PLANT #: P-101

Sample Date:

8/21/23 Concrete Grade: P1M, 3500HP

through	8/28/2023		
/eight (SSD)	ft ³	Specific Gravity	% Contribution
1070	6.54	2.62	34.9

Contractor:

MDOT No.:

Dates Test F	Represents:	8/22/2023	through	8/28/2023		
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

SUPERIOR MATERIALS

Superior Materials, LLC 30701 W. 10 Mile Rd. Suite 500

Farmington Hills, MI 48336

	Total Wt	3070	18.67		100.0	< Verify this n	umber is 100%
Sieve	CA	1/	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	94.8	10	0.0	100.0	98.2	1.8	1.8
1"	34.4	10	0.0	100.0	77.1	21.1	22.9
3/4"	10.8	98	3.5	100.0	68.5	8.6	31.5
1/2"	3.9	83	3.2	100.0	62.1	6.4	37.9
3/8"	3.4	63	3.7	100.0	56.9	5.3	43.1
#4	3.0	17	7.3	96.1	43.1	13.8	56.9
#8	2.8	4.	.5	79.7	33.3	9.8	66.7
#16	2.7	2	.7	64.6	26.9	6.4	73.1
#30	2.6	2	.3	49.3	20.8	6.1	79.2
#50	2.5	2	.1	26.6	11.8	9.0	88.2
#100	2.2	1.	.9	7.9	4.3	7.5	95.7
LBW	1.8	1.	.7	1.1	1.5	2.8	98.5

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

*Any two adjacent sieves must equal 10% except max.,

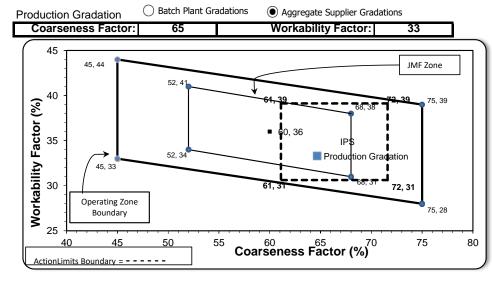
nom. max., #100 and #200 sieves.

*% 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.



Initial Production Sample (IPS)

Coars	Coarseness Factor:		
Work	Workability Factor:		
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

PLANT #: P-102

Sample Date:

8/21/23 Concrete Grade: **P1M, 3500HP**

Dates Test F	Represents:	8/22/2023	tnrougn	8/28/2023		
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	81-019	Pleasant Lake	1200	7.26	2.65	38.5
		Total Wt	3120	18.70		100.0

Contractor:

MDOT No.:



---- Verify this number is 100%

ed	Cumulative % Retained	Superior Materials, LLC
	0.0	Suite 500
	0.0	Farmington Hills, MI 48336

Cumulative CA IΑ % Retaine Sieve 2NS % Passing 2" 100.0 100.0 100.0 100.0 0.0 1.5" 100.0 100.0 100.0 100.0 0.0 0.0 66.9 100.0 100.0 85.5 14.5 14.5 3/4" 35.1 100.0 100.0 71.5 14.0 28.5 1/2' 14.7 92.8 100.0 61.3 10.2 38.7 3/8' 10.4 73.2 100.0 55.9 5.3 44.1 #4 2.5 16.4 97.7 41.6 14.4 58.4 #8 1.7 5.4 81.2 32.9 8.6 67.1 #16 1.3 3.4 63.9 25.7 7.2 74.3 7.5 #30 81.7 1.2 2.6 45.0 18.3 #50 1.2 2.3 22.0 9.4 8.9 90.6 #100 1.1 2.0 6.3 3.3 6.1 96.7 LBW 1.6 98.9

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

*Any two adjacent sieves must equal 10% except max.,

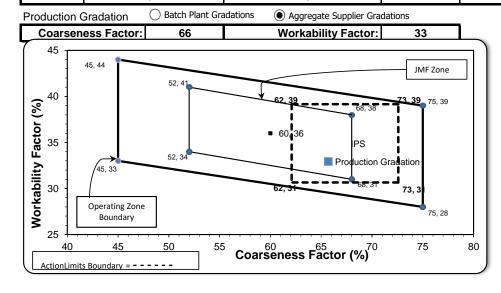
nom. max., #100 and #200 sieves.

 $\ensuremath{^{\star}\%}$ 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.



Coarseness Factor:		67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

Total Wt

PLANT #: P-103

Sample Date:

#100

LBW

8/21/23 Concrete Grade: P1M, 3500HP

18.70

Dates Test F	Represents:	8/22/2023	through	8/28/2023		
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	81-019	Pleasant Lake	1200	7.26	2.65	38.5

2.0

1.6

Coarseness Factor (%) 70

3120

Contractor:

MDOT No.:

100.0

3.3



Farmington Hills, MI 48336

<---- Verify this number is 100%

ained	Cumulative % Retained	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
0	0.0	Suite 500

Cumulative CA IΑ % Reta Sieve 2NS % Passing 2" 100.0 100.0 100.0 100.0 0.0 1.5" 100.0 100.0 100.0 100.0 0.0 0.0 66.9 100.0 100.0 85.5 14.5 14.5 3/4" 35.1 100.0 100.0 71.5 14.0 28.5 1/2' 14.7 92.8 100.0 61.3 10.2 38.7 3/8' 10.4 73.2 100.0 55.9 5.3 44.1 #4 2.5 16.4 97.7 41.6 14.4 58.4 #8 1.7 5.4 81.2 32.9 8.6 67.1 #16 1.3 3.4 63.9 25.7 7.2 74.3 #30 7.5 81.7 1.2 2.6 45.0 18.3 #50 1.2 2.3 22.0 9.4 8.9 90.6

6.3

75

80

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

*Any two adjacent sieves must equal 10% except max.,

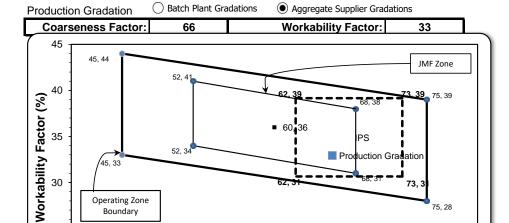
nom. max., #100 and #200 sieves.

*% 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



Intial Production Sample (IPS)

96.7

6.1

2.2

Coarseness Factor:		67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

50

Boundary

45

ActionLimits Boundary = - - - - -

1.1

0.7

Total Wt

CA

100.0

100.0

66.9

35.1

14.7

10.4

2.5

1.7

1.3

1.2

1.2

1.1

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

PLANT #: Contractor: 8/21/23 Concrete Grade: P1M, 3500HP Sample Date:

18.64

100.0

Cumulative

% Passing

100.0

100.0

85.5

71.5

61.3

55.9

42.4

36.4

27.9

18.1

6.4

1.9

0.0

0.0

14.5

14.0

10.2

5.3

13.5

6.1

8.5

9.8

11.7

4.6

2NS

100.0

100.0

100.0

100.0

100.0

100.0

99.9

90.1

69.4

44.5

14.3

2.7

Dates Test Represents:		8/22/2023	through	8/28/2023			
	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	19-04	Schlegel	1200	7.20	2.67	38.5

IΑ

100.0

100.0

100.0

100.0

92.8

73.2

16.4

5.4

3.4

2.6

2.3

2.0

3120

MDOT No.:

0.0

14.5

28.5

38.7

44.1

57.6

63.6

72.1

81.9

93.6

98.1

99.3

----- Verify this number is 100%

Cumulative **Builders Redi-Mix** % Retained % Retained 0.0

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.,

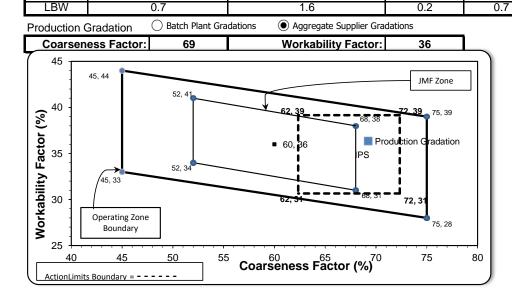
nom. max., #100 and #200 sieves.

*% Retained must be at least 4% for each sieve except max.,

nom. max., #100 and #200 sieves.

*% Retained must be at least 8% for the 1" sieve when

a 2" max. size (nom. Max. 1.5") aggregate is used



Intial Production Sample (IPS)

Coars	eness Factor:	67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

PLANT #: 12

Sample Date:

8/21/23

Contractor:

MDOT No.:

Concrete Grade: P1M, 3500HP

Dates Test Represents:		8/22/2023	through	8/28/2023		
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	850	5.20	2.62	27.7
2NS	63-115	Ray Rd	1200	7.26	2.65	39.1
		Total W/	2070	10.70		100.0

SI	UF A T	PE R	RIC	OR LS
_	_			

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

	Total Wt	3070	18.70		100.0	< Verify this n	umber is 100%
Sieve	CA	L	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	90.2	10	0.0	100.0	96.7	3.3	3.3
1"	28.5	10	0.0	100.0	76.2	20.5	23.8
3/4"	7.5	99	9.6	100.0	69.2	7.1	30.8
1/2"	3.3	77	7.4	100.0	61.6	7.5	38.4
3/8"	2.7	54	1.2	100.0	55.0	6.6	45.0
#4	2.4	9	.3	96.4	41.1	13.9	58.9
#8	2.3	3	.0	81.8	33.6	7.5	66.4
#16	2.1	2	.3	66.7	27.4	6.2	72.6
#30	2.1	2	.1	50.4	21.0	6.4	79.0
#50	2.0	2	.0	25.6	11.2	9.8	88.8
#100	1.8	1	.8	5.0	3.1	8.2	96.9
LBW	1.5	1	.6	0.7	1.2	1.8	98.8
•	0	0	•	•			

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

*Any two adjacent sieves must equal 10% except max.,

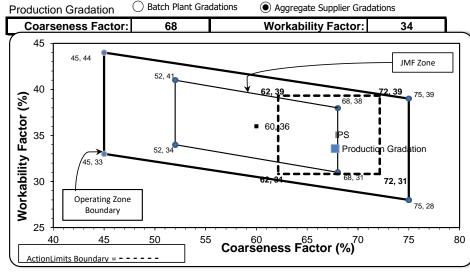
nom. max., #100 and #200 sieves.

*% 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.



Intial Production Sample (IPS)

Coars	eness Factor:	67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

PLANT #:

Sample Date:

Dates Test Represents:

Concrete Grade: P1M, 3500HP 8/21/23

8/22/2023	through	8/28/2023		
Source	Weight (SSD)	ft ³	Specific	%
Source	weight (SSD)	It	Gravity	Contribution
Presque Isle	970	5.93	2.62	31.6
Presque Isle	900	5.50	2.62	29.3

Contractor:

MDOT No.:

Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	970	5.93	2.62	31.6
IA	71-47	Presque Isle	900	5.50	2.62	29.3
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
		Total Wt	3070	18.70		100.0

SUPERIO	3

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

	i otai wt	3070	18.70		100.0	< Verify this n	umber is 100%
Sieve	CA	1/	4	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100	0.0	100.0	100.0	0.0	0.0
1.5"	100.0	100	0.0	100.0	100.0	0.0	0.0
1"	36.0	100	0.0	100.0	79.8	20.2	20.2
3/4"	9.6	99).2	100.0	71.2	8.6	28.8
1/2"	3.1	80).9	100.0	63.8	7.4	36.2
3/8"	2.5	57	⁷ .8	100.0	56.8	7.0	43.2
#4	1.9	15	5.1	97.6	43.2	13.6	56.8
#8	1.8	5.	.6	83.3	34.8	8.4	65.2
#16	1.7	3.	.8	68.6	28.5	6.3	71.5
#30	1.6	3.	4	49.3	20.8	7.7	79.2
#50	1.6	3.	.2	19.8	9.2	11.6	90.8
#100	1.4	3.	.0	2.8	2.4	6.8	97.6
LBW	1.0	2.	.6	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.,

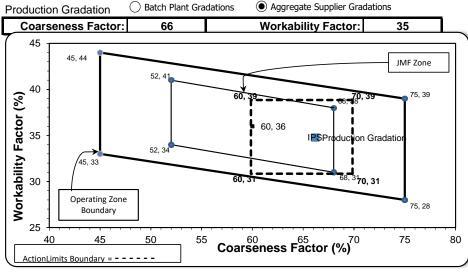
nom. max., #100 and #200 sieves.

*% 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.



Intial Production Sample (IPS)

Coars	eness Factor:	65	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

PLANT #: P11

Sample Date:

8/21/23 Concrete Grade: P1M, 3500HP

Dates Test F	Represents:	8/22/2023	through	8/28/2023		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	970	5.93	2.62	31.6
IA	71-47	Presque Isle	900	5.50	2.62	29.3
2NS	95-013	Smelter Bay	1200	7.26	2.65	39.1
		Total Wt	3070	18.70		100.0

Contractor:

MDOT No.:



---- Verify this number is 100%

ined	Cumulative % Retained	Superior Materials, LLC
)	0.0	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"	90.2	100.0	100.0	96.9	3.1	3.1	
1"	28.5	100.0	100.0	77.4	19.5	22.6	
3/4"	7.5	99.6	100.0	70.7	6.8	29.3	
1/2"	3.3	77.4	100.0	62.8	7.8	37.2	
3/8"	2.7	54.2	100.0	55.8	7.0	44.2	
#4	2.4	9.3	96.1	41.0	14.8	59.0	1
#8	2.3	3.0	84.8	34.8	6.3	65.2	n
#16	2.1	2.3	70.0	28.7	6.1	71.3	1
#30	2.1	2.1	49.9	20.8	7.9	79.2	n
#50	2.0	2.0	23.6	10.4	10.3	89.6	•
#100	1.8	1.8	6.9	3.8	6.6	96.2	а

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

*Any two adjacent sieves must equal 10% except max.,

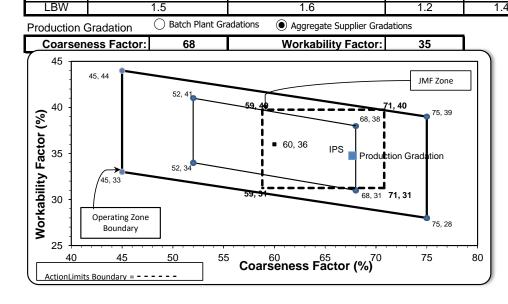
nom. max., #100 and #200 sieves.

*% 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.



Intial Production Sample (IPS)

Coars	eness Factor:	65	
Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

8/21/23

PLANT #: P-32

Sample Date:

Concrete Grade: P1M, 3500HP

Dates Test Represents:		8/22/2023	tnrougn	8/28/2023		
Agg. Class	Pit#	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	970	5.93	2.62	31.6
IA	71-47	Presque Isle	900	5.50	2.62	29.3
2NS	95-013	Smelter Bay	1200	7.26	2.65	39.1
		Total Wt	3070	18.70		100.0

Contractor:

MDOT No.:



<---- Verify this number is 100%

Cumulative % Retained	<u>Superior Materials, LLC</u> 30701 W. 10 Mile Rd.
0.0	Suite 500
3.1	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" 90.2 100.0 100.0 96.9 3.1 3.1 1" 28.5 100.0 100.0 77.4 19.5 22.6 3/4" 7.5 99.6 100.0 70.7 6.8 29.3 1/2" 3.3 77.4 100.0 62.8 7.8 37.2 3/8" 2.7 54.2 100.0 55.8 7.0 44.2 #4 2.4 9.3 96.1 41.0 14.8 59.0 #8 2.3 3.0 84.8 34.8 6.3 65.2 #16 2.1 2.3 70.0 28.7 6.1 71.3 #30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 <t< th=""><th></th><th>TOTAL WI</th><th>3070 16</th><th>.70</th><th>100.0</th><th>< verity this n</th><th>umber is 100%</th></t<>		TOTAL WI	3070 16	.70	100.0	< verity this n	umber is 100%
1.5" 90.2 100.0 100.0 96.9 3.1 3.1 1" 28.5 100.0 100.0 77.4 19.5 22.6 3/4" 7.5 99.6 100.0 70.7 6.8 29.3 1/2" 3.3 77.4 100.0 62.8 7.8 37.2 3/8" 2.7 54.2 100.0 55.8 7.0 44.2 #4 2.4 9.3 96.1 41.0 14.8 59.0 #8 2.3 3.0 84.8 34.8 6.3 65.2 #16 2.1 2.3 70.0 28.7 6.1 71.3 #30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	Sieve	CA	IA	2NS		% Retained	
1" 28.5 100.0 100.0 77.4 19.5 22.6 3/4" 7.5 99.6 100.0 70.7 6.8 29.3 1/2" 3.3 77.4 100.0 62.8 7.8 37.2 3/8" 2.7 54.2 100.0 55.8 7.0 44.2 #4 2.4 9.3 96.1 41.0 14.8 59.0 #8 2.3 3.0 84.8 34.8 6.3 65.2 #16 2.1 2.3 70.0 28.7 6.1 71.3 #30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	2"	100.0	100.0	100.0	100.0	0.0	0.0
3/4" 7.5 99.6 100.0 70.7 6.8 29.3 1/2" 3.3 77.4 100.0 62.8 7.8 37.2 3/8" 2.7 54.2 100.0 55.8 7.0 44.2 #4 2.4 9.3 96.1 41.0 14.8 59.0 #8 2.3 3.0 84.8 34.8 6.3 65.2 #16 2.1 2.3 70.0 28.7 6.1 71.3 #30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	1.5"	90.2	100.0	100.0	96.9	3.1	3.1
1/2" 3.3 77.4 100.0 62.8 7.8 37.2 3/8" 2.7 54.2 100.0 55.8 7.0 44.2 #4 2.4 9.3 96.1 41.0 14.8 59.0 #8 2.3 3.0 84.8 34.8 6.3 65.2 #16 2.1 2.3 70.0 28.7 6.1 71.3 #30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	1"	28.5	100.0	100.0	77.4	19.5	22.6
3/8" 2.7 54.2 100.0 55.8 7.0 44.2 #4 2.4 9.3 96.1 41.0 14.8 59.0 #8 2.3 3.0 84.8 34.8 6.3 65.2 #16 2.1 2.3 70.0 28.7 6.1 71.3 #30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	3/4"	7.5	99.6	100.0	70.7	6.8	29.3
#4 2.4 9.3 96.1 41.0 14.8 59.0 #8 2.3 3.0 84.8 34.8 6.3 65.2 #16 2.1 2.3 70.0 28.7 6.1 71.3 #30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	1/2"	3.3	77.4	100.0	62.8	7.8	37.2
#8 2.3 3.0 84.8 34.8 6.3 65.2 #16 2.1 2.3 70.0 28.7 6.1 71.3 #30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	3/8"	2.7	54.2	100.0	55.8	7.0	44.2
#16 2.1 2.3 70.0 28.7 6.1 71.3 #30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	#4	2.4	9.3	96.1	41.0	14.8	59.0
#30 2.1 2.1 49.9 20.8 7.9 79.2 #50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	#8	2.3	3.0	84.8	34.8	6.3	65.2
#50 2.0 2.0 23.6 10.4 10.3 89.6 #100 1.8 1.8 6.9 3.8 6.6 96.2	#16	2.1	2.3	70.0	28.7	6.1	71.3
#100 1.8 1.8 6.9 3.8 6.6 96.2	#30	2.1	2.1	49.9	20.8	7.9	79.2
	#50	2.0	2.0	23.6	10.4	10.3	89.6
LBW 1.5 1.6 1.2 1.4 2.4 98.6	#100	1.8	1.8	6.9	3.8	6.6	96.2
	LBW	1.5	1.6	1.2	1.4	2.4	98.6

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

*Any two adjacent sieves must equal 10% except max.,

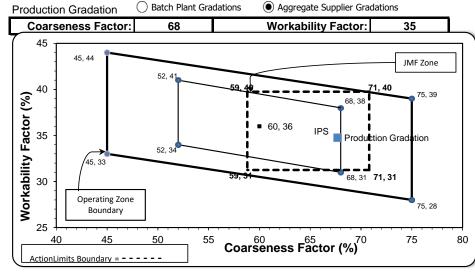
nom. max., #100 and #200 sieves.

*% Retained must be at least 4% for each sieve except max.,

nom. max., #100 and #200 sieves.

*% Retained must be at least 8% for the 1" sieve when

a 2" max. size (nom. Max. 1.5") aggregate is used.



Intial Production Sample (IPS)

Coars	eness Factor:	65	
Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

PLANT #: P-35

Sample Date:

8/21/23 Concrete Grade: P1M, 3500HP

Dates Test Represents:		8/22/2023	through	8/28/2023		
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	81-019	Pleasant Lake	1200	7.26	2.65	38.5
		Total W/s	3120	19.70		100.0

Contractor:

MDOT No.:



---- Verify this number is 100%

ained	Cumulative % Retained	Superior Materials, LLC
0	0.0	Suite 500
0	0.0	Farmington Hills, MI 48336

Total Wt 18.70 Cumulative CA IΑ % Reta Sieve 2NS % Passing 2" 100.0 100.0 100.0 100.0 0.0 1.5" 100.0 100.0 100.0 100.0 0.0 0.0 66.9 100.0 100.0 85.5 14.5 14.5 3/4" 35.1 100.0 100.0 71.5 14.0 28.5 1/2' 14.7 92.8 100.0 61.3 10.2 38.7 3/8' 10.4 73.2 100.0 55.9 44.1 5.3 #4 2.5 16.4 97.7 41.6 14.4 58.4 #8 1.7 5.4 81.2 32.9 8.6 67.1 #16 1.3 3.4 63.9 25.7 7.2 74.3 #30 81.7 1.2 2.6 45.0 18.3 7.5 #50 1.2 2.3 22.0 9.4 8.9 90.6 #100 1.1 2.0 6.3 3.3 6.1 96.7 LBW 0.7 1.6 2.2

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

*Any two adjacent sieves must equal 10% except max.,

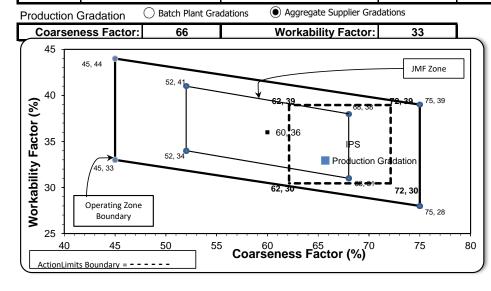
nom. max., #100 and #200 sieves.

*% 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.



Intial Production Sample (IPS)

Coars	eness Factor:	67	
Work	ability Factor:	35	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

PLANT #: P-36

Sample Date:

Concrete Grade: P1M, 3500HP 8/21/23

Dates Test F	Represents:	8/22/2023	through	8/28/2023		
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	850	5.20	2.62	27.7
2NS	63-92	Grange Hall	1200	7.26	2.65	39.1
		T-4-1 \A/4	2070	40.70		400.0

Contractor:

MDOT No.:



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

•	Total Wt	3070	18.70		100.0	< Verify this n	umber is 100%
Sieve	CA	L	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	90.2	10	0.0	100.0	96.7	3.3	3.3
1"	28.5	10	0.0	100.0	76.2	20.5	23.8
3/4"	7.5	99	9.6	100.0	69.2	7.1	30.8
1/2"	3.3	77	7.4	100.0	61.6	7.5	38.4
3/8"	2.7	54	1.2	100.0	55.0	6.6	45.0
#4	2.4	9	.3	97.6	41.5	13.5	58.5
#8	2.3	3	.0	83.3	34.2	7.4	65.8
#16	2.1	2	.3	68.6	28.1	6.0	71.9
#30	2.1	2	.1	49.3	20.5	7.6	79.5
#50	2.0	2	.0	19.8	9.0	11.6	91.0
#100	1.8	1	.8	2.8	2.2	6.8	97.8
LBW	1.5	1	.6	0.4	1.1	1.1	98.9

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

*Any two adjacent sieves must equal 10% except max.,

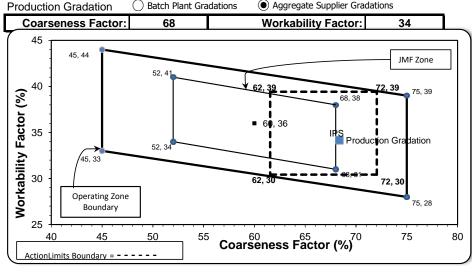
nom. max., #100 and #200 sieves.

*% 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.



Intial Production Sample (IPS)

Coarseness Factor:		67	
Work	Workability Factor:		
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

Source

Presque Isle

Presque Isle

Krake Willis Rd

PLANT #: P-39

Pit#

71-47

71-47

44-051

Agg. Class

CA

IΑ

2NS

Concrete Grade: P1M, 3500HP

2.65

8/21/23 Sample Date: Dates Test Represents: 8/22/2023 8/28/2023 through

Weight (SSD)

1020

800

1250

23			
	Specific	%	
	Gravity	Contribution	
	2.62	33.2	
	2.62	26.1	

40.7

Contractor:

MDOT No.:



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

Total Wt		3070	18.69		100.0	< Verify this n	umber is 100%
Sieve	CA	1,	4	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	94.8	10	0.0	100.0	98.3	1.7	1.7
1"	34.4	10	0.0	100.0	78.2	20.1	21.8
3/4"	10.8	98	3.5	100.0	70.0	8.2	30.0
1/2"	3.9	83	3.2	100.0	63.7	6.3	36.3
3/8"	3.4	63	3.7	100.0	58.4	5.2	41.6
#4	3.0	17	' .3	99.0	45.8	12.6	54.2
#8	2.8	4	5	85.0	36.7	9.1	63.3
#16	2.7	2	.7	67.9	29.2	7.5	70.8
#30	2.6	2	.3	50.6	22.1	7.2	77.9
#50	2.5	2.	.1	23.1	10.8	11.3	89.2
#100	2.2	1.	9	5.8	3.6	7.2	96.4
LBW	1.8	1.	.7	1.0	1.4	2.1	98.6

ft³

6.24

4.89

7.56

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

*Any two adjacent sieves must equal 10% except max.,

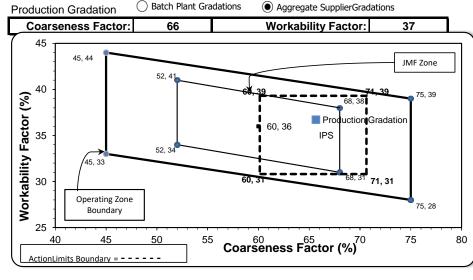
nom. max., #100 and #200 sieves.

*% 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.



Intial Production Sample (IPS)

Coars	eness Factor:	65	
Work	Workability Factor:		
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

Presque Isle

Ray Rd

CA

100.0

90.2

28.5

7.5

3.3

2.7

2.4

2.3

2.1

2.1

2.0

1.8

Total Wt

PLANT #: P-02

Concrete Grade: P1M, 3500HP

2.62

2.65

2NS

100.0

100.0

100.0

100.0

100.0

100.0

96.4

81.8

66.7

50.4

25.6

5.0

8/21/23 Sample Date: Dates Test Represents:

Pit#

71-47

71-47

63-115

Agg. Class

CA

IΑ

2NS

Sieve

2"

1.5"

3/4"

1/2'

3/8'

#4

#8

#16

#30

#50

#100

8/22/2023	through	8/28/2023		
Course	Weight (SSD)	ft ³	Specific	%
Source	weight (SSD)	π	Gravity	Contribution
Presque Isle	1020	6.24	2.62	33.2

5.20

7.26

18.70

850

1200

3070

IΑ

100.0

100.0

100.0

99.6

77.4

54.2

9.3

3.0

2.3

2.1

2.0

1.8

% Retained

0.0

3.3

20.5

7.1

7.5

6.6

13.9

7.5

6.2

6.4

9.8

8.2

1.8

MDOT No.:

Contractor:



100.0

Cumulative

% Passing

100.0

96.7

76.2

69.2

61.6

55.0

41.1

33.6

27.4

21.0

11.2

3.1

---- Verify this number is 100%

SUPERIOR MATERIALS

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

Cumulative % Retained	
0.0	
3.3	
23.8	
30.8	
38.4	
45.0	*Maxim
58.9	*Any tw
66.4	nom. ma
72.6	*% Ret

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

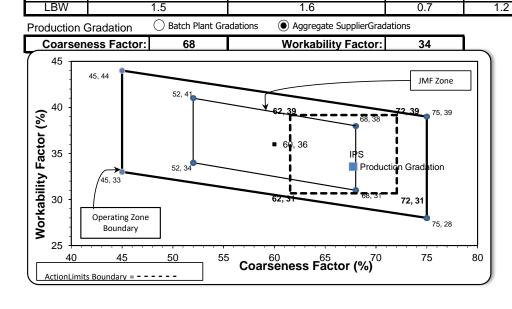
wo adjacent sieves must equal 10% except max.,

ax., #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



Intial Production Sample (IPS)

79.0

88.8

96.9

Coarseness Factor:		67	
Work	Workability Factor:		
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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