Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-35**

Contractor: _____

Sample Date: 6/13/26

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 6/14/2026 through 6/21/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stone Co	1640	9.77	2.69	52.2
26A	58-003	Stone Co	220	1.31	2.69	7.0
2NS	81-019	Pleasant Lk	1280	7.74	2.65	40.8
		Total Wt	**3140**	**18.82**		100.0

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

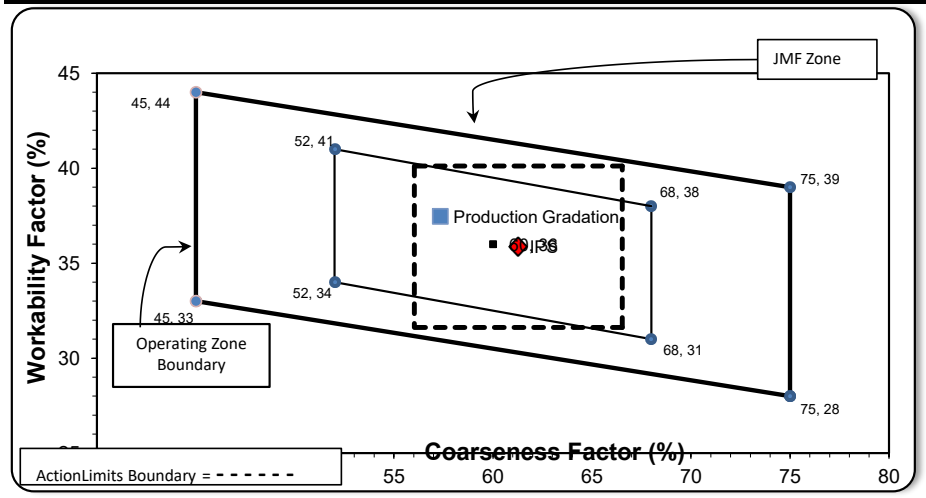
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	87.3	100.0	100.0	93.4	6.6	6.6
1/2"	48.4	97.1	100.0	72.8	20.5	27.2
3/8"	30.8	83.6	100.0	62.7	10.1	37.3
#4	4.1	15.8	95.8	42.3	20.4	57.7
#8	1.6	4.9	82.9	35.0	7.3	65.0
#16	1.1	3.0	63.6	26.7	8.3	73.3
#30	1.0	2.3	45.7	19.3	7.4	80.7
#50	1.0	2.1	21.4	9.4	9.9	90.6
#100	0.9	1.9	4.1	2.3	7.1	97.7
LBW	0.9	1.7	0.7	0.9	1.4	99.1

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

Coarseness Factor:	57	Workability Factor:	35	Adjusted WF 37.5



Intial Production Sample (IPS)

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-36**

Contractor: _____

Sample Date: 6/13/26

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 6/14/2026 through 6/21/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Preque Isle	1460	9.10	2.57	47.7
26A	71-47	Preque Isle	360	2.24	2.57	11.8
2NS	63-115	Ray Rd	1240	7.44	2.67	40.5
		Total Wt	**3060**	**18.79**		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"	97.6	100.0	100.0	98.9	1.1	1.1
3/4"	80.8	100.0	100.0	90.8	8.0	9.2
1/2"	40.4	98.7	100.0	71.4	19.4	28.6
3/8"	21.3	87.5	100.0	61.0	10.4	39.0
#4	4.3	21.7	95.8	43.4	17.6	56.6
#8	2.3	6.9	82.9	35.5	7.9	64.5
#16	2.0	3.5	63.6	27.1	8.4	72.9
#30	1.9	2.6	45.7	19.7	7.4	80.3
#50	1.8	2.3	21.4	9.8	9.9	90.2
#100	1.8	2.1	4.1	2.8	7.0	97.2
LBW	1.6	1.5	0.7	1.2	1.5	98.8

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*Maximum % Retained must be above the 3/8" sieve.
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*% 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.

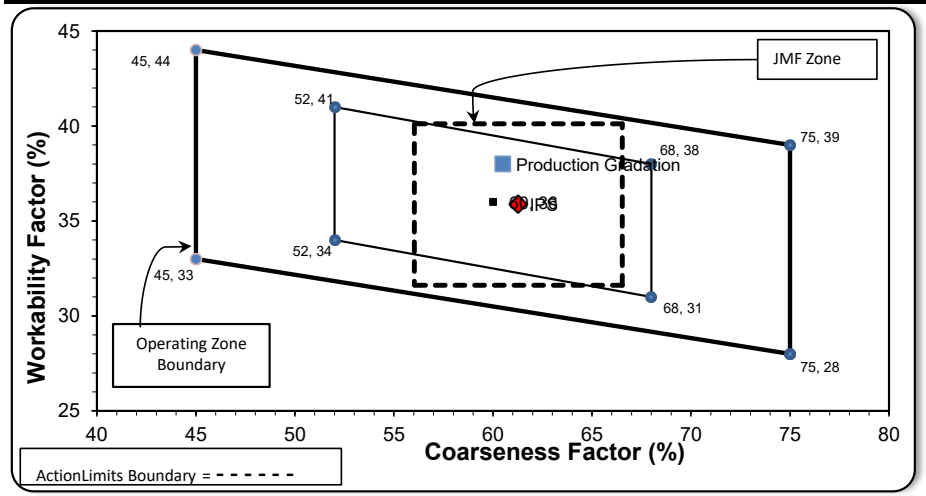
Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	60	Workability Factor:	36	Adjusted WF 38.0

Intial Production Sample (IPS)

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-39**

Contractor:

Sample Date: 6/13/26

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 6/14/2026 through 6/21/2026

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Preque Isle	1460	9.10	2.57	47.7
26A	71-47	Preque Isle	360	2.24	2.57	11.8
2NS	63-0009	Koenig	1240	7.50	2.65	40.5
		Total Wt	**3060**	**18.85**		100.0

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

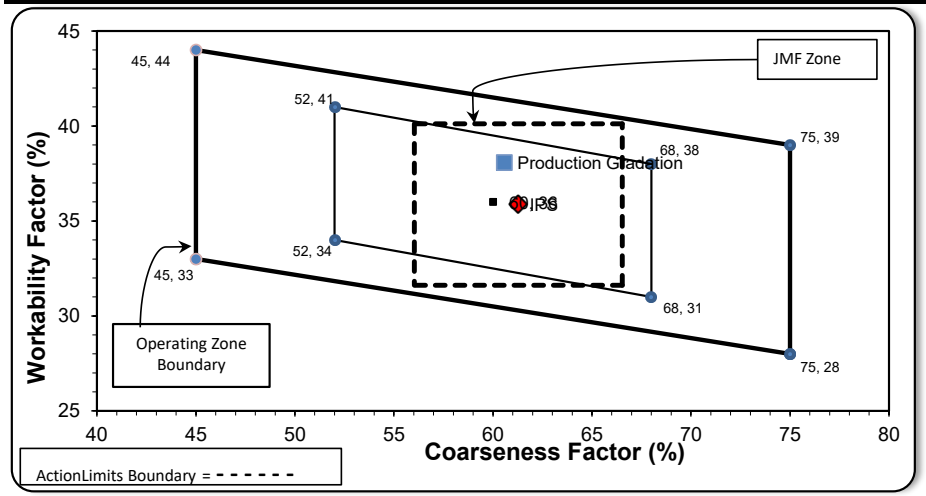
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	97.6	100.0	100.0	98.9	1.1	1.1
3/4"	80.8	100.0	100.0	90.8	8.0	9.2
1/2"	40.4	98.7	100.0	71.4	19.4	28.6
3/8"	21.3	87.5	100.0	61.0	10.4	39.0
#4	4.3	21.7	97.0	43.9	17.1	56.1
#8	2.3	6.9	83.1	35.6	8.3	64.4
#16	2.0	3.5	67.8	28.8	6.7	71.2
#30	1.9	2.6	49.7	21.4	7.5	78.6
#50	1.8	2.3	24.7	11.1	10.2	88.9
#100	1.8	2.1	2.6	2.2	9.0	97.8
LBW	1.6	1.5	0.6	1.2	1.0	98.8

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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

Coarseness Factor:	61	Workability Factor:	36	Adjusted WF 38.1



Intial Production Sample (IPS)

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
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#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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