

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 9/13/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/14/2021 through 9/20/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
IA	71-47	Presque Isle	800	4.89	2.62	26.1
2NS	75-051	Mid-Michigan	1200	7.23	2.66	39.1
Total Wt			3070	18.67		100.0

<---- Verify this number is 100%



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

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.2	100.0	100.0	99.0	1.0	1.0
1"	49.0	100.0	100.0	82.2	16.8	17.8
3/4"	11.8	99.2	100.0	69.1	13.2	30.9
1/2"	2.6	80.8	100.0	61.0	8.0	39.0
3/8"	2.0	59.3	100.0	55.2	5.8	44.8
#4	1.6	12.6	99.1	42.6	12.7	57.4
#8	1.4	4.1	82.4	33.8	8.8	66.2
#16	1.4	2.7	66.1	27.0	6.7	73.0
#30	1.4	2.4	50.7	20.9	6.1	79.1
#50	1.4	2.3	27.1	11.7	9.3	88.3
#100	1.2	2.1	7.2	3.8	7.9	96.2
LBW	1.1	1.9	1.0	1.3	2.5	98.7

*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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

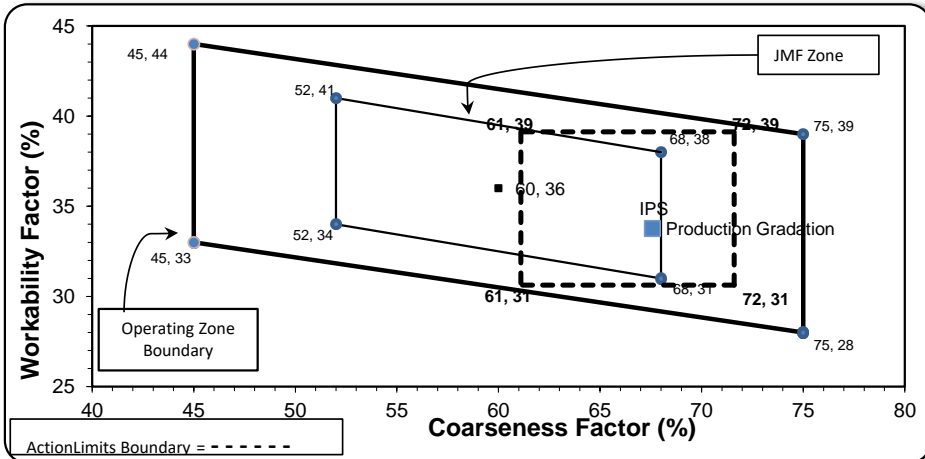
Coarseness Factor:	68	Workability Factor:	34
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Initial Production Sample (IPS)

Coarseness Factor:	66
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Workability Factor:	35
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Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	84.3	15.3	15.7
3/4"	74.8	9.6	25.2
1/2"	64.3	10.4	35.7
3/8"	56.8	7.5	43.2
#4	43.0	13.8	57.0
#8	34.9	8.1	65.1
#16	26.4	8.5	73.6
#30	19.9	6.5	80.1
#50	10.4	9.5	89.6
#100	3.4	7.0	96.6
LBW	1.2	2.2	98.8



PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-102**

Sample Date: 9/13/21 Concrete Grade: **P1M**
 Dates Test Represents: 9/14/2021 through 9/20/2021

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1420	8.46	2.69	45.5
IA	58-003	Stoneco	500	2.98	2.69	16.0
2NS	63-114	Highland	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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



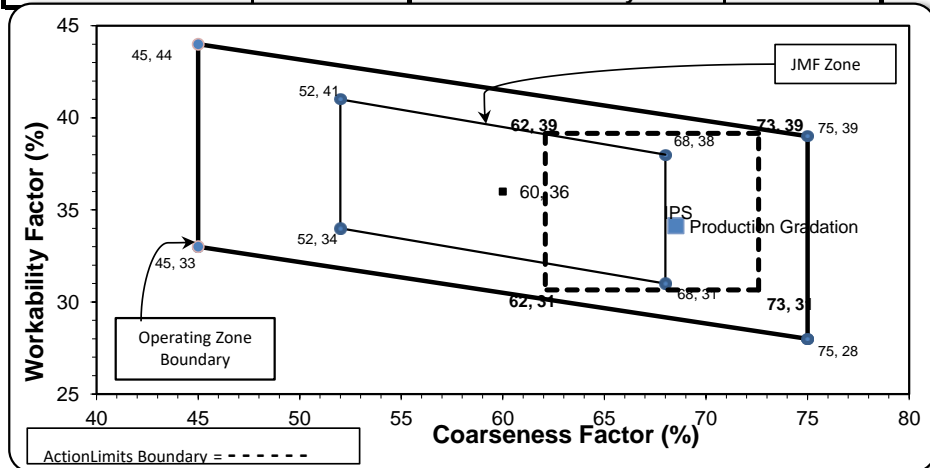
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 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	65.6	100.0	100.0	84.3	15.7	15.7
3/4"	36.5	100.0	100.0	71.1	13.2	28.9
1/2"	13.6	93.0	100.0	59.6	11.5	40.4
3/8"	7.4	81.4	100.0	54.9	4.7	45.1
#4	2.2	27.3	98.4	43.2	11.7	56.8
#8	1.3	6.8	84.4	34.1	9.1	65.9
#16	1.2	2.9	68.4	27.3	6.8	72.7
#30	1.1	2.1	48.6	19.5	7.8	80.5
#50	1.0	1.8	17.7	7.6	12.0	92.4
#100	0.9	1.7	3.4	2.0	5.6	98.0
LBW	0.8	1.4	0.7	0.9	1.1	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., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	69	Workability Factor:	34
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Initial Production Sample (IPS)

Coarseness Factor:	67
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"	85.5	14.5	14.5
3/4"	73.4	12.1	26.6
1/2"	61.0	12.4	39.0
3/8"	56.2	4.8	43.8
#4	43.1	13.1	56.9
#8	34.9	8.2	65.1
#16	29.4	5.5	70.6
#30	21.6	7.8	78.4
#50	8.1	13.4	91.9
#100	2.2	5.9	97.8
LBW	1.4	0.8	98.6

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-12**

Sample Date: 9/13/21 Concrete Grade: **P1M**
 Dates Test Represents: 9/14/2021 through 9/20/2021

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1020	6.24	2.62	33.2
IA	71-47	Presque Isle	800	4.89	2.62	26.1
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



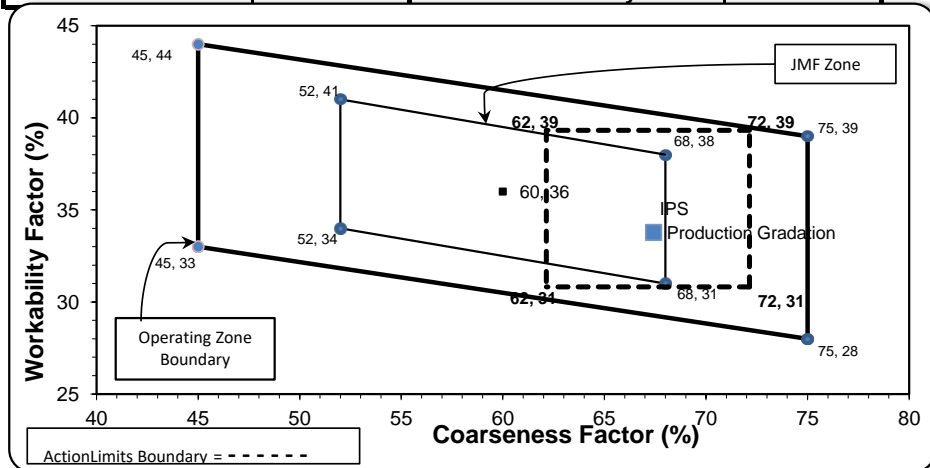
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 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	93.2	100.0	100.0	97.7	2.3	2.3
1"	36.6	100.0	100.0	78.9	18.8	21.1
3/4"	9.2	97.7	100.0	69.2	9.7	30.8
1/2"	1.6	75.7	100.0	61.0	8.3	39.0
3/8"	1.4	54.4	100.0	55.4	5.6	44.6
#4	1.4	16.4	95.1	43.5	11.9	56.5
#8	1.2	5.9	78.2	33.8	9.7	66.2
#16	1.2	3.3	62.9	26.9	6.9	73.1
#30	1.2	2.7	47.9	20.6	6.3	79.4
#50	1.1	2.3	27.0	12.0	8.6	88.0
#100	1.0	2.0	7.0	3.7	8.3	96.3
LBW	0.7	1.4	1.0	1.0	2.7	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **67** **Workability Factor:** **34**



Intial Production Sample (IPS)

Coarseness Factor: **67**
Workability Factor: **35**

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	83.9	15.7	16.1
3/4"	74.0	9.8	26.0
1/2"	63.7	10.3	36.3
3/8"	56.4	7.3	43.6
#4	43.0	13.4	57.0
#8	35.1	7.9	64.9
#16	29.0	6.1	71.0
#30	20.9	8.0	79.1
#50	8.1	12.8	91.9
#100	1.6	6.5	98.4
LBW	0.9	0.8	99.1

PREPARED BY:
 SM, LLC Technical Service

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Aggregate Optimization Chart

PLANT #: **P-20**

Sample Date: 9/13/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/14/2021 through 9/20/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1000	6.12	2.62	32.6
IA	71-47	Presque Isle	870	5.32	2.62	28.3
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



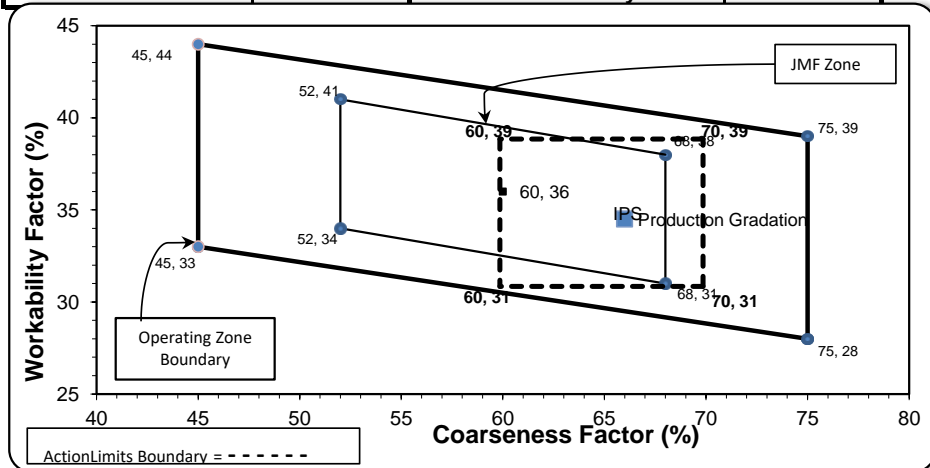
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Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.6	100.0	100.0	99.5	0.5	0.5
1"	49.7	100.0	100.0	83.6	15.9	16.4
3/4"	11.6	98.3	100.0	70.7	12.9	29.3
1/2"	3.0	82.0	100.0	63.3	7.4	36.7
3/8"	2.2	59.9	100.0	56.8	6.5	43.2
#4	1.8	11.4	97.9	42.1	14.7	57.9
#8	1.7	3.4	84.4	34.5	7.6	65.5
#16	1.6	2.2	69.2	28.2	6.3	71.8
#30	1.5	1.9	49.5	20.4	7.8	79.6
#50	1.4	1.7	21.5	9.3	11.0	90.7
#100	1.4	1.7	3.3	2.2	7.1	97.8
LBW	1.2	1.5	0.5	1.0	1.2	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **66** **Workability Factor:** **35**



Initial Production Sample (IPS)

Coarseness Factor: **65**
Workability Factor: **35**

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.1	0.9	0.9
1"	80.8	18.2	19.2
3/4"	71.3	9.6	28.7
1/2"	64.0	7.3	36.0
3/8"	57.7	6.2	42.3
#4	42.8	15.0	57.2
#8	34.8	7.9	65.2
#16	28.4	6.4	71.6
#30	20.2	8.2	79.8
#50	7.6	12.6	92.4
#100	1.6	6.0	98.4
LBW	1.0	0.6	99.0

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-32**

Sample Date: 9/13/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/14/2021 through 9/20/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	870	5.32	2.62	28.3
2NS	95-013	Smelter Bay	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



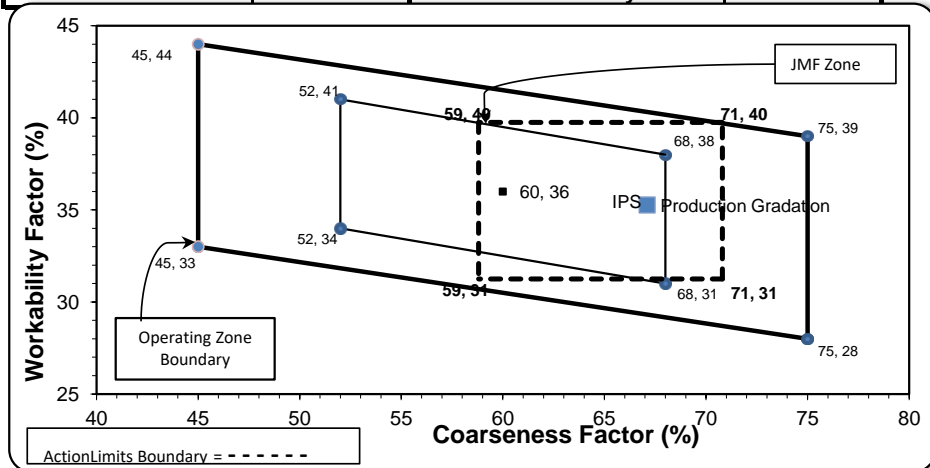
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 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	93.2	100.0	100.0	97.9	2.1	2.1
1"	36.6	100.0	100.0	80.4	17.5	19.6
3/4"	9.2	97.7	100.0	71.3	9.1	28.7
1/2"	1.6	75.7	100.0	62.7	8.6	37.3
3/8"	1.4	54.4	100.0	56.6	6.1	43.4
#4	1.4	16.4	95.2	43.8	12.7	56.2
#8	1.2	5.9	81.6	35.3	8.6	64.7
#16	1.2	3.3	66.1	28.2	7.0	71.8
#30	1.2	2.7	48.2	20.8	7.5	79.2
#50	1.1	2.3	24.2	10.8	9.9	89.2
#100	1.0	2.0	7.8	4.1	6.8	95.9
LBW	0.7	1.4	1.4	1.2	2.9	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	67	Workability Factor:	35
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Initial Production Sample (IPS)

Coarseness Factor:	65
Workability Factor:	36

Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.0	0.6	0.6
1"	84.0	15.3	16.0
3/4"	73.5	10.5	26.5
1/2"	65.2	8.2	34.8
3/8"	58.2	7.1	41.8
#4	44.1	14.1	55.9
#8	35.5	8.6	64.5
#16	29.1	6.4	70.9
#30	21.9	7.3	78.1
#50	9.6	12.2	90.4
#100	2.6	7.1	97.4
LBW	1.0	1.6	99.0

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-35**

Sample Date: 9/13/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/14/2021 through 9/20/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	58-003	Stoneco	1370	8.16	2.69	43.9
IA	58-003	Stoneco	550	3.28	2.69	17.6
2NS	81-093	Burmeister	1200	7.26	2.65	38.5
Total Wt			3120	18.70		100.0

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



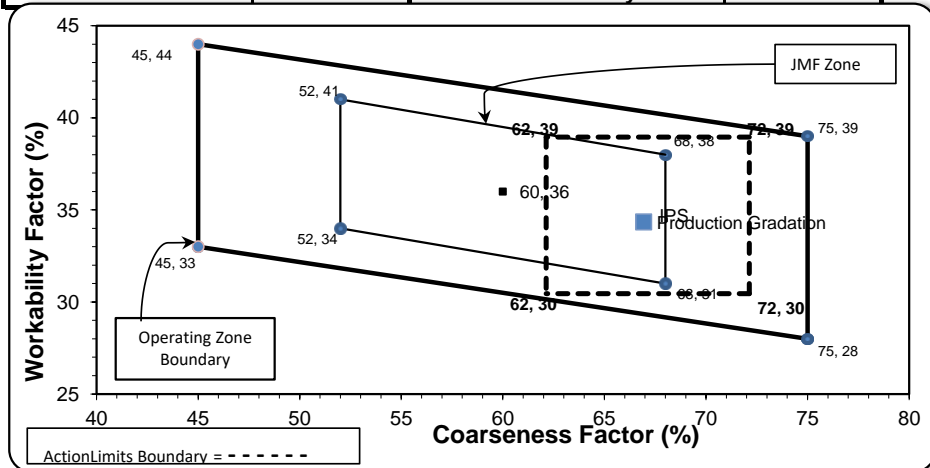
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	65.6	100.0	100.0	84.9	15.1	15.1
3/4"	36.5	100.0	100.0	72.1	12.8	27.9
1/2"	13.6	93.0	100.0	60.8	11.3	39.2
3/8"	7.4	81.4	100.0	56.1	4.8	43.9
#4	2.2	27.3	98.8	43.8	12.3	56.2
#8	1.3	6.8	84.7	34.3	9.4	65.7
#16	1.2	2.9	66.9	26.8	7.6	73.2
#30	1.1	2.1	46.0	18.5	8.2	81.5
#50	1.0	1.8	14.2	6.2	12.3	93.8
#100	0.9	1.7	1.9	1.4	4.8	98.6
LBW	0.8	1.4	0.6	0.8	0.6	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **67** **Workability Factor:** **34**



Initial Production Sample (IPS)

Coarseness Factor: **67**
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"	86.9	13.1	13.1
3/4"	76.1	10.8	23.9
1/2"	63.7	12.4	36.3
3/8"	56.2	7.5	43.8
#4	43.2	13.0	56.8
#8	34.7	8.5	65.3
#16	27.5	7.2	72.5
#30	20.6	7.0	79.4
#50	9.0	11.6	91.0
#100	2.1	6.9	97.9
LBW	1.0	1.1	99.0

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-36**

Sample Date: 9/13/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 9/14/2021 through 9/20/2021

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	920	5.63	2.62	30.0
IA	71-47	Presque Isle	950	5.81	2.62	30.9
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



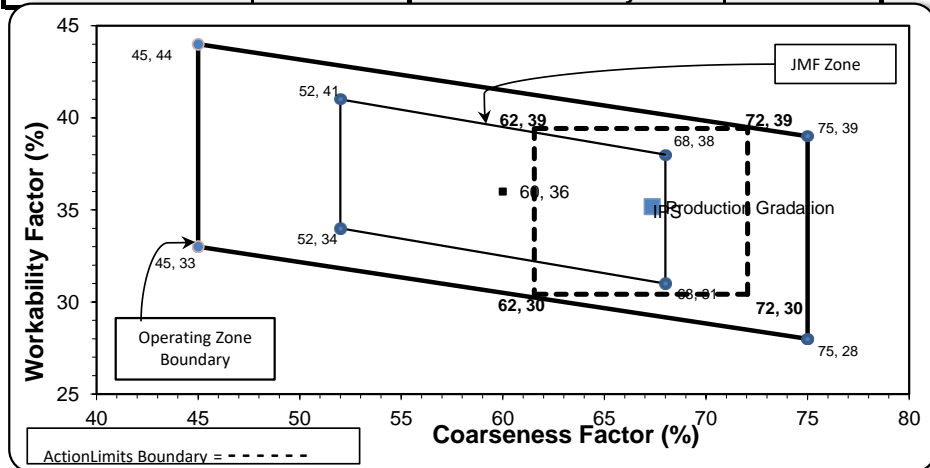
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	93.2	100.0	100.0	98.0	2.0	2.0
1"	36.6	100.0	100.0	81.0	17.0	19.0
3/4"	9.2	97.7	100.0	72.1	8.9	27.9
1/2"	1.6	75.7	100.0	63.0	9.1	37.0
3/8"	1.4	54.4	100.0	56.3	6.7	43.7
#4	1.4	16.4	97.9	43.8	12.6	56.2
#8	1.2	5.9	84.4	35.2	8.6	64.8
#16	1.2	3.3	69.2	28.4	6.7	71.6
#30	1.2	2.7	49.5	20.5	7.9	79.5
#50	1.1	2.3	21.5	9.4	11.1	90.6
#100	1.0	2.0	3.3	2.2	7.2	97.8
LBW	0.7	1.4	0.5	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **67** **Workability Factor:** **35**



Initial Production Sample (IPS)

Coarseness Factor: **67**
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"	85.0	15.0	15.0
3/4"	72.1	12.9	27.9
1/2"	64.5	7.6	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-39**

Sample Date: 9/13/21 Concrete Grade: **P1M**
 Dates Test Represents: 9/14/2021 through 9/20/2021

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	1070	6.54	2.62	34.9
IA	71-47	Presque Isle	750	4.59	2.62	24.4
2NS	44-051	Krake Willis Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



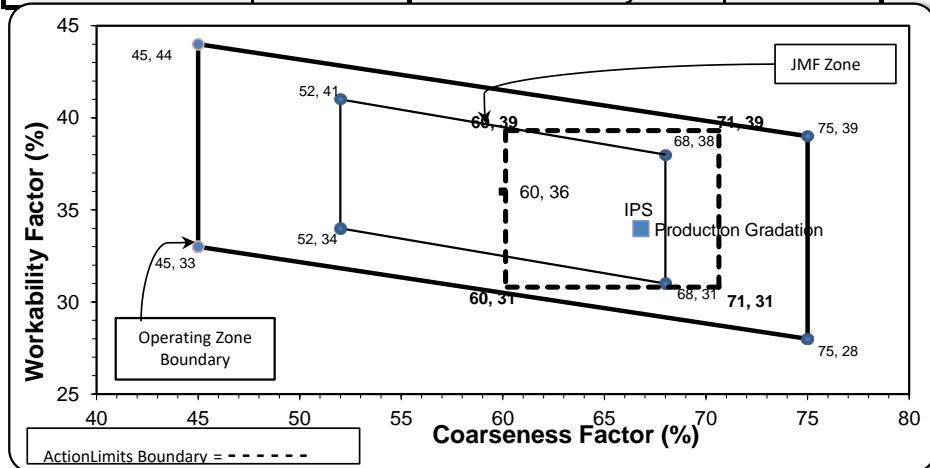
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.2	100.0	100.0	99.0	1.0	1.0
1"	49.0	100.0	100.0	82.2	16.8	17.8
3/4"	11.8	99.2	100.0	69.1	13.2	30.9
1/2"	2.6	80.8	100.0	61.4	7.7	38.6
3/8"	2.0	59.3	100.0	55.9	5.5	44.1
#4	1.6	12.6	97.6	43.4	12.5	56.6
#8	1.4	4.1	79.8	34.0	9.4	66.0
#16	1.4	2.7	63.2	26.9	7.1	73.1
#30	1.4	2.4	47.7	20.5	6.4	79.5
#50	1.4	2.3	26.2	11.7	8.8	88.3
#100	1.2	2.1	8.9	4.6	7.2	95.4
LBW	1.1	1.9	1.2	1.3	3.2	98.7

*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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	67	Workability Factor:	34
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Initial Production Sample (IPS)

Coarseness Factor:	65		
Workability Factor:	35		
Sieve	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	0.0	0.0
1.5"	99.6	0.4	0.4
1"	83.9	15.7	16.1
3/4"	74.1	9.8	25.9
1/2"	64.3	9.7	35.7
3/8"	57.5	6.8	42.5
#4	44.5	13.1	55.5
#8	35.1	9.4	64.9
#16	27.9	7.2	72.1
#30	21.7	6.2	78.3
#50	12.6	9.1	87.4
#100	3.5	9.1	96.5
LBW	1.2	2.4	98.8

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-02**

Sample Date: 9/13/21 Concrete Grade: **P1M**

Dates Test Represents: 9/14/2021 through 9/20/2021

Contractor: _____

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	950	5.81	2.62	30.9
IA	71-47	Presque Isle	870	5.32	2.62	28.3
2NS	63-115	Ray Rd	1250	7.56	2.65	40.7
Total Wt			3070	18.69		100.0

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



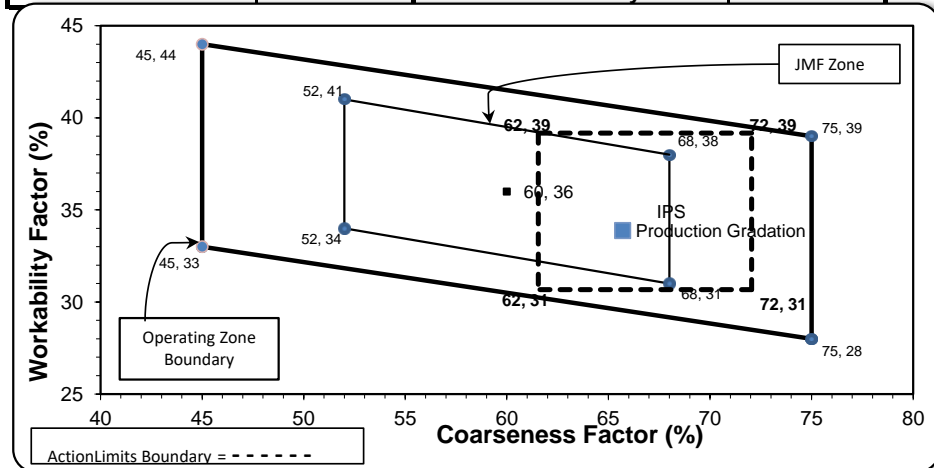
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	93.2	100.0	100.0	97.9	2.1	2.1
1"	36.6	100.0	100.0	80.4	17.5	19.6
3/4"	9.2	97.7	100.0	71.3	9.1	28.7
1/2"	1.6	75.7	100.0	62.7	8.6	37.3
3/8"	1.4	54.4	100.0	56.6	6.1	43.4
#4	1.4	16.4	95.1	43.8	12.8	56.2
#8	1.2	5.9	78.2	33.9	9.9	66.1
#16	1.2	3.3	62.9	26.9	7.0	73.1
#30	1.2	2.7	47.9	20.6	6.3	79.4
#50	1.1	2.3	27.0	12.0	8.7	88.0
#100	1.0	2.0	7.0	3.7	8.3	96.3
LBW	0.7	1.4	1.0	1.0	2.7	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 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	34
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Initial Production Sample (IPS)

Coarseness Factor:	67		
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"	85.0	15.0	15.0
3/4"	72.3	12.7	27.7
1/2"	64.5	7.8	35.5
3/8"	56.5	8.0	43.5
#4	42.7	13.8	57.3
#8	34.9	7.8	65.1
#16	29.0	5.9	71.0
#30	21.0	8.0	79.0
#50	8.2	12.8	91.8
#100	1.6	6.5	98.4
LBW	0.7	0.9	99.3

PREPARED BY:
 SM, LLC Technical Service

Approved By: