slump

MDOT No.: 82102-208481A

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	54.1
1A	58-003	Stoneco	200	1.19	2.69	6.6
2NS	63-114	Highland	1200	7.23	2.66	39.3
Total Wt			3050	18.25		100.0

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

Sieve	6AA	1A	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"	88.0	100.0	100.0	93.5	6.5	6.5
1/2"	48.9	88.5	100.0	71.6	21.9	28.4
3/8"	32.6	76.3	100.0	62.0	9.6	38.0
#4	5.3	17.2	98.4	42.7	19.3	57.3
#8	1.8	2.5	83.5	34.0	8.7	66.0
#16	1.3	1.8	65.1	26.4	7.6	73.6
#30	1.2	1.6	44.9	18.4	8.0	81.6
#50	1.1	1.4	19.3	8.3	10.1	91.7
#100	1.0	1.3	4.4	2.4	5.9	97.6
LBW	1.0	1.2	0.6	0.9	1.5	99.1



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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.

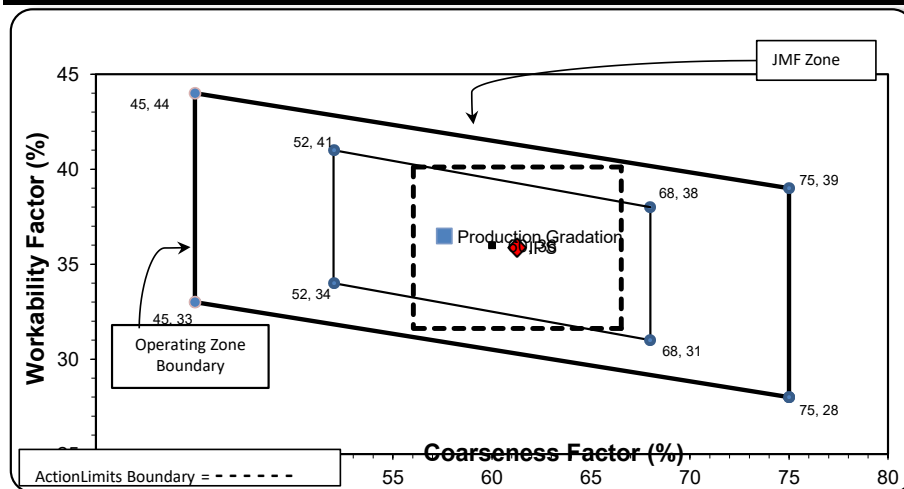
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	58	Workability Factor:	34	36.5
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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: 8/13/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 8/14/2026 through 8/20/2026

5 inch slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
1A	58-003	Stoneco	200	1.19	2.69	6.8
2NS	63-114	Highland	1200	7.23	2.66	40.7
Total Wt			2950	17.66		100.0

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



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Sieve	6AA	1A	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"	88.0	100.0	100.0	93.7	6.3	6.3
1/2"	48.9	88.5	100.0	72.4	21.3	27.6
3/8"	32.6	76.3	100.0	63.0	9.4	37.0
#4	5.3	17.2	98.4	44.0	19.0	56.0
#8	1.8	2.5	83.5	35.1	8.9	64.9
#16	1.3	1.8	65.1	27.3	7.8	72.7
#30	1.2	1.6	44.9	19.0	8.3	81.0
#50	1.1	1.4	19.3	8.5	10.5	91.5
#100	1.0	1.3	4.4	2.4	6.1	97.6
LBW	1.0	1.2	0.6	0.9	1.6	99.1

*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.,

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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.

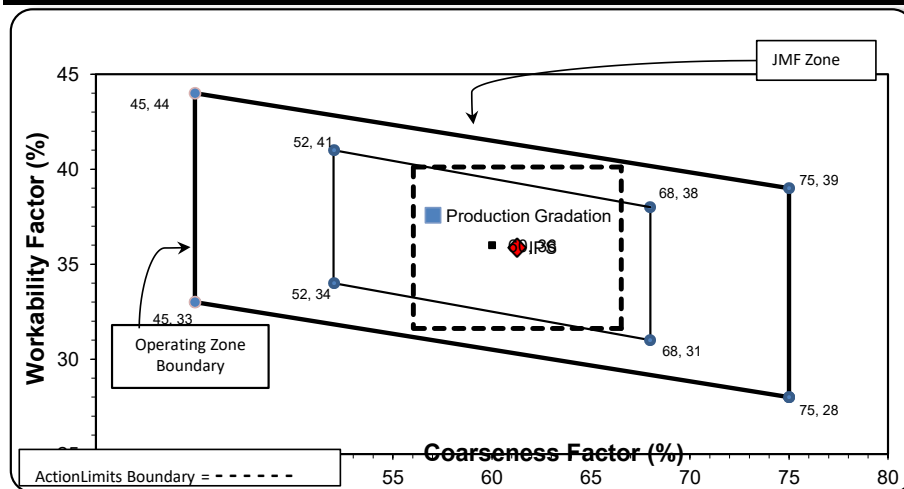
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	57	Workability Factor:	35	37.6
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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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