PLANT #: P-103

Concrete Grade: DM, 4500HP Sample Date: 5/5/25

Dates Test F	Represents:	5/6/2025	through	5/12/2025		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	58-003	Stoneco	1350	8.04	2.69	45.8
26A	58-003	Stoneco	450	2.68	2.69	15.3
2NS	63-114	Highland	1150	6.95	2.65	39.0
		Total Wt	2050	17 68		100.0

MDOT No.:

Contractor:



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

	Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%
Sieve	6AA	26	6A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	10	0.0	100.0	100.0	0.0	0.0
1.5"	100.0	10	0.0	100.0	100.0	0.0	0.0
1"	100.0	10	0.0	100.0	100.0	0.0	0.0
3/4"	76.3	10	0.0	100.0	89.2	10.8	10.8
1/2"	34.6	98	3.8	100.0	69.9	19.3	30.1
3/8"	9.7	87	7.7	100.0	56.8	13.1	43.2
#4	1.3	10	).6	99.1	40.8	16.0	59.2
#8	0.9	1	.7	83.7	33.3	7.5	66.7 n
#16	0.8	0	.9	63.3	25.2	8.1	74.8
#30	0.8	0	.7	44.2	17.7	7.5	82.3 n
#50	0.7	0	.7	18.5	7.6	10.1	92.4
#100	0.7	0	.6	2.4	1.3	6.3	98.7 a
LBW	0.6	0	.6	0.3	0.5	0.9	99.5

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

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

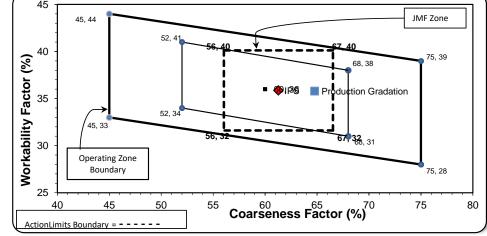
nom. max., #100 and #200 sieves.

\*% Retained must be at least 4% for each sieve except max., nom. max., #100 and #200 sieves.

\*% Retained must be at least 4% for the 3/4" sieve when

1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation	Batch Plant Gradation	Aggregate Supplier Grad	dations	Adjusted WF	Intial Production Sample (IPS)	1
Coarseness Factor	: 65	Workability Factor:	33	35.8	Coarseness Factor:	61
45 -					Workability Factor:	36
45 ]				_	Cumulative	%



Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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 #: p11

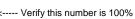
Sample Date:

Concrete Grade: DM, 4500HP

Dates Test F	Represents:	5/6/2025	through	5/12/2025		
Agg. Class	Pit #	Source	Weight (SSD)	ft <sup>3</sup>	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1600	9.79	2.62	55.1
26A	71-47	Presque Isle	155	0.95	2.62	5.3
2NS	63-115	Ray Rd	1150	6 95	2 65	39.6

Contractor:

MDOT No.:



SUPERIOR MATERIALS

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

	l otal Wt	2905	17.69		100.0	< Verify this n	umber is 100%
Sieve	6AA	26	A	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"	98.9	100	0.0	100.0	99.4	0.6	0.6
3/4"	88.3	100	0.0	100.0	93.6	5.8	6.4
1/2"	50.1	95	.6	100.0	72.3	21.3	27.7
3/8"	31.4	82	.9	100.0	61.3	11.0	38.7
#4	4.4	24	.6	98.2	42.6	18.7	57.4
#8	1.9	8.	4	80.0	33.2	9.4	66.8
#16	1.6	4.	6	62.9	26.0	7.1	74.0
#30	1.6	3.	6	46.9	19.6	6.4	80.4
#50	1.5	3.	2	24.8	10.8	8.8	89.2
#100	1.4	2.	9	5.1	2.9	7.9	97.1
LBW	1.2	2.	6	0.9	1.2	1.8	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 4% for the 3/4" sieve when

a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation	Batch Plant Grad	dations	ons	Adjusted WF	Intial Product	ion Sample (IPS	)
Coarseness Factor:	58	Workability Factor:	33	35.7	Coars	seness Factor:	
45				$\neg \top$	Worl	kability Factor:	
45, 44			JMF Zone	7	Sieve	Cumulative	Γ
1 1	52, 41		5 20	<b>-</b>	Sieve	% Passing	
40 1	56,	.4067, 40		- 11	2"	100.0	
Factor (%)		68, 38	75, 39		1.5"	100.0	
		!			1"	100.0	Π
\$		Productor Productor			3/4"	95.0	Π
35 -					1/2"	72.3	
-	52, 34	<u>+                                    </u>		- 11	3/8"	60.4	Г
A5, 33 Operating Zone Boundary	90:	1 32 37 32			#4	42.6	
<b>5</b> 30 -		<b>67</b> , <b>32</b> , 68, 31		- 11	#8	36.0	Г
Operating Zone	$\Box$				#16	29.5	
Boundary			75, 28		#30	20.3	
<b>&gt;</b>					#50	9.5	
40 45	50 55	60 65 70	75	80	#100	3.4	
		Coarseness Factor (%) <sup>70</sup>	. •		LBW	1.3	П
ActionLimits Boundary =							

Work	ability Factor:	36	
Sieve	Cumulative	%	Cumulative
Sieve	% Passing	Retained	% 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

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PREPARED BY: SM, LLC Technical Service Approved By: