

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-101

Sample Date: 4/25/22

Concrete Grade: DM, 4500HP

Contractor: _____

Dates Test Represents: 4/26/2022 through 5/2/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1460	8.93	2.62	50.2
26A	71-47	Presque Isle	300	1.83	2.62	10.3
2NS	75-051	Mid Michigan	1150	6.93	2.66	39.5
Total Wt			2910	17.69		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"	95.9	100.0	100.0	97.9	2.1	2.1
3/4"	80.7	100.0	100.0	90.3	7.6	9.7
1/2"	40.3	98.1	100.0	69.9	20.5	30.1
3/8"	22.1	86.6	100.0	59.5	10.3	40.5
#4	3.8	17.8	98.5	42.7	16.9	57.3
#8	2.1	4.7	83.3	34.5	8.2	65.5
#16	1.9	2.5	68.3	28.2	6.3	71.8
#30	1.8	2.1	53.3	22.2	6.0	77.8
#50	1.8	2.0	29.2	12.6	9.5	87.4
#100	1.7	1.8	7.3	3.9	8.7	96.1
LBW	1.6	1.6	0.6	1.2	2.7	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.

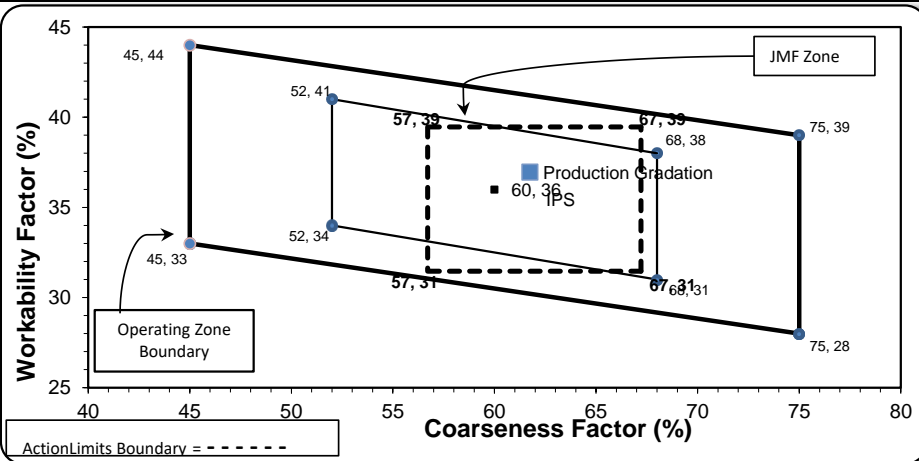
Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	34	37.0
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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"	95.0	5.0	5.0
1/2"	70.5	24.5	29.5
3/8"	60.0	10.5	40.0
#4	44.4	15.6	55.6
#8	35.5	9.0	64.5
#16	28.5	7.0	71.5
#30	21.5	7.0	78.5
#50	10.2	11.3	89.8
#100	3.1	7.1	96.9
LBW	1.3	1.8	98.7



PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-102**

Sample Date: 4/25/22

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 4/26/2022 through 5/2/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1600	9.53	2.69	54.1
26A	58-003	Stoneco	205	1.22	2.69	6.9
2NS	81-019	Pleasant Lake	1150	6.95	2.65	38.9
Total Wt			2955	17.71		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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	81.4	100.0	100.0	89.9	10.1	10.1
1/2"	40.8	99.7	100.0	67.9	22.0	32.1
3/8"	22.4	87.3	100.0	57.1	10.8	42.9
#4	3.1	14.0	99.0	41.2	15.9	58.8
#8	1.2	5.2	85.2	34.2	7.0	65.8
#16	1.2	3.5	68.9	27.7	6.5	72.3
#30	1.1	3.0	49.8	20.2	7.5	79.8
#50	1.1	2.8	22.8	9.7	10.5	90.3
#100	1.0	2.7	6.0	3.1	6.6	96.9
LBW	0.6	2.5	1.4	1.0	2.0	99.0

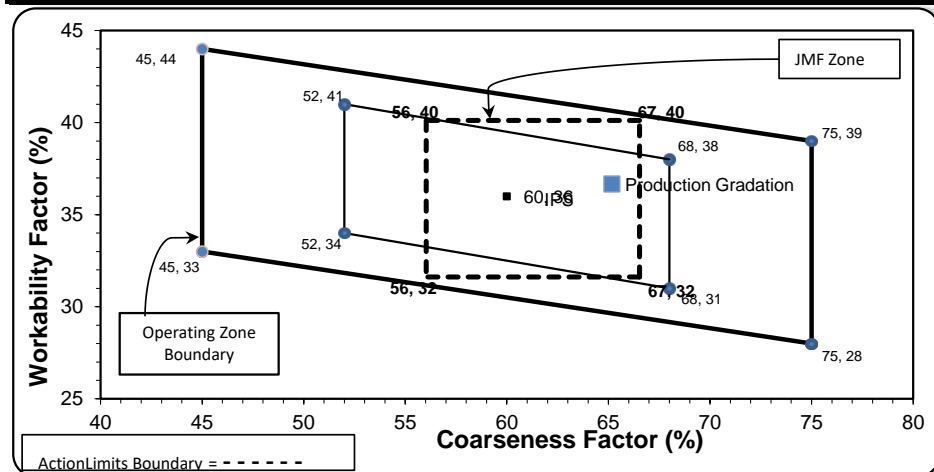
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	65	Workability Factor:	34	36.7
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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

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-103**

Sample Date: 4/25/22

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 4/26/2022 through 5/2/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1600	9.53	2.69	54.1
26A	58-003	Stoneco	205	1.22	2.69	6.9
2NS	81-019	Pleasant Lake	1150	6.95	2.65	38.9
Total Wt			2955	17.71		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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	81.4	100.0	100.0	89.9	10.1	10.1
1/2"	40.8	99.7	100.0	67.9	22.0	32.1
3/8"	22.4	87.3	100.0	57.1	10.8	42.9
#4	3.1	14.0	99.0	41.2	15.9	58.8
#8	1.2	5.2	85.2	34.2	7.0	65.8
#16	1.2	3.5	68.9	27.7	6.5	72.3
#30	1.1	3.0	49.8	20.2	7.5	79.8
#50	1.1	2.8	22.8	9.7	10.5	90.3
#100	1.0	2.7	6.0	3.1	6.6	96.9
LBW	0.6	2.5	1.4	1.0	2.0	99.0

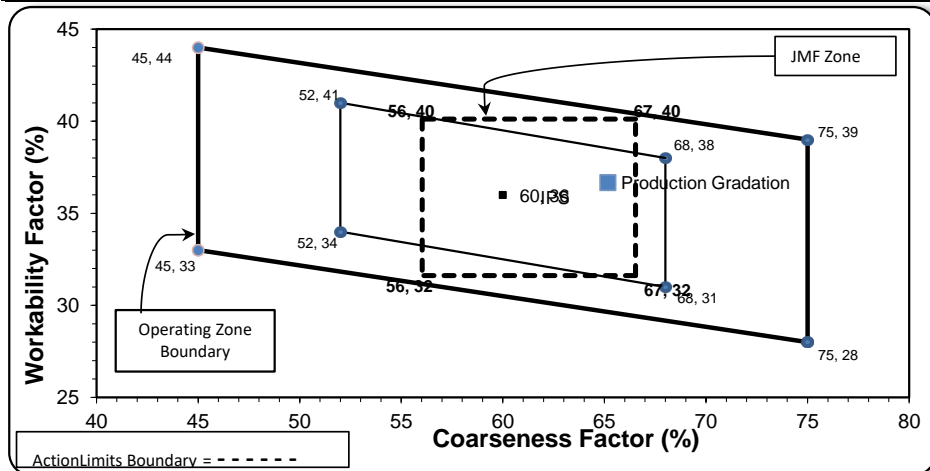
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	65	Workability Factor:	34	36.7
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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

PREPARED BY:
 SM, LLC Technical Service

Approved BY:

Aggregate Optimization Chart

PLANT #: **P-12**

Sample Date: 4/25/22

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 4/26/2022 through 5/2/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1400	8.56	2.62	48.2
26A	71-47	Presque Isle	355	2.17	2.62	12.2
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6
Total Wt			2905	17.69		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"	82.9	100.0	100.0	91.8	8.0	8.2
1/2"	42.3	95.9	100.0	71.7	20.1	28.3
3/8"	20.9	76.7	100.0	59.0	12.7	41.0
#4	2.7	21.6	96.3	42.1	17.0	57.9
#8	1.9	6.9	78.2	32.7	9.3	67.3
#16	1.7	3.6	61.0	25.4	7.3	74.6
#30	1.6	2.6	45.4	19.1	6.3	80.9
#50	1.6	2.3	23.4	10.3	8.7	89.7
#100	1.5	2.1	3.3	2.3	8.0	97.7
LBW	0.9	1.5	0.7	0.9	1.4	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.

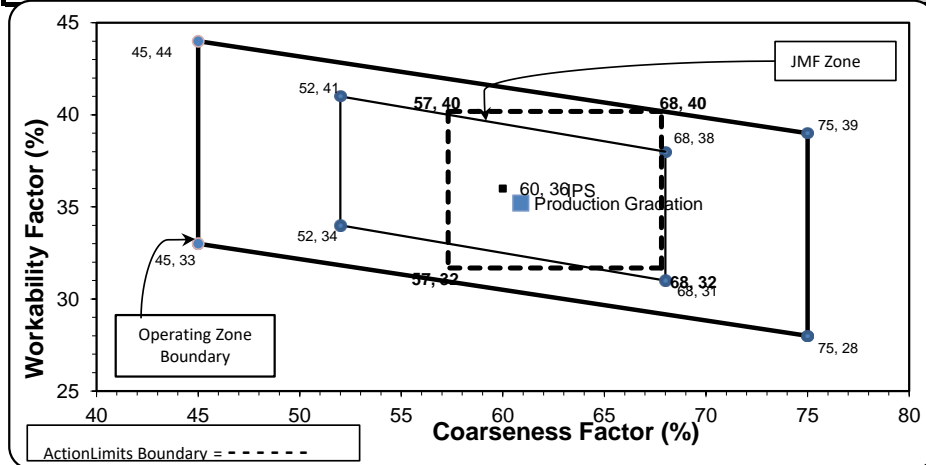


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Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor: **61** Workability Factor: **33** **35.2** Coarseness Factor: **63**



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

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-32**

Sample Date: 4/25/22

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 4/26/2022 through 5/2/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1455	8.90	2.62	50.1
26A	71-47	Presque Isle	300	1.83	2.62	10.3
2NS	95-013	Smelter Bay	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"	99.0	100.0	100.0	99.5	0.5	0.5
3/4"	89.7	100.0	100.0	94.8	4.7	5.2
1/2"	43.2	95.9	100.0	71.1	23.7	28.9
3/8"	23.3	76.7	100.0	59.2	11.9	40.8
#4	5.4	21.6	96.5	43.1	16.0	56.9
#8	2.7	6.9	84.0	35.3	7.8	64.7
#16	2.2	3.6	68.9	28.7	6.6	71.3
#30	2.0	2.6	49.2	20.7	8.0	79.3
#50	1.9	2.3	23.5	10.5	10.3	89.5
#100	1.8	2.1	6.7	3.8	6.7	96.2
LBW	1.4	1.5	1.7	1.5	2.2	98.5

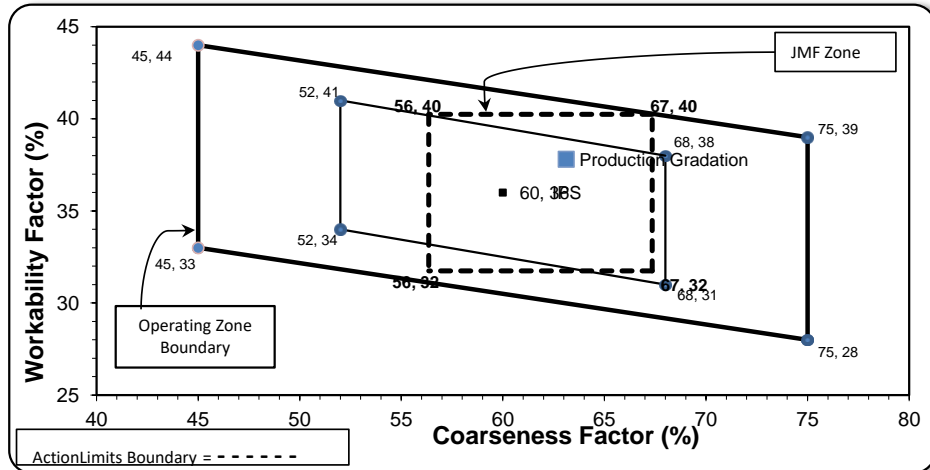
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	35	37.8
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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"	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-35**

Sample Date: 4/25/22

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 4/26/2022 through 5/2/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1600	9.53	2.69	54.1
26A	58-003	Stoneco	205	1.22	2.69	6.9
2NS	81-019	Pleasant Lake	1150	6.95	2.65	38.9
Total Wt			2955	17.71		100.0

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



Superior Materials, LLC
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 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"	100.0	100.0	100.0	100.0	0.0	0.0
3/4"	81.4	100.0	100.0	89.9	10.1	10.1
1/2"	40.8	99.7	100.0	67.9	22.0	32.1
3/8"	22.4	87.3	100.0	57.1	10.8	42.9
#4	3.1	14.0	99.0	41.2	15.9	58.8
#8	1.2	5.2	85.2	34.2	7.0	65.8
#16	1.2	3.5	68.9	27.7	6.5	72.3
#30	1.1	3.0	49.8	20.2	7.5	79.8
#50	1.1	2.8	22.8	9.7	10.5	90.3
#100	1.0	2.7	6.0	3.1	6.6	96.9
LBW	0.6	2.5	1.4	1.0	2.0	99.0

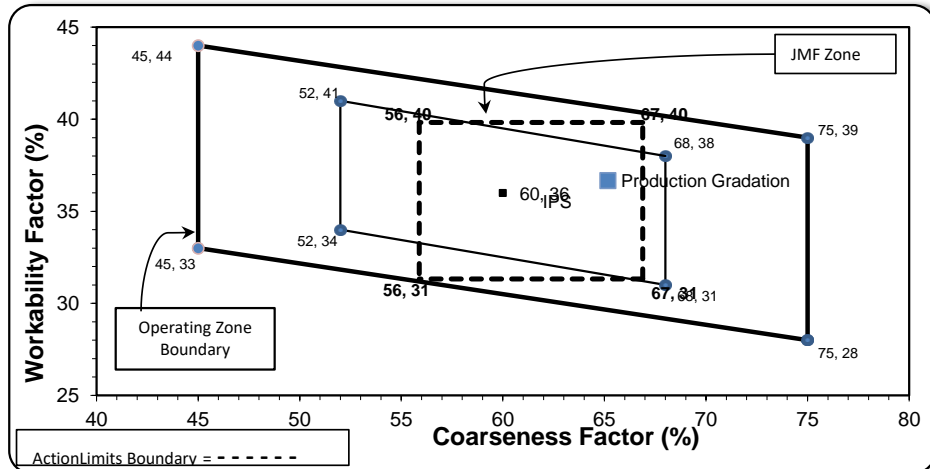
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	65	Workability Factor:	34	36.7
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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"	89.1	10.2	10.9
1/2"	70.5	18.6	29.5
3/8"	60.5	10.0	39.5
#4	44.1	16.4	55.9
#8	35.6	8.5	64.4
#16	27.7	7.9	72.3
#30	20.6	7.1	79.4
#50	8.7	11.8	91.3
#100	1.6	7.1	98.4
LBW	1.1	0.6	98.9

PREPARED BY:
 SM, LLC Technical Service

Approved By:

Aggregate Optimization Chart

PLANT #: **P-36**

Sample Date: 4/25/22

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 4/26/2022 through 5/2/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1400	8.56	2.62	48.2
26A	71-47	Presque Isle	405	2.48	2.62	13.9
2NS	63-92	Grange Hall	1100	6.65	2.65	37.9
Total Wt			2905	17.69		100.0

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



Superior Materials, LLC
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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"	99.4	100.0	100.0	99.7	0.3	0.3
3/4"	82.9	100.0	100.0	91.8	8.0	8.2
1/2"	42.3	95.9	100.0	71.6	20.1	28.4
3/8"	20.9	76.7	100.0	58.6	13.0	41.4
#4	2.7	21.6	97.0	41.0	17.6	59.0
#8	1.9	6.9	83.4	33.5	7.6	66.5
#16	1.7	3.6	68.8	27.4	6.1	72.6
#30	1.6	2.6	49.7	20.0	7.4	80.0
#50	1.6	2.3	21.8	9.3	10.6	90.7
#100	1.5	2.1	2.8	2.1	7.3	97.9
LBW	0.9	1.5	0.4	0.8	1.3	99.2

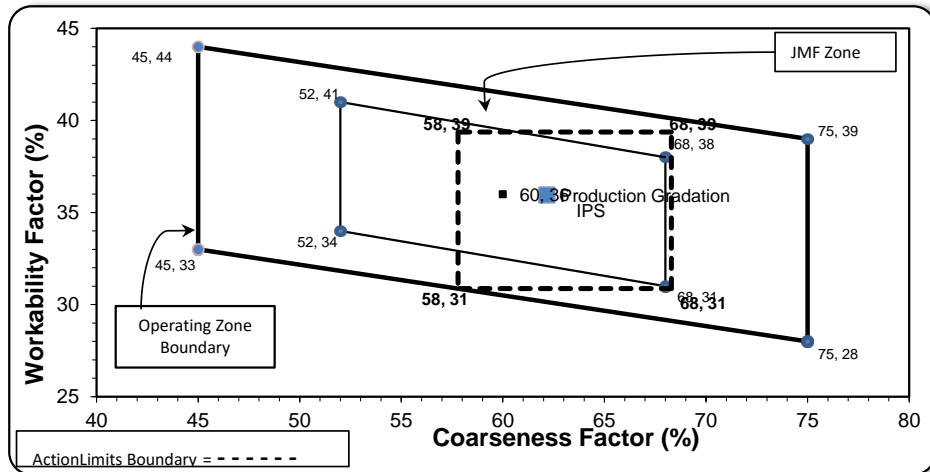
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	33	Adjusted WF	36.0
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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"	99.1	0.9	0.9
3/4"	90.3	8.8	9.7
1/2"	69.2	21.1	30.8
3/8"	59.1	10.1	40.9
#4	41.8	17.3	58.2
#8	35.1	6.6	64.9
#16	28.5	6.6	71.5
#30	21.2	7.3	78.8
#50	8.7	12.5	91.3
#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

PLANT #: **P-39**

Sample Date: 4/25/22

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 4/26/2022 through 5/2/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1505	9.21	2.62	51.8
26A	71-47	Presque Isle	300	1.83	2.62	10.3
2NS	44-051	Krake Willis Rd	1100	6.65	2.65	37.9
Total Wt			2905	17.69		100.0

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



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 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"	95.9	100.0	100.0	97.9	2.1	2.1
3/4"	80.7	100.0	100.0	90.0	7.9	10.0
1/2"	40.3	98.1	100.0	68.9	21.1	31.1
3/8"	22.1	86.6	100.0	58.3	10.6	41.7
#4	3.8	17.8	96.3	40.3	18.0	59.7
#8	2.1	4.7	79.8	31.8	8.5	68.2
#16	1.9	2.5	64.6	25.7	6.1	74.3
#30	1.8	2.1	49.2	19.8	5.9	80.2
#50	1.8	2.0	25.2	10.7	9.1	89.3
#100	1.7	1.8	7.8	4.0	6.7	96.0
LBW	1.6	1.6	0.5	1.2	2.8	98.8

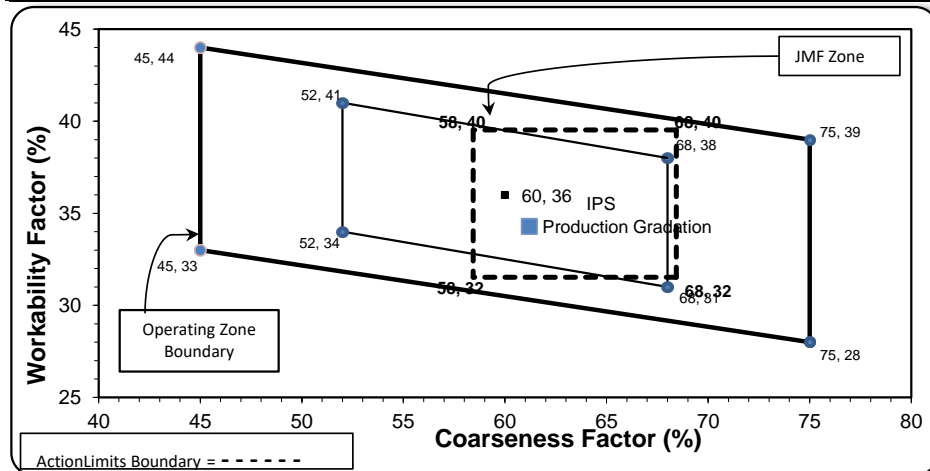
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	61	Workability Factor:	32	Adjusted WF	34.3
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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"	100.0	0.0	0.0
3/4"	89.7	10.3	10.3
1/2"	70.3	19.4	29.7
3/8"	59.1	11.2	40.9
#4	42.8	16.3	57.2
#8	35.5	7.3	64.5
#16	29.0	6.5	71.0
#30	21.2	7.7	78.8
#50	9.8	11.5	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

PLANT #: **P-02**

Sample Date: 4/25/22

Concrete Grade: **DM, 4500HP**

Contractor: _____

Dates Test Represents: 4/26/2022 through 5/2/2022

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1400	8.56	2.62	48.2
26A	71-47	Presque Isle	355	2.17	2.62	12.2
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"	99.4	100.0	100.0	99.7	0.3	0.3
3/4"	82.9	100.0	100.0	91.8	8.0	8.2
1/2"	42.3	95.9	100.0	71.7	20.1	28.3
3/8"	20.9	76.7	100.0	59.0	12.7	41.0
#4	2.7	21.6	96.3	42.1	17.0	57.9
#8	1.9	6.9	78.2	32.7	9.3	67.3
#16	1.7	3.6	61.0	25.4	7.3	74.6
#30	1.6	2.6	45.4	19.1	6.3	80.9
#50	1.6	2.3	23.4	10.3	8.7	89.7
#100	1.5	2.1	3.3	2.3	8.0	97.7
LBW	0.9	1.5	0.7	0.9	1.4	99.1

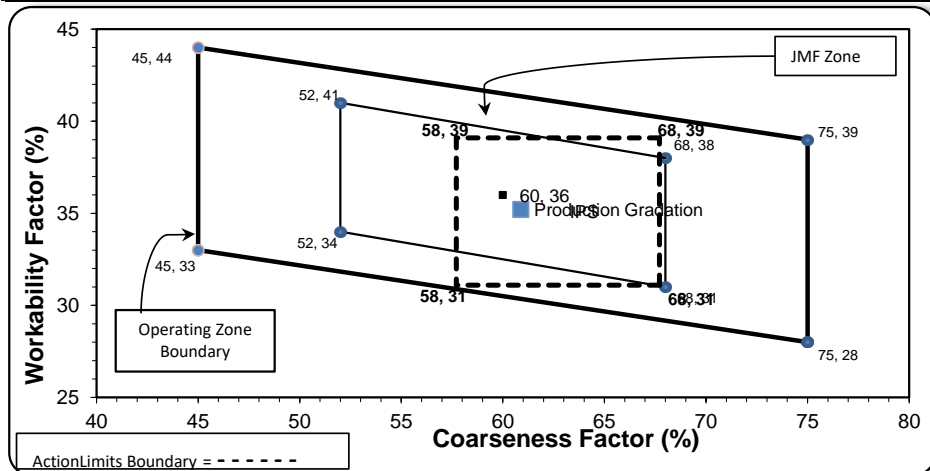
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	61	Workability Factor:	33	Adjusted WF	35.2
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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: