

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-102

Sample Date: 9/29/25

Concrete Grade: DM, 4500HP

Contractor: _____

Dates Test Represents: 9/30/2025 through 10/6/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
26A	58-003	Stoneco	250	1.49	2.69	8.5
2NS	63-114	Highland	1150	6.95	2.65	39.0
Total Wt			2950	17.68		100.0

<----- 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"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	83.0	100.0	100.0	91.1	8.9	8.9
1/2"	41.6	100.0	100.0	69.3	21.8	30.7
3/8"	23.0	84.8	100.0	58.3	11.1	41.7
#4	3.2	11.7	99.0	41.3	17.0	58.7
#8	1.5	2.2	85.4	34.3	7.0	65.7
#16	1.2	2.0	67.7	27.2	7.1	72.8
#30	1.1	1.7	49.5	20.0	7.2	80.0
#50	1.1	1.3	23.4	9.8	10.2	90.2
#100	1.1	1.2	3.9	2.2	7.6	97.8
LBW	0.9	1.1	0.6	0.8	1.4	99.2

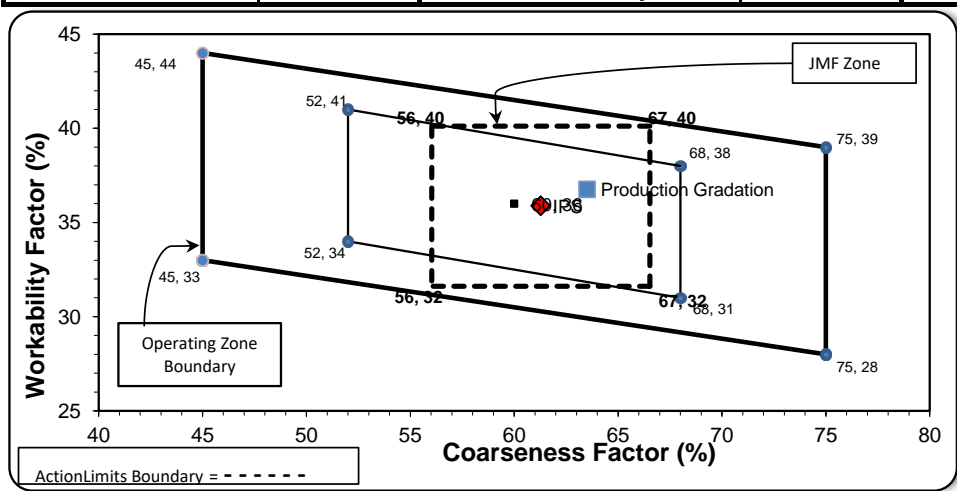
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size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

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

Coarseness Factor:	64	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:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-103

Sample Date: 9/29/25

Concrete Grade: DM, 4500HP

Contractor: _____

Dates Test Represents: 9/30/2025 through 10/6/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1550	9.23	2.69	52.5
26A	58-003	Stoneco	250	1.49	2.69	8.5
2NS	63-114	Highland	1150	6.95	2.65	39.0
Total Wt			2950	17.68		100.0

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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"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	83.0	100.0	100.0	91.1	8.9	8.9
1/2"	41.6	100.0	100.0	69.3	21.8	30.7
3/8"	23.0	84.8	100.0	58.3	11.1	41.7
#4	3.2	11.7	99.0	41.3	17.0	58.7
#8	1.5	2.2	85.4	34.3	7.0	65.7
#16	1.2	2.0	67.7	27.2	7.1	72.8
#30	1.1	1.7	49.5	20.0	7.2	80.0
#50	1.1	1.3	23.4	9.8	10.2	90.2
#100	1.1	1.2	3.9	2.2	7.6	97.8
LBW	0.9	1.1	0.6	0.8	1.4	99.2

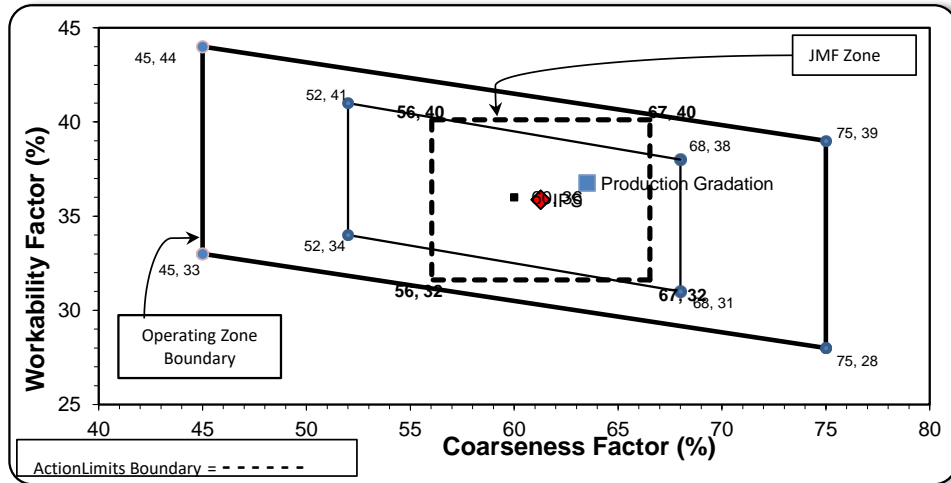
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size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

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

Coarseness Factor:	64	Workability Factor:	34	36.8
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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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 SM, LLC Technical Service

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Aggregate Optimization Chart

PLANT #: 12

Contractor: _____

Sample Date: 9/29/25

Concrete Grade: DM, 4500HP

Dates Test Represents: 9/30/2025 through 10/6/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1355	8.29	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.8
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

<----- 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"	95.4	100.0	100.0	97.9	2.1	2.1
3/4"	78.2	100.0	100.0	89.8	8.0	10.2
1/2"	33.9	98.7	100.0	69.0	20.8	31.0
3/8"	15.5	84.5	100.0	58.5	10.5	41.5
#4	1.8	15.5	97.3	41.5	17.0	58.5
#8	1.4	4.8	81.8	33.7	7.8	66.3
#16	1.3	2.9	62.9	25.9	7.8	74.1
#30	1.3	2.5	45.4	18.9	7.0	81.1
#50	1.2	2.3	22.9	9.9	9.0	90.1
#100	1.2	2.2	5.6	3.1	6.9	96.9
LBW	1.0	2.0	0.8	1.1	2.0	98.9

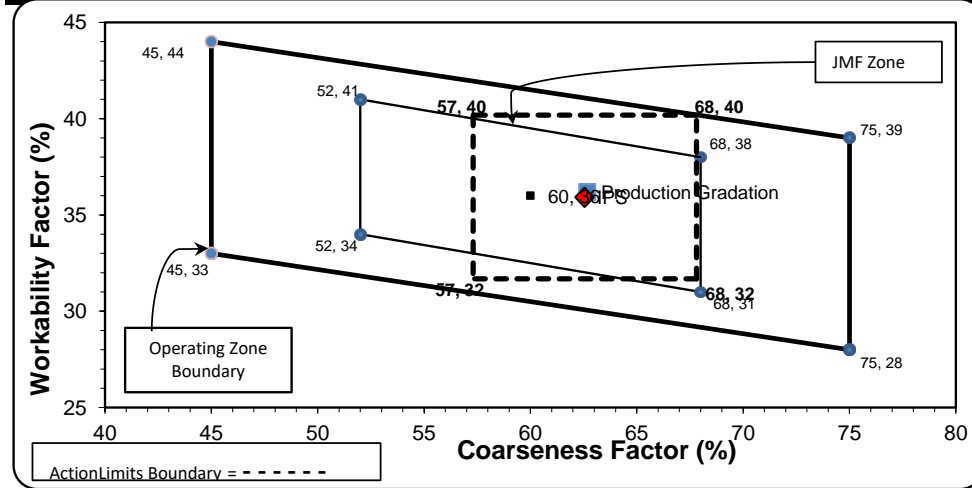
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (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:	34	Adjusted WF	36.2
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Coarseness Factor:	63
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"	89.0	10.3	11.0
1/2"	70.3	18.7	29.7
3/8"	59.9	10.4	40.1
#4	41.9	18.0	58.1
#8	35.9	6.0	64.1
#16	27.8	8.2	72.2
#30	18.9	8.8	81.1
#50	6.3	12.6	93.7
#100	1.7	4.6	98.3
LBW	1.0	0.7	99.0

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Aggregate Optimization Chart

PLANT #: p11

Contractor: _____

Sample Date: 9/29/25

Concrete Grade: DM, 4500HP

Dates Test Represents: 9/30/2025 through 10/6/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1355	8.29	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.8
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

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



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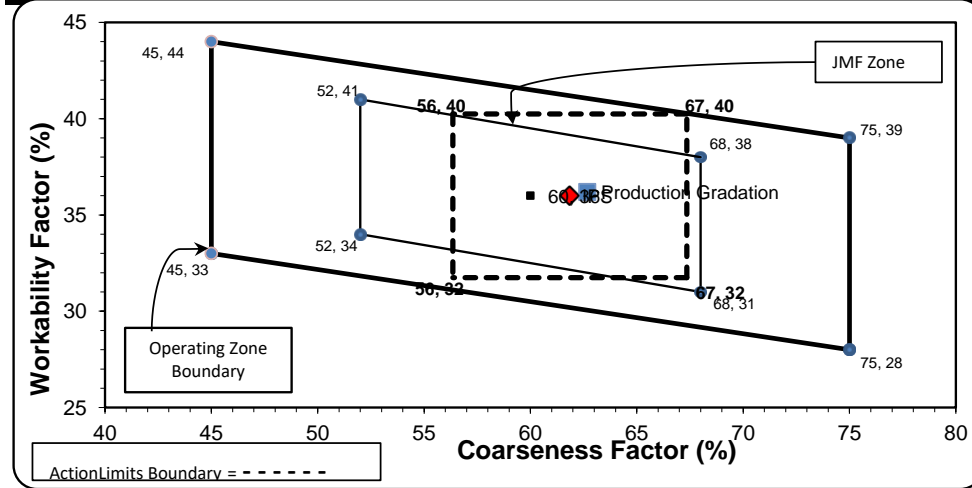
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	95.4	100.0	100.0	97.9	2.1	2.1
3/4"	78.2	100.0	100.0	89.8	8.0	10.2
1/2"	33.9	98.7	100.0	69.0	20.8	31.0
3/8"	15.5	84.5	100.0	58.5	10.5	41.5
#4	1.8	15.5	97.3	41.5	17.0	58.5
#8	1.4	4.8	81.8	33.7	7.8	66.3
#16	1.3	2.9	62.9	25.9	7.8	74.1
#30	1.3	2.5	45.4	18.9	7.0	81.1
#50	1.2	2.3	22.9	9.9	9.0	90.1
#100	1.2	2.2	5.6	3.1	6.9	96.9
LBW	1.0	2.0	0.8	1.1	2.0	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 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: 34	Adjusted WF: 36.2	Coarseness Factor: 62
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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"	100.0	0.0	0.0
3/4"	95.0	5.0	5.0
1/2"	72.3	22.8	27.7
3/8"	60.4	11.8	39.6
#4	42.6	17.8	57.4
#8	36.0	6.6	64.0
#16	29.5	6.5	70.5
#30	20.3	9.2	79.7
#50	9.5	10.8	90.5
#100	3.4	6.1	96.6
LBW	1.3	2.1	98.7

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-02**

Sample Date: 9/29/25

Concrete Grade: DM, 4500HP

Contractor: _____

Dates Test Represents: 9/30/2025 through 10/6/2025

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1355	8.29	2.62	46.6
26A	71-47	Presque Isle	400	2.45	2.62	13.8
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		100.0

<----- 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"	95.4	100.0	100.0	97.9	2.1	2.1
3/4"	78.2	100.0	100.0	89.8	8.0	10.2
1/2"	33.9	98.7	100.0	69.0	20.8	31.0
3/8"	15.5	84.5	100.0	58.5	10.5	41.5
#4	1.8	15.5	97.3	41.5	17.0	58.5
#8	1.4	4.8	81.8	33.7	7.8	66.3
#16	1.3	2.9	62.9	25.9	7.8	74.1
#30	1.3	2.5	45.4	18.9	7.0	81.1
#50	1.2	2.3	22.9	9.9	9.0	90.1
#100	1.2	2.2	5.6	3.1	6.9	96.9
LBW	1.0	2.0	0.8	1.1	2.0	98.9

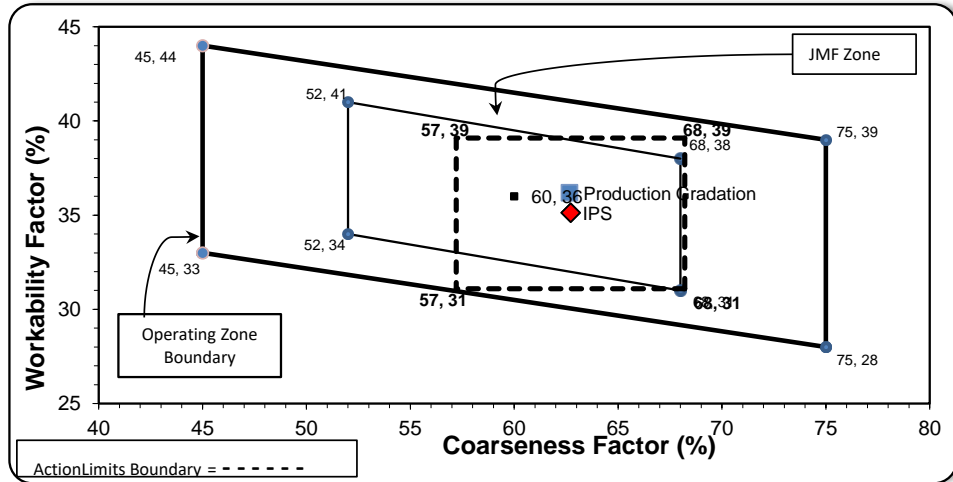
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (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:	34	Adjusted WF	36.2
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Coarseness Factor:	63
Workability Factor:	35

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	100.0	0.0	0.0
1"	100.0	0.0	0.0
3/4"	95.1	4.9	4.9
1/2"	74.6	20.5	25.4
3/8"	59.3	15.3	40.7
#4	42.1	17.2	57.9
#8	35.1	7.1	64.9
#16	29.2	5.9	70.8
#30	21.9	7.3	78.1
#50	9.6	12.4	90.4
#100	2.4	7.2	97.6
LBW	0.9	1.5	99.1



PREPARED BY:
 SM, LLC Technical Service

Approved By: