

Aggregate Optimization Chart

PLANT #: **P-101**

Sample Date: 8/16/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 8/17/2021 through 8/23/2021

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"	97.8	100.0	100.0	99.2	0.8	0.8
1"	48.2	100.0	100.0	81.9	17.3	18.1
3/4"	11.8	98.0	100.0	68.7	13.2	31.3
1/2"	2.6	78.9	100.0	60.6	8.2	39.4
3/8"	1.9	55.9	100.0	54.3	6.2	45.7
#4	1.5	11.3	99.3	42.3	12.0	57.7
#8	1.4	3.9	82.5	33.8	8.5	66.2
#16	1.4	2.2	65.8	26.8	7.0	73.2
#30	1.3	2.0	49.4	20.3	6.5	79.7
#50	1.2	1.8	24.2	10.3	9.9	89.7
#100	1.2	1.7	5.7	3.1	7.3	96.9
LBW	1.0	1.6	0.7	1.0	2.1	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

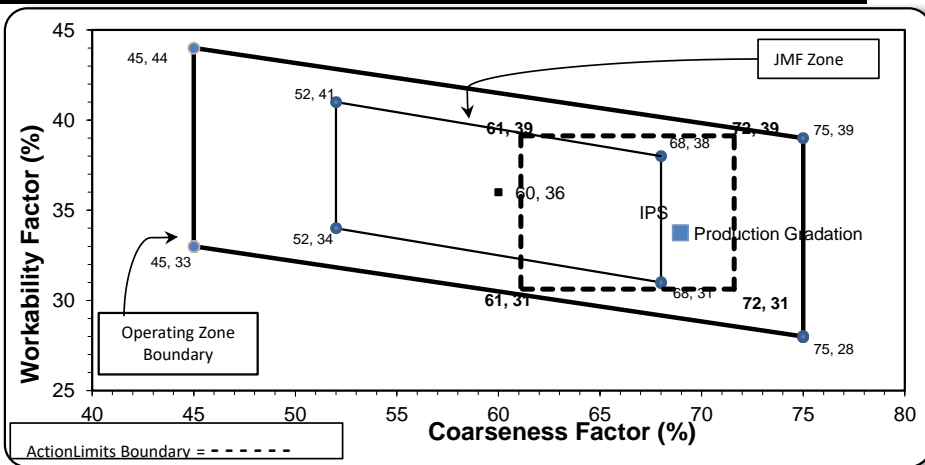
Coarseness Factor:	69	Workability Factor:	34
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Initial Production Sample (IPS)

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: 8/16/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 8/17/2021 through 8/23/2021

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%



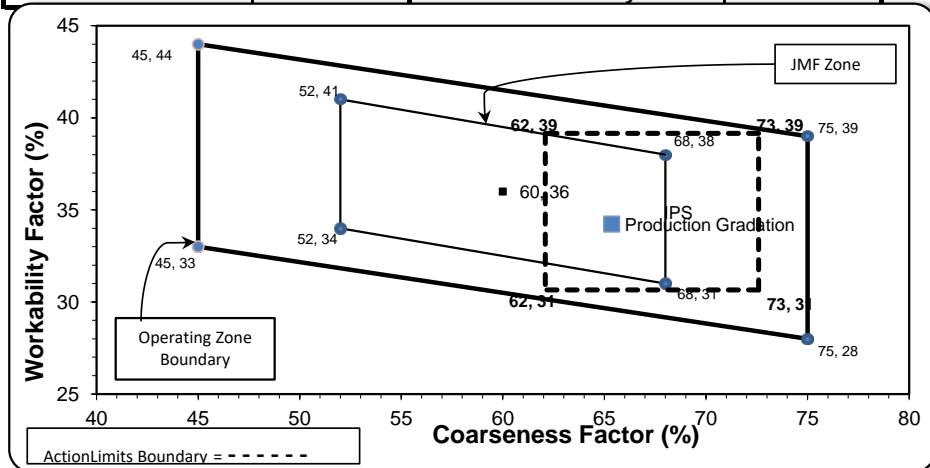
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 Suite 500
 Farmington Hills, MI 48336

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"	67.0	100.0	100.0	85.0	15.0	15.0
3/4"	55.7	100.0	100.0	79.8	5.1	20.2
1/2"	20.0	93.6	100.0	62.6	17.3	37.4
3/8"	14.3	75.2	100.0	57.0	5.5	43.0
#4	5.0	27.6	99.2	44.9	12.2	55.1
#8	2.4	7.6	83.0	34.2	10.6	65.8
#16	2.1	3.4	63.5	25.9	8.3	74.1
#30	1.8	1.9	43.8	18.0	8.0	82.0
#50	1.6	1.6	21.9	9.4	8.6	90.6
#100	1.5	1.5	5.2	2.9	6.5	97.1
LBW	1.4	1.2	0.9	1.2	1.7	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:	65	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: **8/16/21**

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: **8/17/2021** through **8/23/2021**

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%



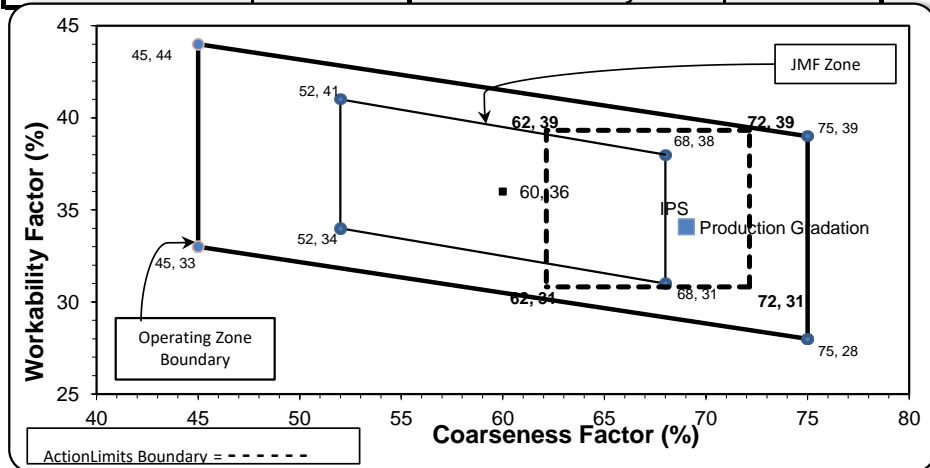
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 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	34.7	100.0	100.0	78.3	21.7	21.7
3/4"	6.4	98.2	100.0	68.4	9.9	31.6
1/2"	1.7	76.6	100.0	61.2	7.2	38.8
3/8"	1.4	51.1	100.0	54.5	6.7	45.5
#4	1.1	13.4	95.6	42.8	11.7	57.2
#8	1.0	5.6	79.3	34.1	8.7	65.9
#16	0.9	3.7	63.9	27.3	6.8	72.7
#30	0.9	3.1	48.5	20.9	6.4	79.1
#50	0.8	2.8	26.6	11.8	9.0	88.2
#100	0.7	2.5	6.4	3.5	8.3	96.5
LBW	0.6	1.8	1.0	1.1	2.4	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 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**



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"	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: **8/16/21**

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: **8/17/2021** through **8/23/2021**

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	920	5.63	2.62	30.0
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
Total Wt			3070	18.70		100.0

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



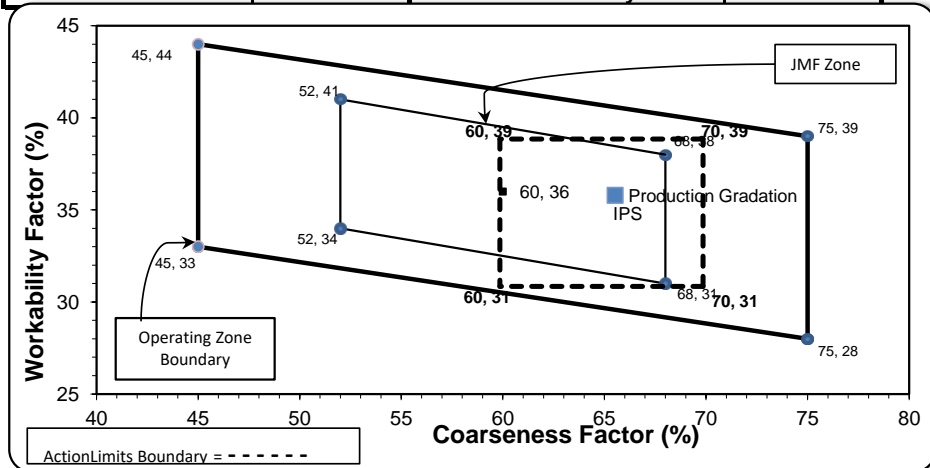
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 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	98.8	100.0	100.0	99.6	0.4	0.4
1"	46.9	100.0	100.0	83.6	16.1	16.4
3/4"	11.3	98.2	100.0	72.0	11.6	28.0
1/2"	2.8	81.6	100.0	64.4	7.6	35.6
3/8"	2.0	60.8	100.0	57.9	6.5	42.1
#4	1.6	19.1	98.3	44.6	13.3	55.4
#8	1.5	5.7	86.0	35.8	8.9	64.2
#16	1.4	3.0	70.7	29.0	6.8	71.0
#30	1.4	2.8	49.2	20.5	8.5	79.5
#50	1.3	2.6	19.6	8.8	11.7	91.2
#100	1.3	2.5	3.2	2.4	6.4	97.6
LBW	1.1	2.3	0.4	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 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: 36**



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: **8/16/21**

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: **8/17/2021** through **8/23/2021**

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%



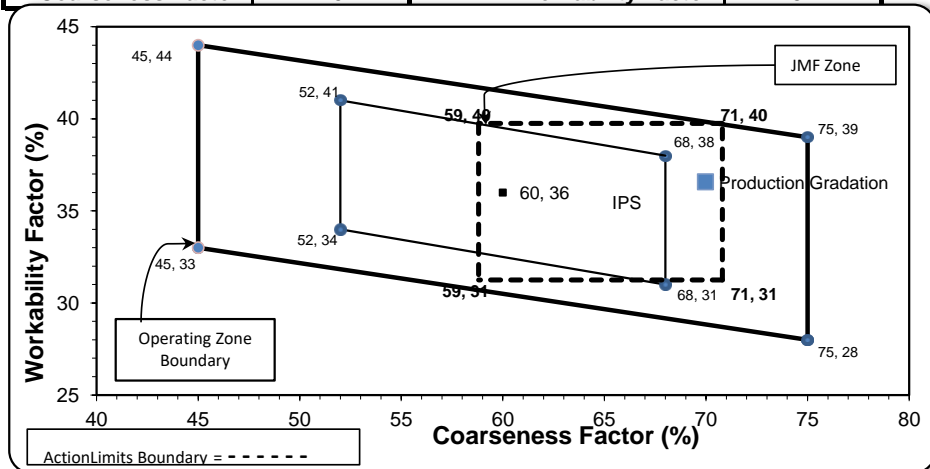
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 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	34.7	100.0	100.0	79.8	20.2	20.2
3/4"	6.4	98.2	100.0	70.5	9.3	29.5
1/2"	1.7	76.6	100.0	63.0	7.6	37.0
3/8"	1.4	51.1	100.0	55.6	7.3	44.4
#4	1.1	13.4	97.0	43.6	12.0	56.4
#8	1.0	5.6	85.2	36.6	7.0	63.4
#16	0.9	3.7	71.2	30.3	6.3	69.7
#30	0.9	3.1	50.5	21.7	8.6	78.3
#50	0.8	2.8	23.8	10.7	11.0	89.3
#100	0.7	2.5	6.9	3.7	7.0	96.3
LBW	0.6	1.8	0.9	1.1	2.7	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 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:	70	Workability Factor:	37
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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: **8/16/21**

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: **8/17/2021** through **8/23/2021**

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%



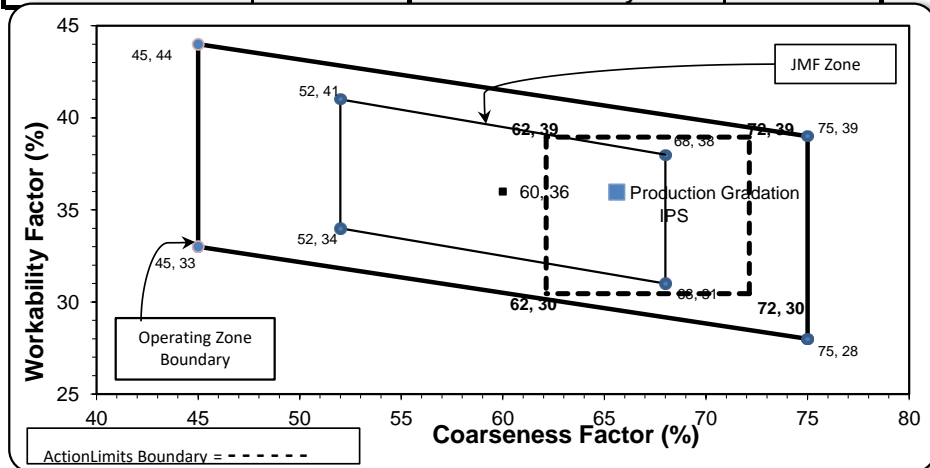
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

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"	67.0	100.0	100.0	85.5	14.5	14.5
3/4"	55.7	100.0	100.0	80.5	5.0	19.5
1/2"	20.0	93.6	100.0	63.7	16.8	36.3
3/8"	14.3	75.2	100.0	58.0	5.7	42.0
#4	5.0	27.6	99.2	45.2	12.8	54.8
#8	2.4	7.6	87.3	36.0	9.2	64.0
#16	2.1	3.4	71.6	29.1	6.9	70.9
#30	1.8	1.9	51.8	21.0	8.0	79.0
#50	1.6	1.6	19.4	8.4	12.6	91.6
#100	1.5	1.5	3.6	2.3	6.1	97.7
LBW	1.4	1.2	1.1	1.2	1.1	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:	66	Workability Factor:	36
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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"	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: **8/16/21**

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: **8/17/2021** through **8/23/2021**

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%



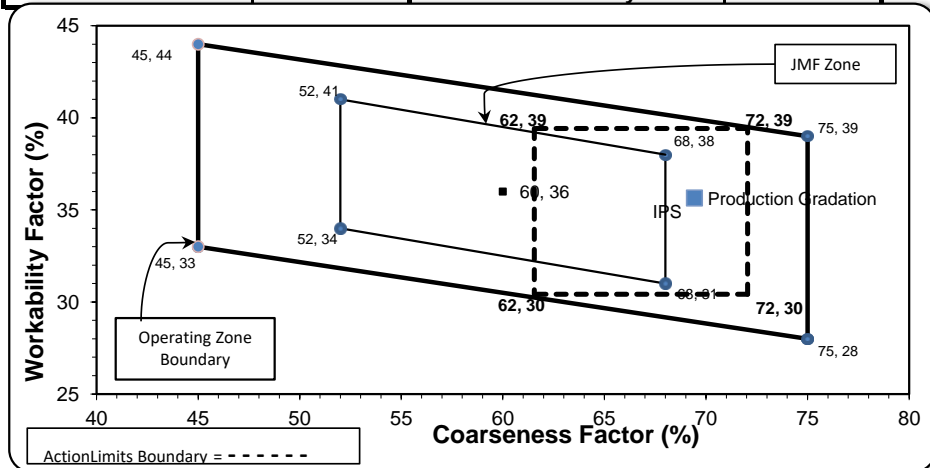
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	34.7	100.0	100.0	80.4	19.6	19.6
3/4"	6.4	98.2	100.0	71.4	9.0	28.6
1/2"	1.7	76.6	100.0	63.3	8.1	36.7
3/8"	1.4	51.1	100.0	55.3	8.0	44.7
#4	1.1	13.4	98.3	42.9	12.4	57.1
#8	1.0	5.6	86.0	35.6	7.3	64.4
#16	0.9	3.7	70.7	29.0	6.6	71.0
#30	0.9	3.1	49.2	20.5	8.6	79.5
#50	0.8	2.8	19.6	8.8	11.7	91.2
#100	0.7	2.5	3.2	2.2	6.5	97.8
LBW	0.6	1.8	0.4	0.9	1.3	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:	36
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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"	72.1	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: 8/16/21

Concrete Grade: **P1M**

Contractor: _____

Dates Test Represents: 8/17/2021 through 8/23/2021

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	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%



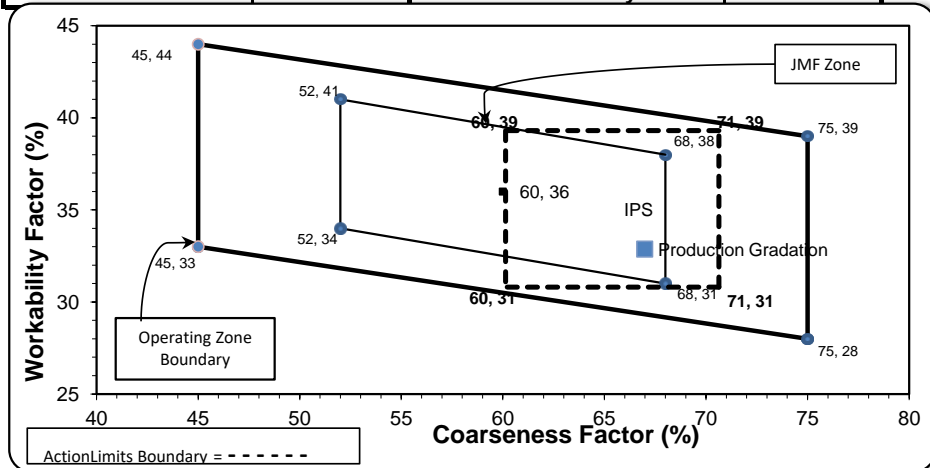
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	97.8	100.0	100.0	99.2	0.8	0.8
1"	48.2	100.0	100.0	81.9	17.3	18.1
3/4"	11.8	98.0	100.0	68.8	13.2	31.2
1/2"	2.6	78.9	100.0	60.9	7.9	39.1
3/8"	1.9	55.9	100.0	55.0	5.9	45.0
#4	1.5	11.3	97.2	42.9	12.2	57.1
#8	1.4	3.9	77.2	32.9	10.0	67.1
#16	1.4	2.2	59.0	25.0	7.8	75.0
#30	1.3	2.0	43.0	18.4	6.6	81.6
#50	1.2	1.8	21.4	9.6	8.9	90.4
#100	1.2	1.7	7.8	4.0	5.6	96.0
LBW	1.0	1.6	1.2	1.2	2.8	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:** **33**



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: 8/16/21 Concrete Grade: **P1M**
 Dates Test Represents: 8/17/2021 through 8/23/2021

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%



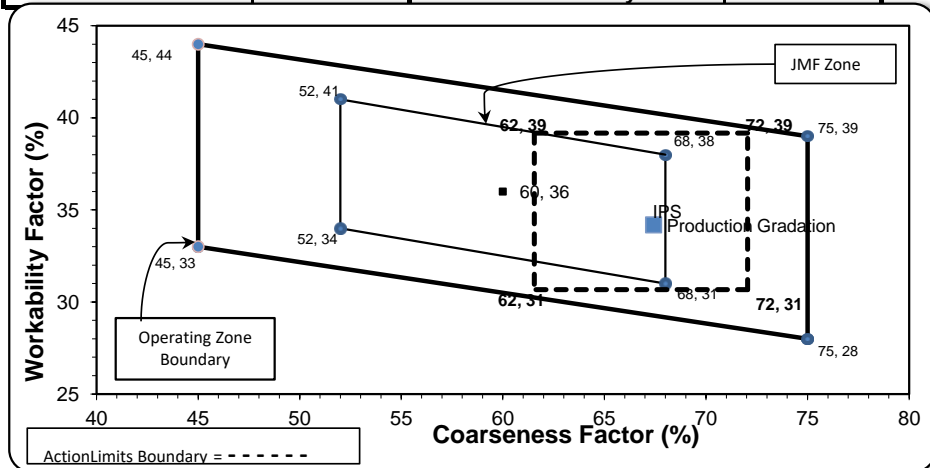
Superior Materials, LLC
 30701 W. 10 Mile Rd.
 Suite 500
 Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	34.7	100.0	100.0	79.8	20.2	20.2
3/4"	6.4	98.2	100.0	70.5	9.3	29.5
1/2"	1.7	76.6	100.0	63.0	7.6	37.0
3/8"	1.4	51.1	100.0	55.6	7.3	44.4
#4	1.1	13.4	95.6	43.1	12.6	56.9
#8	1.0	5.6	79.3	34.2	8.9	65.8
#16	0.9	3.7	63.9	27.3	6.8	72.7
#30	0.9	3.1	48.5	20.9	6.4	79.1
#50	0.8	2.8	26.6	11.9	9.0	88.1
#100	0.7	2.5	6.4	3.5	8.3	96.5
LBW	0.6	1.8	1.0	1.1	2.4	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 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"	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: