Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-101**

Contractor:

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1625	9.94	2.62	53.2
26A	71-47	Presque Isle	200	1.22	2.62	6.5
2NS	75-051	Mid Michigan	1230	7.41	2.66	40.3
		Total Wt	**3055**	**18.57**		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"	99.4	100.0	100.0	99.7	0.3	0.3
3/4"	89.0	100.0	100.0	94.1	5.5	5.9
1/2"	49.0	95.0	100.0	72.5	21.6	27.5
3/8"	28.6	84.6	100.0	61.0	11.5	39.0
#4	3.9	20.4	96.1	42.1	18.9	57.9
#8	2.0	5.1	80.1	33.6	8.5	66.4
#16	1.8	2.5	65.1	27.3	6.3	72.7
#30	1.7	1.9	50.1	21.2	6.1	78.8
#50	1.6	1.7	26.5	11.6	9.6	88.4
#100	1.6	1.6	7.1	3.8	7.8	96.2
LBW	1.4	1.4	1.1	1.3	2.5	98.7

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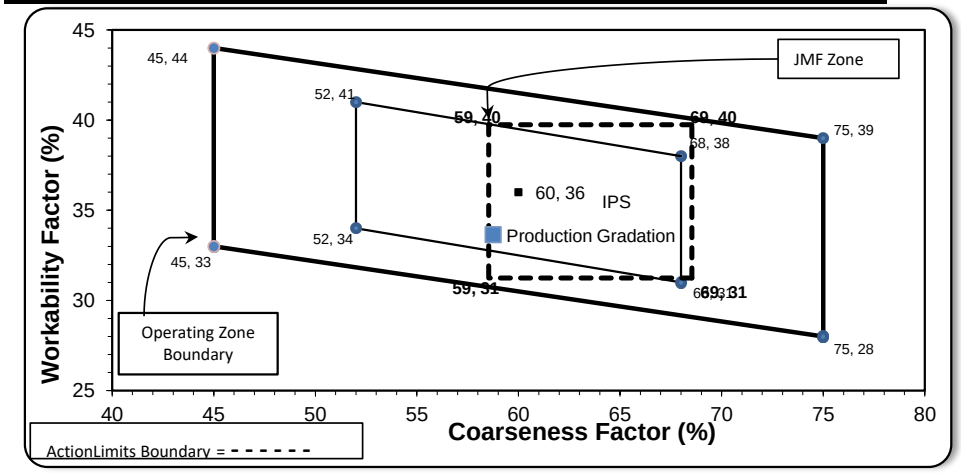
Suite 500
Farmington Hills, MI 48336

*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:	59	Workability Factor:	34



Initial Production Sample (IPS)

Coarseness Factor:	64
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"	93.9	6.1	6.1
1/2"	71.4	22.5	28.6
3/8"	59.0	12.4	41.0
#4	45.1	13.9	54.9
#8	35.5	9.6	64.5
#16	28.3	7.2	71.7
#30	21.3	6.9	78.7
#50	11.0	10.3	89.0
#100	3.4	7.6	96.6
LBW	1.1	2.3	98.9

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Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Contractor:

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
26A	58-003	Stoneco	250	1.49	2.69	8.1
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
		Total Wt	**3100**	**18.58**		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"	84.3	100.0	100.0	91.6	8.3	8.4
1/2"	45.8	99.4	100.0	71.1	20.5	28.9
3/8"	21.5	87.6	100.0	57.2	13.9	42.8
#4	3.1	9.9	97.4	40.2	17.1	59.8
#8	1.4	2.8	82.3	32.8	7.3	67.2
#16	1.2	2.1	65.1	26.0	6.8	74.0
#30	1.1	1.8	46.3	18.7	7.4	81.3
#50	1.1	1.7	23.3	9.7	8.9	90.3
#100	1.1	1.6	5.9	3.0	6.7	97.0
LBW	1.0	1.5	1.0	1.0	2.0	99.0

*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.

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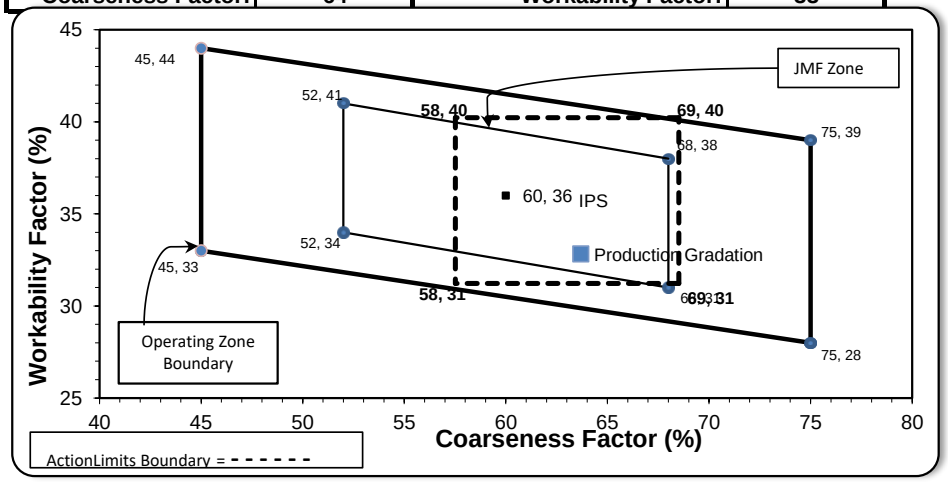
Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	64	Workability Factor:	33



Intial Production Sample (IPS)

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"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.5	11.8	40.5
#4	43.8	15.7	56.2
#8	35.7	8.1	64.3
#16	27.0	8.7	73.0
#30	18.6	8.4	81.4
#50	6.8	11.8	93.2
#100	1.4	5.4	98.6
LBW	0.6	0.8	99.4

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Contractor:

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft^3	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
26A	58-003	Stoneco	250	1.49	2.69	8.1
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
		Total Wt	**3100**	**18.58**		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"	84.3	100.0	100.0	91.6	8.3	8.4
1/2"	45.8	99.4	100.0	71.1	20.5	28.9
3/8"	21.5	87.6	100.0	57.2	13.9	42.8
#4	3.1	9.9	97.4	40.2	17.1	59.8
#8	1.4	2.8	82.3	32.8	7.3	67.2
#16	1.2	2.1	65.1	26.0	6.8	74.0
#30	1.1	1.8	46.3	18.7	7.4	81.3
#50	1.1	1.7	23.3	9.7	8.9	90.3
#100	1.1	1.6	5.9	3.0	6.7	97.0
LBW	1.0	1.5	1.0	1.0	2.0	99.0

*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.

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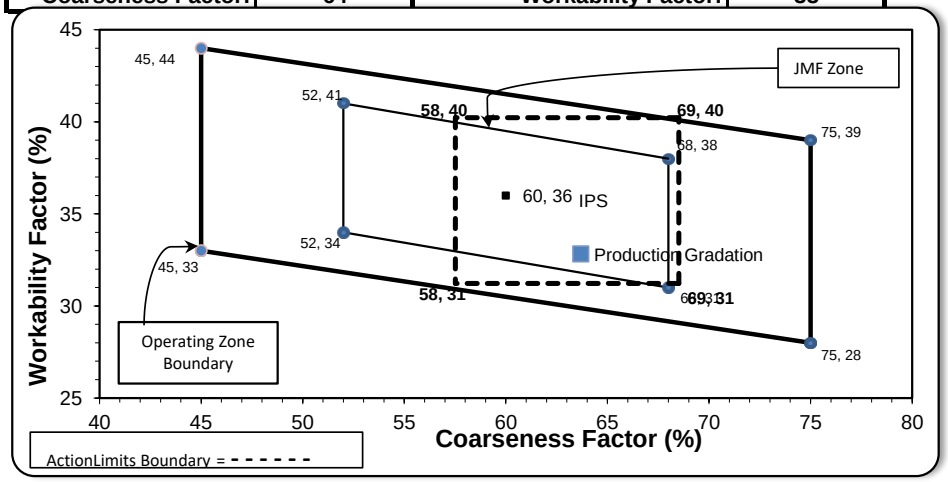
Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	64	Workability Factor:	33



Intial Production Sample (IPS)

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"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.5	11.8	40.5
#4	43.8	15.7	56.2
#8	35.7	8.1	64.3
#16	27.0	8.7	73.0
#30	18.6	8.4	81.4
#50	6.8	11.8	93.2
#100	1.4	5.4	98.6
LBW	0.6	0.8	99.4

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: 14

Contractor:

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1575	9.38	2.69	50.6
26A	58-003	Stoneco	325	1.94	2.69	10.5
2NS	19-04	Schlegel	1210	7.26	2.67	38.9
		Total Wt	**3110**	**18.58**		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"	84.3	100.0	100.0	92.0	7.9	8.0
1/2"	45.8	99.4	100.0	72.5	19.6	27.5
3/8"	21.5	87.6	100.0	58.9	13.5	41.1
#4	3.1	9.9	99.9	41.5	17.5	58.5
#8	1.4	2.8	90.1	36.1	5.4	63.9
#16	1.2	2.1	69.4	27.8	8.2	72.2
#30	1.1	1.8	44.5	18.1	9.8	81.9
#50	1.1	1.7	14.3	6.3	11.8	93.7
#100	1.1	1.6	2.7	1.8	4.5	98.2
LBW	1.0	1.5	0.2	0.7	1.0	99.3

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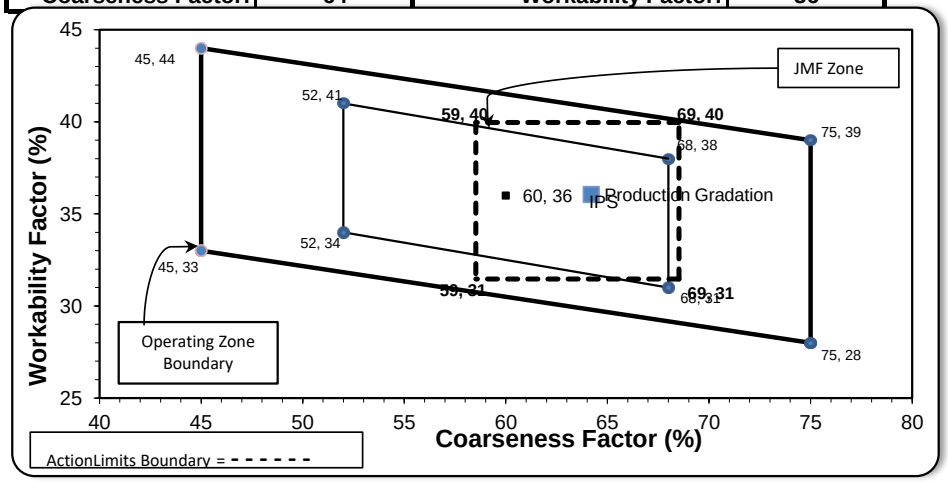
*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
*% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size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

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	64	Workability Factor:	36



Intial Production Sample (IPS)

Coarseness Factor:	64
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"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.2	12.1	40.8
#4	41.5	17.7	58.5
#8	35.7	5.8	64.3
#16	27.9	7.9	72.1
#30	18.3	9.5	81.7
#50	7.3	11.0	92.7
#100	2.0	5.3	98.0
LBW	0.9	1.1	99.1

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: 12

Contractor:

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1620	9.91	2.62	53.1
26A	71-47	Presque Isle	200	1.22	2.62	6.6
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	**3050**	**18.57**		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"	97.0	100.0	100.0	98.4	1.6	1.6
3/4"	78.1	100.0	100.0	88.4	10.0	11.6
1/2"	37.7	96.5	100.0	66.7	21.7	33.3
3/8"	22.3	87.2	100.0	57.9	8.8	42.1
#4	4.5	25.7	96.7	43.1	14.8	56.9
#8	2.7	6.3	83.0	35.3	7.8	64.7
#16	2.1	2.8	67.8	28.6	6.7	71.4
#30	2.0	2.1	50.4	21.5	7.1	78.5
#50	1.9	1.9	25.8	11.5	10.0	88.5
#100	1.8	1.8	5.1	3.1	8.4	96.9
LBW	1.5	1.6	0.7	1.2	1.9	98.8

Superior Materials, LLC
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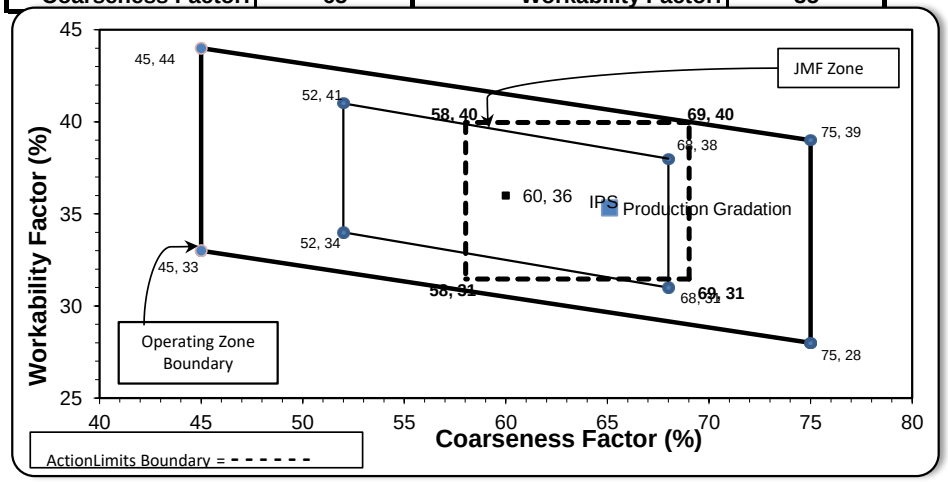
Suite 500
Farmington Hills, MI 48336

*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:	65	Workability Factor:	35



Intial Production Sample (IPS)

Coarseness Factor:	64
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"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.2	12.1	40.8
#4	41.5	17.7	58.5
#8	35.7	5.8	64.3
#16	27.9	7.9	72.1
#30	18.3	9.5	81.7
#50	7.3	11.0	92.7
#100	2.0	5.3	98.0
LBW	0.9	1.1	99.1

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **20**

Contractor: _____

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1700	10.40	2.62	55.7
26A	71-47	Presque Isle	100	0.61	2.62	3.3
2NS	63-92	Grange Hall	1250	7.56	2.65	41.0
		Total Wt	**3050**	**18.57**		100.0

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

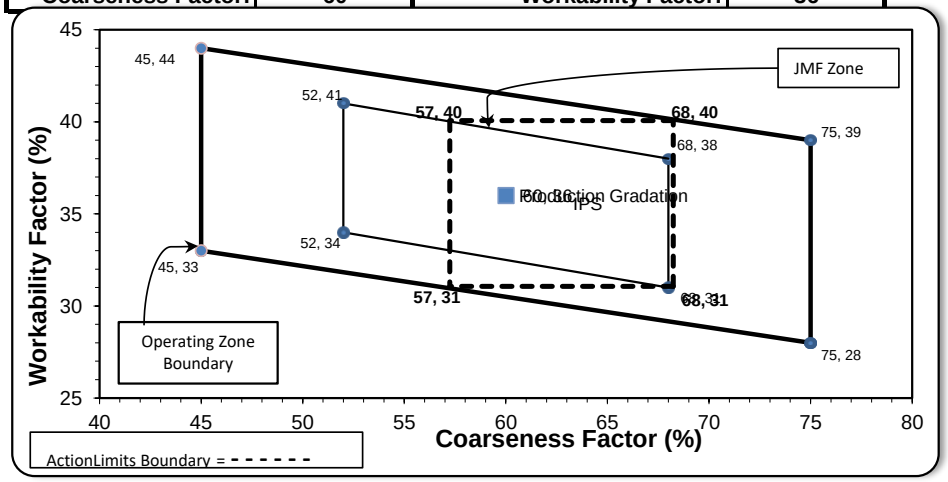
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	98.8	100.0	100.0	99.3	0.7	0.7
3/4"	84.6	100.0	100.0	91.4	7.9	8.6
1/2"	51.5	97.0	100.0	72.9	18.5	27.1
3/8"	32.0	84.6	100.0	61.6	11.3	38.4
#4	6.8	15.1	97.4	44.2	17.4	55.8
#8	3.1	3.8	83.3	36.0	8.2	64.0
#16	2.6	2.1	68.5	29.6	6.4	70.4
#30	2.4	1.8	49.2	21.6	8.0	78.4
#50	2.2	1.7	20.1	9.5	12.0	90.5
#100	2.2	1.6	3.3	2.6	6.9	97.4
LBW	1.8	1.4	0.6	1.3	1.3	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

Coarseness Factor:	60	Workability Factor:	36



Intial Production Sample (IPS)

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"	100.0	0.0	0.0
3/4"	93.3	6.7	6.7
1/2"	70.6	22.6	29.4
3/8"	59.6	11.0	40.4
#4	43.9	15.7	56.1
#8	35.6	8.4	64.4
#16	28.4	7.2	71.6
#30	19.4	9.0	80.6
#50	7.5	11.9	92.5
#100	0.9	6.6	99.1
LBW	0.9	0.1	99.1

PREPARED BY:
SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **p11**

Contractor: _____

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1500	9.17	2.62	49.2
26A	71-47	Presque Isle	320	1.96	2.62	10.5
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3
		Total Wt	**3050**	**18.57**		100.0

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

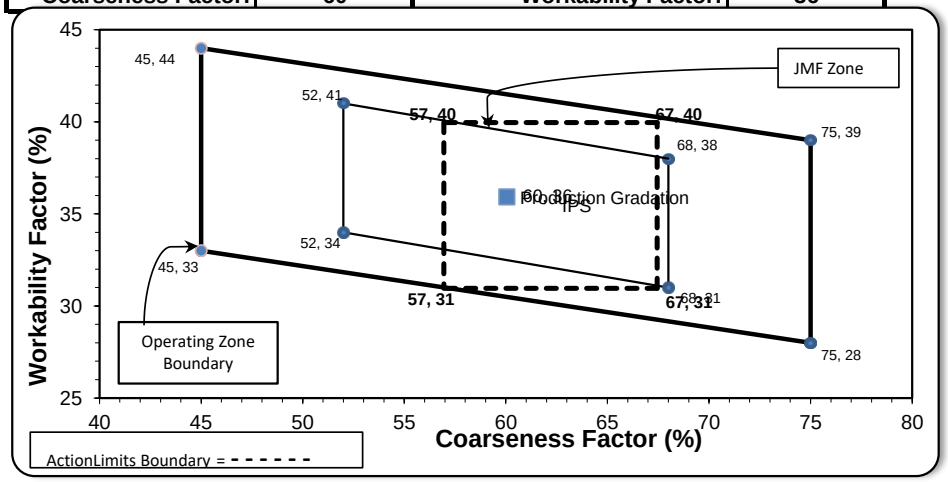
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	97.6	100.0	100.0	98.8	1.2	1.2
3/4"	81.8	100.0	100.0	91.0	7.8	9.0
1/2"	42.2	96.5	100.0	71.2	19.8	28.8
3/8"	24.5	87.2	100.0	61.5	9.7	38.5
#4	4.3	25.7	96.4	43.7	17.8	56.3
#8	2.0	6.3	85.0	35.9	7.8	64.1
#16	1.8	2.8	70.0	29.4	6.5	70.6
#30	1.7	2.1	50.3	21.3	8.1	78.7
#50	1.6	1.9	24.1	10.7	10.6	89.3
#100	1.5	1.8	7.1	3.8	6.9	96.2
LBW	1.3	1.6	1.5	1.4	2.4	98.6

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:	60	Workability Factor:	36



Intial Production Sample (IPS)

Coarseness Factor:	62
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"	94.0	6.0	6.0
1/2"	70.2	23.7	29.8
3/8"	59.9	10.4	40.1
#4	42.7	17.2	57.3
#8	35.5	7.2	64.5
#16	28.4	7.0	71.6
#30	19.2	9.2	80.8
#50	8.9	10.3	91.1
#100	3.1	5.9	96.9
LBW	1.4	1.7	98.6

PREPARED BY:
SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

Contractor: _____

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1500	9.17	2.62	49.2
26A	71-47	Presque Isle	320	1.96	2.62	10.5
2NS	95-013	Smelter Bay	1230	7.44	2.65	40.3
		Total Wt	**3050**	**18.57**		100.0

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

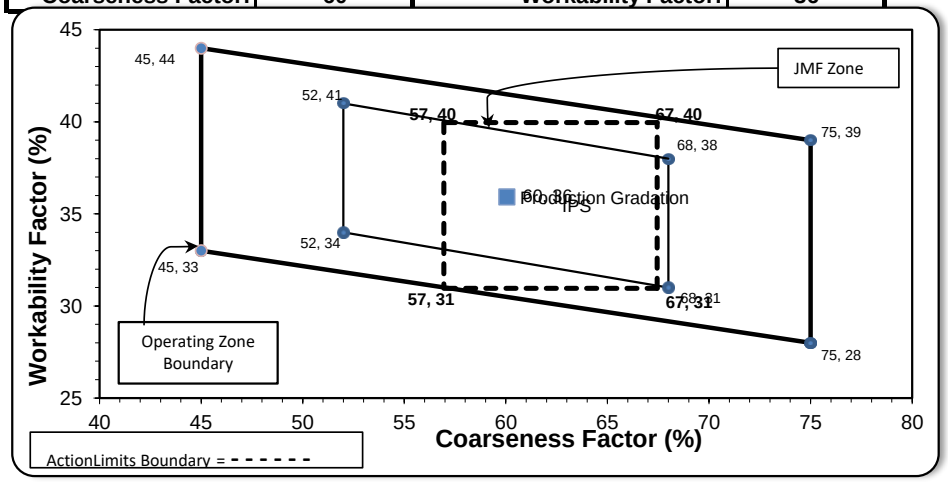
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	97.6	100.0	100.0	98.8	1.2	1.2
3/4"	81.8	100.0	100.0	91.0	7.8	9.0
1/2"	42.2	96.5	100.0	71.2	19.8	28.8
3/8"	24.5	87.2	100.0	61.5	9.7	38.5
#4	4.3	25.7	96.4	43.7	17.8	56.3
#8	2.0	6.3	85.0	35.9	7.8	64.1
#16	1.8	2.8	70.0	29.4	6.5	70.6
#30	1.7	2.1	50.3	21.3	8.1	78.7
#50	1.6	1.9	24.1	10.7	10.6	89.3
#100	1.5	1.8	7.1	3.8	6.9	96.2
LBW	1.3	1.6	1.5	1.4	2.4	98.6

*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.

Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	60	Workability Factor:	36



Intial Production Sample (IPS)

Coarseness Factor:	62
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"	94.0	6.0	6.0
1/2"	70.2	23.7	29.8
3/8"	59.9	10.4	40.1
#4	42.7	17.2	57.3
#8	35.5	7.2	64.5
#16	28.4	7.0	71.6
#30	19.2	9.2	80.8
#50	8.9	10.3	91.1
#100	3.1	5.9	96.9
LBW	1.4	1.7	98.6

PREPARED BY:
SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-35**

Contractor:

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
26A	58-003	Stoneco	250	1.49	2.69	8.1
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
		Total Wt	**3100**	**18.58**		100.0

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

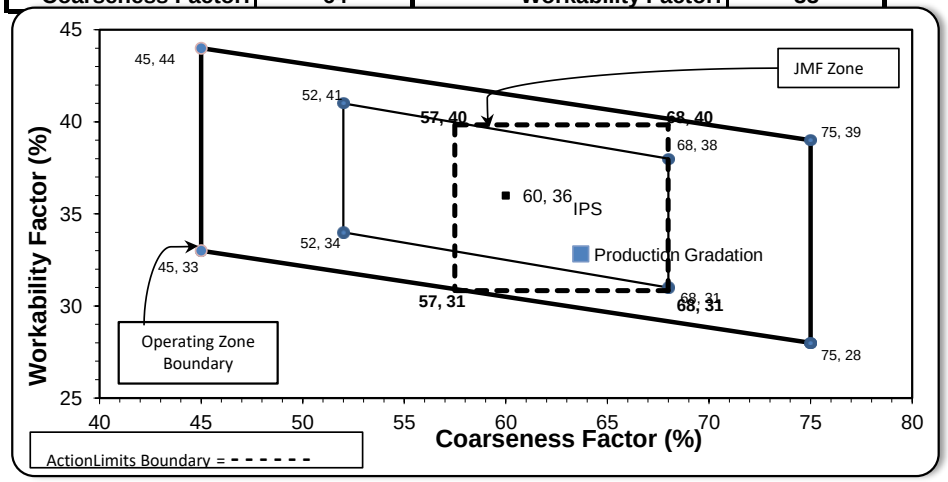
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	84.3	100.0	100.0	91.6	8.3	8.4
1/2"	45.8	99.4	100.0	71.1	20.5	28.9
3/8"	21.5	87.6	100.0	57.2	13.9	42.8
#4	3.1	9.9	97.4	40.2	17.1	59.8
#8	1.4	2.8	82.3	32.8	7.3	67.2
#16	1.2	2.1	65.1	26.0	6.8	74.0
#30	1.1	1.8	46.3	18.7	7.4	81.3
#50	1.1	1.7	23.3	9.7	8.9	90.3
#100	1.1	1.6	5.9	3.0	6.7	97.0
LBW	1.0	1.5	1.0	1.0	2.0	99.0

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:	64	Workability Factor:	33



Intial Production Sample (IPS)

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"	99.2	0.8	0.8
3/4"	90.9	8.3	9.1
1/2"	71.3	19.6	28.7
3/8"	59.4	11.9	40.6
#4	43.0	16.5	57.0
#8	35.3	7.6	64.7
#16	28.2	7.1	71.8
#30	21.6	6.6	78.4
#50	9.1	12.5	90.9
#100	1.7	7.4	98.3
LBW	1.1	0.6	98.9

PREPARED BY:
SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-36**

Contractor:

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1600	9.79	2.62	52.5
26A	71-47	Presque Isle	250	1.53	2.62	8.2
2NS	63-92	Grange Hall	1200	7.26	2.65	39.3
		Total Wt	**3050**	**18.57**		100.0

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

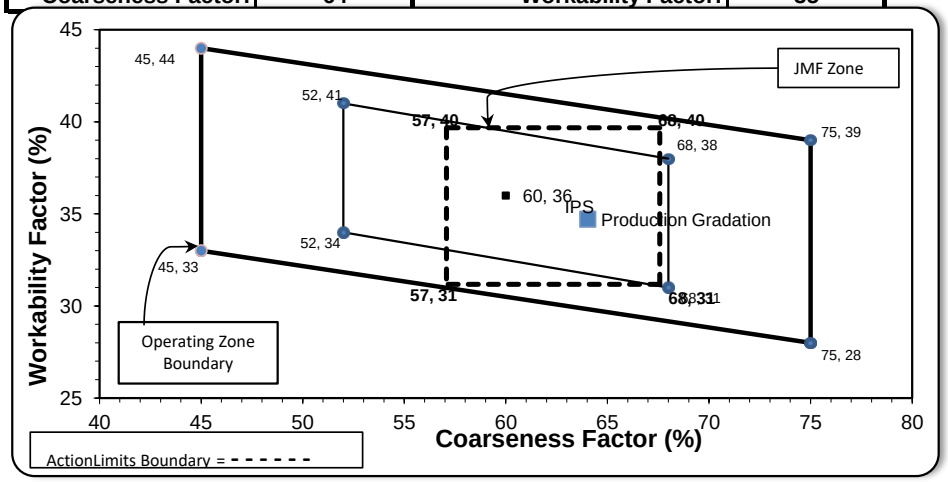
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	97.0	100.0	100.0	98.4	1.6	1.6
3/4"	78.1	100.0	100.0	88.5	9.9	11.5
1/2"	37.7	96.5	100.0	67.0	21.5	33.0
3/8"	22.3	87.2	100.0	58.2	8.8	41.8
#4	4.5	25.7	97.4	42.8	15.4	57.2
#8	2.7	6.3	83.3	34.7	8.1	65.3
#16	2.1	2.8	68.5	28.3	6.4	71.7
#30	2.0	2.1	49.2	20.6	7.7	79.4
#50	1.9	1.9	20.1	9.1	11.5	90.9
#100	1.8	1.8	3.3	2.4	6.7	97.6
LBW	1.5	1.6	0.6	1.2	1.2	98.8

*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.

Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	64	Workability Factor:	35



Intial Production Sample (IPS)

Coarseness Factor:	62
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"	99.1	0.9	0.9
3/4"	90.5	8.6	9.5
1/2"	69.8	20.7	30.2
3/8"	59.8	10.0	40.2
#4	42.2	17.6	57.8
#8	35.4	6.7	64.6
#16	28.8	6.7	71.2
#30	21.4	7.4	78.6
#50	8.8	12.6	91.2
#100	1.8	7.0	98.2
LBW	0.7	1.0	99.3

PREPARED BY:
SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-38**

Contractor:

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft^3	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1650	9.83	2.69	53.2
26A	58-003	Stoneco	250	1.49	2.69	8.1
2NS	81-019	Pleasant Lake	1200	7.26	2.65	38.7
		Total Wt	**3100**	**18.58**		100.0

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

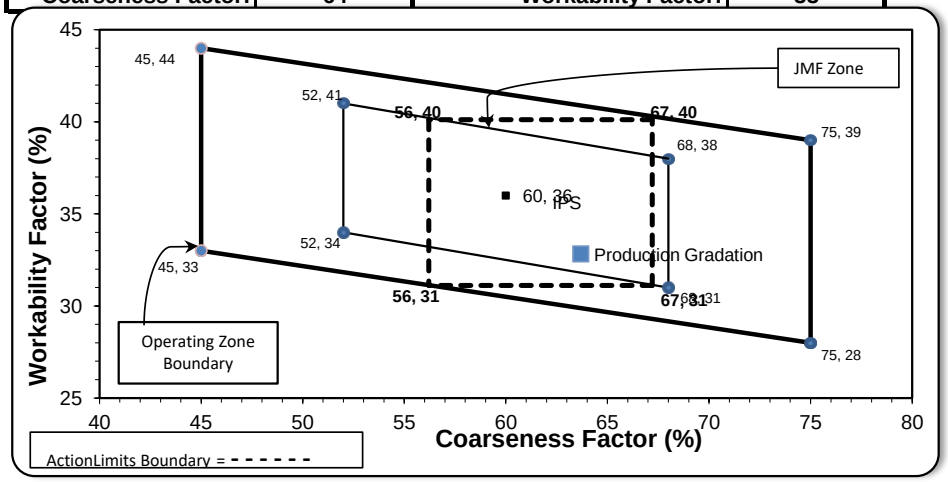
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	99.9	100.0	100.0	99.9	0.1	0.1
3/4"	84.3	100.0	100.0	91.6	8.3	8.4
1/2"	45.8	99.4	100.0	71.1	20.5	28.9
3/8"	21.5	87.6	100.0	57.2	13.9	42.8
#4	3.1	9.9	97.4	40.2	17.1	59.8
#8	1.4	2.8	82.3	32.8	7.3	67.2
#16	1.2	2.1	65.1	26.0	6.8	74.0
#30	1.1	1.8	46.3	18.7	7.4	81.3
#50	1.1	1.7	23.3	9.7	8.9	90.3
#100	1.1	1.6	5.9	3.0	6.7	97.0
LBW	1.0	1.5	1.0	1.0	2.0	99.0

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:	64	Workability Factor:	33



Intial Production Sample (IPS)

Coarseness Factor:	62
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"	99.2	0.8	0.8
3/4"	91.1	8.1	8.9
1/2"	72.0	19.1	28.0
3/8"	60.3	11.7	39.7
#4	43.4	16.9	56.6
#8	35.6	7.8	64.4
#16	28.4	7.2	71.6
#30	21.8	6.7	78.2
#50	9.1	12.6	90.9
#100	1.7	7.4	98.3
LBW	1.1	0.6	98.9

PREPARED BY:
SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-39**

Contractor: _____

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1600	9.79	2.62	52.5
26A	71-47	Presque Isle	200	1.22	2.62	6.6
2NS	44-051	Krake Willis Rd	1250	7.56	2.65	41.0
		Total Wt	**3050**	**18.57**		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"	99.4	100.0	100.0	99.7	0.3	0.3
3/4"	89.0	100.0	100.0	94.2	5.5	5.8
1/2"	49.0	95.0	100.0	72.9	21.3	27.1
3/8"	28.6	84.6	100.0	61.5	11.4	38.5
#4	3.9	20.4	99.0	44.0	17.6	56.0
#8	2.0	5.1	85.0	36.2	7.7	63.8
#16	1.8	2.5	67.9	28.9	7.3	71.1
#30	1.7	1.9	50.6	21.8	7.2	78.2
#50	1.6	1.7	23.1	10.4	11.3	89.6
#100	1.6	1.6	5.8	3.3	7.1	96.7
LBW	1.4	1.4	1.0	1.2	2.1	98.8

Superior Materials, LLC
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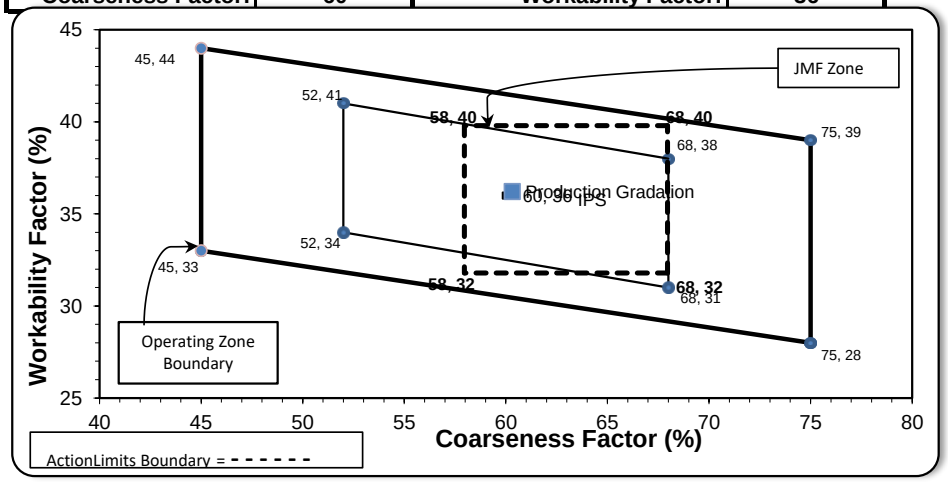
Suite 500
Farmington Hills, MI 48336

*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:	60	Workability Factor:	36



Intial Production Sample (IPS)

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"	100.0	0.0	0.0
3/4"	89.8	10.2	10.2
1/2"	70.7	19.1	29.3
3/8"	59.6	11.1	40.4
#4	43.2	16.4	56.8
#8	35.8	7.4	64.2
#16	29.2	6.6	70.8
#30	21.4	7.8	78.6
#50	9.8	11.6	90.2
#100	3.7	6.1	96.3
LBW	1.2	2.5	98.8

PREPARED BY:
SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-O2**

Contractor:

Sample Date: 8/28/23

Concrete Grade: **S2M, 3500HP**

Dates Test Represents: 8/29/2023 through 9/4/2023

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1620	9.91	2.62	53.1
26A	71-47	Presque Isle	200	1.22	2.62	6.6
2NS	63-115	Ray Rd	1230	7.44	2.65	40.3
		Total Wt	**3050**	**18.57**		100.0

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

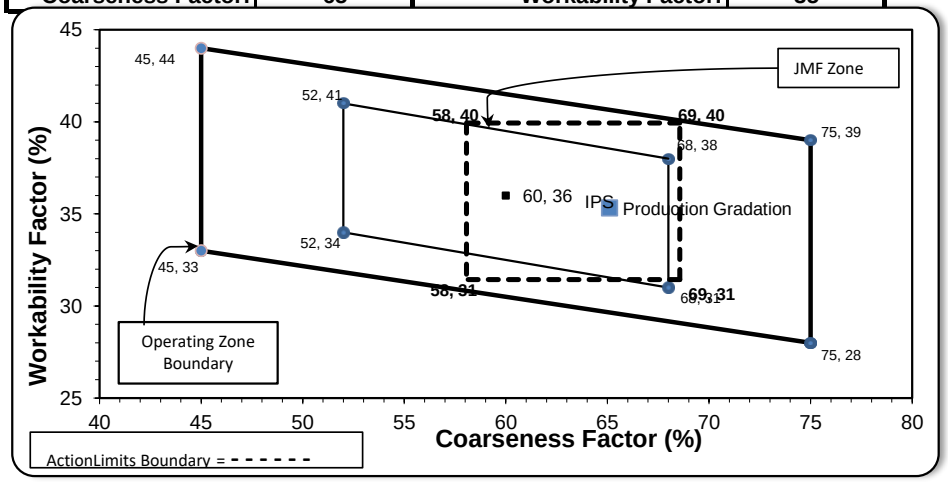
Sieve	6AA	26A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	97.0	100.0	100.0	98.4	1.6	1.6
3/4"	78.1	100.0	100.0	88.4	10.0	11.6
1/2"	37.7	96.5	100.0	66.7	21.7	33.3
3/8"	22.3	87.2	100.0	57.9	8.8	42.1
#4	4.5	25.7	96.7	43.1	14.8	56.9
#8	2.7	6.3	83.0	35.3	7.8	64.7
#16	2.1	2.8	67.8	28.6	6.7	71.4
#30	2.0	2.1	50.4	21.5	7.1	78.5
#50	1.9	1.9	25.8	11.5	10.0	88.5
#100	1.8	1.8	5.1	3.1	8.4	96.9
LBW	1.5	1.6	0.7	1.2	1.9	98.8

*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.

Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

Production Gradation ○ Batch Plant Gradations ◉ Aggregate SupplierGradations

Coarseness Factor:	65	Workability Factor:	35



Intial Production Sample (IPS)

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"	100.0	0.0	0.0
3/4"	95.6	4.4	4.4
1/2"	73.1	22.6	26.9
3/8"	59.3	13.8	40.7
#4	42.8	16.5	57.2
#8	35.7	7.1	64.3
#16	28.9	6.8	71.1
#30	20.7	8.2	79.3
#50	9.9	10.8	90.1
#100	2.1	7.8	97.9
LBW	0.9	1.2	99.1

PREPARED BY:
SM, LLC Technical Service

Approved By: