PLANT		P-102					Contractor:					
Sample Date		12/11/23			Concrete Grade:	DM, 4500HP						
Dates Test F	Represents:	12/12/2023	through	12/18/2023			MDOT No.:					
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution						
6AA	58-003	Stoneco	1400	8.34	2.69	47.5						
26A	58-003	Stoneco	400	2.38	2.69	13.6						
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SUP	ERIOR	
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%			RIALS	
Sieve		6 AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 10 Mile Rd.	
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500		
1.5"		00.0	10		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336	
1"	1	00.0	10		100.0	100.0	0.0	0.0	C .			
3/4"		82.6	10		100.0	91.7	8.3	8.3				
1/2"		39.9	98	.5	100.0	71.3	20.5	28.7				
3/8"		14.9	86		100.0	57.8	13.5	42.2	*Maximum %	Retained must be	above the 3/8" sieve.	
#4		2.7	-		98.8	41.6	16.2	58.4	*Any two adjacent sieves must equal 109			
#8		1.6		_	86.6	35.1	6.5	64.9	,	00 and #200 sieves		
#16		1.5	2		67.7	27.5	7.6	72.5			6 for each sieve except	
#30 #50		<u>1.4</u> 1.3	2		44.0 14.6	18.1 6.6	9.4 11.5	81.9 93.4	nom. max., #100 and #200 sieves. *% Retained must be at least 4% for the 3/4" sieve whe			
#30		1.2	1		14.0	1.5	5.1	93.4 98.5		e (nom. Max. 1.0")		
LBW		0.9	1		0.4	0.8	0.7	99.2	a 1.5 111ax. Siz		ayyreyale is useu.	
Production G	Gradation	Batch Plant Gra	dations 🔘 Agg	regate Supplier Gra	dations		Intial Production	on Sample (IPS	5)			
Coarsene	ess Factor:	65	Work	ability Factor:	35	37.6		eness Factor:	61			
45				•			Work	ability Factor:	36			
45	45, 44				JMF Zone		0	Cumulative	%	Cumulative		
	40, 44				JIVIF 2011e		Sieve	% Passing	Retained	% Retained		
10		52, 41 	40	67 40			2"	100.0	0.0	0.0		
⁴⁰]				68, 38	75, 39		1.5"	100.0	0.0	0.0		
ຍ			i	Production G	radation		1"	99.3	0.7	0.7		
9			■ 60j r3g	· • •			3/4"	89.2	10.1	10.8		
77 or 1	_		i				1/2"	70.7	18.5	29.3		
5 35		52, 34	+	•			3/8" #4	60.7 44.4	10.0 16.3	39.3 55.6		
	45 32		32	67,32 67,32			#4	35.9	8.5	55.6 64.1		
ility Fac	45, 33	56,					#0	27.3	8.6	-		
ability Fact		56,		/ 68, 31			# in			727		
orkability Fact	Operating Zone	56,		7 68, 31	75.29			-		72.7 80.9		
ility Fa		56,		6 7 68, 31	75, 28		#30	19.1	8.2	80.9		
Norkability Fac	Operating Zone	56 ,		65 70	· · · · · · · · ·	80		-				

Approved By:

Sample Date		P-103		ſ	oncrete Grade	DM. 4500HP	Contractor:					
Dates Test R		12/12/2023	through	12/18/2023			MDOT No.:					
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific	% Contribution	MDOT NO					
6AA	58-003	Stoneco	1400	8.34	Gravity 2.69	47.5						
26A	58-003	Stoneco	400	2.38	2.69	13.6						
2NS	81-019	Pleasant Lake		6.95	2.65	39.0						
		Total Wt		17.68		100.0	< Verify this n	umber is 100%		MATE	RIALS	
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior I</u> 30701 W. 1	Materials, LLC .0 Mile Rd.	
2"		100.0	100	0.0	100.0	100.0	0.0	0.0		Suite 500		
1.5"		100.0	100		100.0	100.0	0.0	0.0	Farmington Hills, MI 48336			
1"		100.0	100	0.0	100.0	100.0	0.0	0.0				
3/4"		82.6	100		100.0	91.7	8.3	8.3				
1/2"		39.9	98		100.0	71.3	20.5	28.7				
3/8"		14.9	86		100.0	57.8	13.5	42.2	*Maximum % Retained must be above the 3/8" sieve. *Any two adjacent sieves must equal 10% except max.,			
#4		2.7	13		98.8	41.6	16.2	58.4			qual 10% except max.,	
#8		1.6	4.		86.6	35.1	6.5	64.9	,	0 and #200 sieves.		
#16 #30		1.5 1.4	2.		67.7 44.0	27.5 18.1	7.6 9.4	72.5 81.9			for each sieve except	
#30 #50		1.4	2.		14.6	6.6	9.4	93.4	-	0 and #200 sieves.	for the 3/4" sieve whe	
#100		1.2	1.	-	1.8	1.5	5.1	98.5		e (nom. Max. 1.0") a		
LBW		0.9	1.		0.4	0.8	0.7	99.2			aggrogato to acoa.	
roduction G	radation	O Batch Plant Gra	dations 💿 Agç	regate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	3)			
	ess Factor:	_		ability Factor:	35	37.6		eness Factor:	, 61			
	.551 40101.	00		ability ractor.		57.0		ability Factor:	36			
								Cumulative	%	Cumulative		
45					JMF Zone		Sieve			oumananto		
_	15, 44						0.010	% Passing	Retained	% Retained		
	15, 44	52, 41		67 40			2"	% Passing 100.0	Retained 0.0	% Retained 0.0		
- 40	15, 44	52, 41 56,	40	67.40	75, 39			100.0 100.0	0.0 0.0	0.0 0.0		
- 40	15, 44	52, 41 56 ,	40	68, 38			2" 1.5" 1"	100.0 100.0 99.3	0.0 0.0 0.7	0.0 0.0 0.7		
_ 40	15, 44	52, 41 		Production G			<u>2</u> " 1.5"	100.0 100.0	0.0 0.0 0.7 10.1	0.0 0.0 0.7 10.8		
_ 40	15, 44	52, 41 56 ,	40	Production G			2" 1.5" 1" 3/4" 1/2"	100.0 100.0 99.3 89.2 70.7	0.0 0.0 0.7 10.1 18.5	0.0 0.0 0.7 10.8 29.3		
_ 40	\rightarrow	52, 41 56 , 52, 34	-40 - 60 136	Production G			2" 1.5" 1" 3/4" 1/2" 3/8"	100.0 100.0 99.3 89.2 70.7 60.7	0.0 0.7 10.1 18.5 10.0	0.0 0.0 10.8 29.3 39.3		
- 40	45, 33	52, 34		Production G			2" 1.5" 1" 3/4" 1/2" 3/8" #4	100.0 100.0 99.3 89.2 70.7 60.7 44.4	0.0 0.7 10.1 18.5 10.0 16.3	0.0 0.7 10.8 29.3 39.3 55.6		
- 40	\rightarrow			Production G			2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	100.0 100.0 99.3 89.2 70.7 60.7 44.4 35.9	0.0 0.7 10.1 18.5 10.0 16.3 8.5	0.0 0.7 10.8 29.3 39.3 55.6 64.1		
_ 40	45, 33 Operating Zone	52, 34		Production G	radation		2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	100.0 100.0 99.3 89.2 70.7 60.7 44.4 35.9 27.3	0.0 0.7 10.1 18.5 10.0 16.3 8.5 8.6	0.0 0.7 10.8 29.3 39.3 55.6 64.1 72.7		
_ 40	45, 33	52, 34		Production G			2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	100.0 100.0 99.3 89.2 70.7 60.7 44.4 35.9 27.3 19.1	0.0 0.7 10.1 18.5 10.0 16.3 8.5 8.6 8.2	0.0 0.7 10.8 29.3 39.3 55.6 64.1 72.7 80.9		
ability Factor (%) 00 00 00 00 00 00 00 00 00 00 00 00 00	45, 33 Operating Zone	52, 34		Production G	radation		2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	100.0 100.0 99.3 89.2 70.7 60.7 44.4 35.9 27.3	0.0 0.7 10.1 18.5 10.0 16.3 8.5 8.6	0.0 0.7 10.8 29.3 39.3 55.6 64.1 72.7		

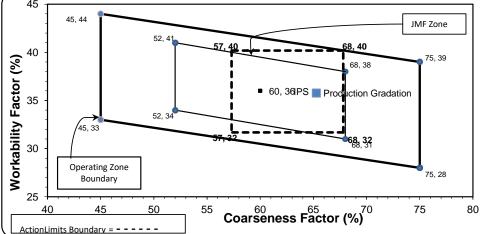
Approved BY: Mary P. Bal

PLANT #	#:	12					Contractor:				
Sample Date	:	12/11/23		C	Concrete Grade	: DM, 4500HP					
Dates Test R	epresents:	12/12/2023	through	12/18/2023			MDOT No.:			_	
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution					
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9					
26A	71-47	Presque Isle	305	1.87	2.62	10.5					
2NS	63-115	Ray Rd	1150	6.95	2.65	39.6				SUD	
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%		MATE	
Sieve			26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		<u>Superior N</u> 30701 W. 1	
2"	1	100.0	100).0	100.0	100.0	0.0	0.0		Suite 500	
1.5"	1	100.0	100	100.0		100.0	0.0	0.0		Farmington	
1"		98.9	100.0		100.0	99.5	0.5	0.5			
3/4"		72.8		100.0		86.4	13.0	13.6			
1/2"		29.1	96	96.3		64.2	22.2	35.8			
3/8"		15.8	85	85.4		56.4	7.8	43.6	*Maximum %	Retained must be a	
#4		2.6	20.		96.7	41.7	14.7	58.3	*Any two adja	icent sieves must e	
#8		1.4	4.	-	81.2	33.3	8.5	66.7	nom. max., #10	00 and #200 sieves	
#16		1.2	1.		64.8	26.4	6.8	73.6	*% Retained	must be at least 4%	
#30		1.1	1.		48.8	20.0	6.4	80.0	nom. max., #10	00 and #200 sieves	
#50		1.1	1.		26.2	11.1	9.0	88.9	*% Retained	must be at least 4%	
#100		1.0	1.		5.6	2.9 8.2			a 1.5" max. size (nom. Max. 1.0")		
LBW		0.9	1.	2	1.1	1.0	1.8	99.0			
Production G	radation	O Batch Plant Gra	dations 💿 Agg	regate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	5)	_	
Coarsene	ess Factor:	65	Work	ability Factor:	33	35.8	Coars	eness Factor:	63		
45							Work	ability Factor:	36		
- 4	15, 44				JMF Zone		Sieve	Cumulative	%	Cumulative	
		52, 41						% Passing	Retained	% Retained	
4 0			57, 40	68, 40	75, 39		2"	100.0	0.0	0.0	
%)			!	68, 38	/3, 39		1.5"	100.0	0.0	0.0	
ty Factor (%)				ſ			1"	99.3	0.7	0.7	
5 35			■ 60, 36	PS 📕 Production (Gradation		3/4"	89.0	10.3	11.0	
La		52, 34		Ĩ			1/2"	70.3	18.7	29.7	
	45. 33	52, 54					3/8"	59.9	10.4	40.1	

RIALS

Aaterials, LLC 0 Mile Rd. Hills, MI 48336

above the 3/8" sieve. qual 10% except max., for each sieve except max., for the 3/4" sieve when aggregate is used.



	00013	eness racior.	05		
	Work	ability Factor:	36		
	Sieve	Cumulative	%	Cumulative	
	bieve	% 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"	89.0	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	
1	¥100	1.7	4.6	98.3	
	_BW	1.0	0.7	99.0	

Approved By: Mart P. Ball

_	#:	p11				BM (2001)-	Contractor:					
Sample Date		12/11/23			Concrete Grade:	DM, 4500HP						
Dates Test R	epresents:	12/12/2023	through	12/18/2023			MDOT No.:					
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution						
6AA	71-47	Presque Isle	1605	9.82	2.62	55.2						
26A	71-47	Presque Isle	150	0.92	2.62	5.2						
2NS	95-013	Smelter Bay	1150	6.95	2.65	39.6				SUP	ERIOR	
		Total Wt	2905	17.69		100.0	< Verify this n	umber is 100%	•		RIALS	
Sieve		6AA	26	Α	2NS	Cumulative % Passing	% Retained	Cumulative % Retained			Materials, LLC 10 Mile Rd.	
2"	1	00.0	100	0.0	100.0	100.0	0.0	0.0		Suite 500		
1.5"	1	00.0	100	0.0	100.0	100.0	0.0	0.0	1	Farmingto	n Hills, MI 48336	
1"	1	00.0	100).0	100.0	100.0	0.0	0.0]			
3/4"		80.7	100		100.0	89.3	10.7	10.7				
1/2"		44.9	96		100.0	69.4	20.0	30.6				
3/8"		25.5	85		100.0	58.1	11.3	41.9	*Maximum %	*Maximum % Retained must be above the 3/8" sieve.		
#4		4.3	20		96.3	41.6	16.5	58.4	*Any two adjacent sieves must equal 10% except m			
#8		2.6	4.		85.5	35.5	6.1	64.5	nom. max., #100 and #200 sieves.			
#16		2.3	1.	8	70.7	29.4	6.1	70.6	*% Retained must be at least 4% for each sieve except			
				-		a t a						
#30		2.2	1.		50.6	21.3	8.0	78.7		00 and #200 sieves		
#30 #50		2.1	1.	4	23.7	10.6	10.7	89.4	*% Retained	00 and #200 sieves must be at least 4%	6 for the 3/4" sieve wher	
#30 #50 #100		2.1 2.0	1. 1.	4 3	23.7 7.2	10.6 4.0	10.7 6.6	89.4 96.0	*% Retained	00 and #200 sieves	6 for the 3/4" sieve wher	
#30 #50 #100 LBW		2.1 2.0 1.7	1. 1. 1.	4 3 2	23.7 7.2 1.5	10.6 4.0 1.6	10.7 6.6 2.4	89.4 96.0 98.4	*% Retained a 1.5" max. siz	00 and #200 sieves must be at least 4%	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G	Gradation	2.1 2.0 1.7 O Batch Plant Gra	1. 1. 1. dations () Aggr	4 3 2 egate Supplier Gra	23.7 7.2 1.5 dations	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Productio	89.4 96.0 98.4 on Sample (IPS	*% Retained a 1.5" max. siz	00 and #200 sieves must be at least 4%	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene		2.1 2.0 1.7	1. 1. 1. dations () Aggr	4 3 2	23.7 7.2 1.5 dations	10.6 4.0 1.6	10.7 6.6 2.4 Intial Productio Coars	89.4 96.0 98.4 on Sample (IPS eness Factor:	*% Retained a 1.5" max. siz 5) 62	00 and #200 sieves must be at least 4%	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	adation	2.1 2.0 1.7 O Batch Plant Gra	1. 1. 1. dations () Aggr	4 3 2 egate Supplier Gra	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Productio Coars Work	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor:	*% Retained a 1.5" max. siz 6) 62 36	00 and #200 sieves must be at least 4% e (nom. Max. 1.0")	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	Gradation	2.1 2.0 1.7 O Batch Plant Gra 65	1. 1. 1. dations () Aggr	4 3 2 egate Supplier Gra	23.7 7.2 1.5 dations	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Productio Coars	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative	*% Retained a 1.5" max. siz 62 36 %	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene 45	adation	2.1 2.0 1.7 O Batch Plant Gra	1. 1. 1. dations () Aggr	4 3 2 egate Supplier Gra	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Productio Coars Work Sieve	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor:	*% Retained a 1.5" max. siz 6) 62 36	00 and #200 sieves must be at least 4% e (nom. Max. 1.0")	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	adation	2.1 2.0 1.7 O Batch Plant Gra 65	1. 1. 1. dations () Aggr	4 3 2 egate Supplier Gra ability Factor:	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Productio Coars Work	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing	*% Retained a 1.5" max. siz 6) 62 36 % Retained	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	adation	2.1 2.0 1.7 O Batch Plant Gra 65	1. 1. 1. dations () Aggr	4 3 2 egate Supplier Gra ability Factor:	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Productio Coars Work Sieve 2"	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0	*% Retained a 1.5" max. siz 6) 62 36 % Retained 0.0 0.0 0.0	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained 0.0 0.0 0.0	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	adation	2.1 2.0 1.7 O Batch Plant Gra 65	1. 1. 1. dations () Aggr	4 3 2 egate Supplier Gra cability Factor: 67, 40 Proceetion G	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Production Coars Work Sieve 2" 1.5" 1" 3/4"	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0	*% Retained a 1.5" max. siz 6) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained 0.0 0.0 0.0 5.0	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	adation	2.1 2.0 1.7 O Batch Plant Gra 65	1. 1. 1. dations () Aggr Work	4 3 2 egate Supplier Gra cability Factor: 67, 40 Proceetion G	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2"	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3	*% Retained a 1.5" max. siz 6) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained 0.0 0.0 0.0 5.0 27.7	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	Bradation Bess Factor:	2.1 2.0 1.7 O Batch Plant Gra 65	1. 1. 1. dations () Aggr Work	4 3 2 egate Supplier Gra cability Factor: 67, 40 Proceetion G	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8"	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4	*% Retained a 1.5" max. siz 6) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8 11.8	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained 0.0 0.0 0.0 0.0 5.0 27.7 39.6	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	adation	2.1 2.0 1.7 O Batch Plant Gra 65	1. 1. 1. dations () Aggr Work	4 3 2 egate Supplier Gra cability Factor: 67, 40 Proceetion G	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Productio Coars Work Sieve 2" 1.5" 1.5" 1" 3/4" 1/2" 3/8" #4	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6	*% Retained a 1.5" max. siz 6) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8 11.8 17.8	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained 0.0 0.0 0.0 0.0 5.0 27.7 39.6 57.4	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	Bradation Bess Factor:	2.1 2.0 1.7 O Batch Plant Gra 65	1. 1. 1. dations () Aggr Work	4 3 2 egate Supplier Gra cability Factor: 67, 40 Proceetion G	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0	*% Retained a 1.5" max. siz 6) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained 0.0 0.0 0.0 0.0 5.0 27.7 39.6 57.4 64.0	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	Bradation Bess Factor:	2.1 2.0 1.7 Batch Plant Gra 65	1. 1. 1. dations () Aggr Work	4 3 2 egate Supplier Gra cability Factor: 67, 40 Proceetion G	23.7 7.2 1.5 dations 35 JMF Zone	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5	*% Retained a 1.5" max. siz 6) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained 0.0 0.0 0.0 0.0 5.0 27.7 39.6 57.4 64.0 70.5	6 for the 3/4" sieve wher	
#30 #50 #100 LBW Production G Coarsene	Bradation Ess Factor: 45, 44	2.1 2.0 1.7 Batch Plant Gra 65	1. 1. 1. dations () Aggr Work	4 3 2 egate Supplier Gra cability Factor: 67, 40 Proceetion G	23.7 7.2 1.5 dations 35	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5 20.3	*% Retained a 1.5" max. siz 36 36 % Retained 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5 9.2	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained 0.0 0.0 0.0 0.0 5.0 27.7 39.6 57.4 64.0 70.5 79.7	6 for the 3/4" sieve when	
#30 #50 #100 LBW Production G 45 45 40 45 40 40 45 40 40 45 40 40 40 40 40 40 40 40 40 40 40 40 40	Affin	2.1 2.0 1.7 Batch Plant Gra 65	1. 1. 1. 1. dations () Aggr Work	4 3 2 egate Supplier Gra cability Factor: 67, 40 Proceetion G	23.7 7.2 1.5 dations 35 JMF Zone Fradation 75, 39	10.6 4.0 1.6 Adjusted WF	10.7 6.6 2.4 Intial Production Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16	89.4 96.0 98.4 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 100.0 100.0 95.0 72.3 60.4 42.6 36.0 29.5	*% Retained a 1.5" max. siz 6) 62 36 % Retained 0.0 0.0 0.0 0.0 5.0 22.8 11.8 17.8 6.6 6.5	00 and #200 sieves must be at least 4% e (nom. Max. 1.0") Cumulative % Retained 0.0 0.0 0.0 0.0 5.0 27.7 39.6 57.4 64.0 70.5	6 for the 3/4" sieve when	

PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - - -

Approved By:

Mart 1. Ball

PLANT		P-35		-			Contractor:				
Sample Date		12/11/23			Concrete Grade						
Dates Test R		12/12/2023	through	12/18/2023	Specific	%	MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Gravity	Contribution					
6AA	58-003	Stoneco	1400	8.34	2.69	47.5					
26A	58-003	Stoneco	400	2.38	2.69	13.6					
2NS	81-019	Pleasant Lake	1150	6.95	2.65	39.0				SUP	ERIOR
		Total Wt	2950	17.68		100.0	< Verify this n	umber is 100%	I	MATE	RIALS
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		Superior 30701 W. 1	Materials, LLC 10 Mile Rd.
2"	1	00.0	100).0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	100		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336
1"		00.0	100		100.0	100.0	0.0	0.0			
3/4"		82.6	100		100.0	91.7	8.3	8.3			
1/2"		39.9	98		100.0	71.3	20.5	28.7			
3/8"		14.9	86		100.0	57.8	13.5	42.2			above the 3/8" sieve.
#4		2.7	13		98.8	41.6	16.2	58.4			qual 10% except max.,
#8 #16		1.6 1.5	4.		86.6 67.7	35.1 27.5	6.5 7.6	64.9 72.5		00 and #200 sieves	
#16 #30		1.5	2.		44.0	18.1	9.4	72.5 81.9			for each sieve except
#30 #50		1.3	2.		14.6	6.6	9.4 11.5	93.4		00 and #200 sieves	5. 5 for the 3/4" sieve wher
#100		1.2	1.		1.8	1.5	5.1	98.5		e (nom. Max. 1.0")	
LBW		0.9	1.		0.4	0.8	0.7	99.2			aggrogato to accar
Production G	Gradation	O Batch Plant Gra	idations 💿 Aggr	egate Supplier Gra	dations	Adjusted WF	Intial Production	on Sample (IPS	5)		
	ess Factor:	65	Work	ability Factor:	35	37.6		eness Factor:	-) 61		
				,				ability Factor:	36		
45								Cumulative	%	Cumulative	
	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
1		52, 41					2"	100.0	0.0	0.0	
$-^{40}$		56,			75, 39		1.5"	100.0	0.0	0.0	
8 1			!	68, 38 Production G	radation		1"	99.3	0.7	0.7	
2			■ 60, ₁ ≩§				3/4"	89.1	10.2	10.9	
			- 00,198	i			1/2"	70.5	18.6	29.5	
2 35 -		52, 34		!			3/8"	60.5	10.0	39.5	
Lac Eac	-						#4	44.1	16.4	55.9	
ity Fac	45, 33	56.	31	67, 88 , 31			#8	35.6	8.5	64.4	
²⁵ ²⁶ ²⁰	45, 33						#16	27.7	7.9	72.3	
kability Fac	0perating Zone										
orkability Fac					75, 28		#30	20.6	7.1	79.4	
Workability Fa	Operating Zone				75, 28		#50	8.7	11.8	91.3	
Norkability Fac	Operating Zone			Factor (%) ⁷⁰	75, 28	80					

Approved By: Mary 1. Ball

PLANT #	#:	P-36					Contractor:					
Sample Date	:	12/11/23		C	concrete Grade	: DM, 4500HP						
Dates Test R	Represents:	12/12/2023	through	12/18/2023			MDOT No.:			_		
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific Gravity	% Contribution						
6AA	71-47	Presque Isle	1450	8.87	2.62	49.9						
26A	71-47	Presque Isle	305	1.87	2.62	10.5						
2NS	63-92	Grange Hall	1150	6.95	2.65	39.6				SIIP	ERIOR	
		Total Wt	2905	17.69		100.0	< Verify this nu	umber is 100%	1		RIALS	
Sieve	(5AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		Superior 30701 W. 1	Materials, LLC 10 Mile Rd.	
2"	1	00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500		
1.5"		00.0	10		100.0	100.0	0.0	0.0		Farmingto	n Hills, MI 48336	
1"	98.9		10		100.0	99.5	0.5	0.5				
3/4"	-	72.8		0.0	100.0	86.4	13.0	13.6				
1/2"		29.1	96	5.3	100.0	64.2	22.2	35.8				
3/8"		15.8	85		100.0	56.4	7.8	43.6	*Maximum %	Retained must be	above the 3/8" sieve.	
#4		2.6	20	-	97.2	41.9	14.5	58.1	*Any two adja	qual 10% except max.,		
#8		1.4	4		83.8	34.3	7.6	65.7		00 and #200 sieves		
#16		1.2	1		69.2	28.2	6.1	71.8	*% Retained must be at least 4% for each sieve excep			
#30 #50		1.1	1	-	50.8 20.2	20.8 8.7	7.4 12.1	79.2 91.3	nom. max., #100 and #200 sieves. *% Retained must be at least 4% for the 3/4" sieve when			
#50 #100		1.1 1.0	1	.3	20.2	8.7 1.7	7.0	91.3		must be at least 4% e (nom. Max. 1.0")		
LBW		0.9	1		0.5	0.8	0.9	99.2	a 1.5 max. siz		ayyreyale is used.	
Production G		Batch Plant Gra		regate Supplier Gra				on Sample (IPS	5)			
	ess Factor:	66		ability Factor:	34	36.8		eness Factor:	63			
		00						ability Factor:	35			
⁴⁵ T)		Cumulative	%	Cumulative		
- 4	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained		
-		52, 41					2"	100.0	0.0	0.0		
~ ⁴⁰			58, 39	68, 99	75, 39		1.5"	100.0	0.0	0.0		
8				68, 38			1"	99.1	0.9	0.9		
2				Production	n Gradation		3/4"	90.3	8.8	9.7		
ž 35			■ 60, 36	IPS			1/2"	69.2	21.1	30.8		
ш		52, 34	i	li			3/8"	59.1	10.1	40.9		
ity	45, 33			!!			#4	41.8	17.3	58.2		
ig 30		_	58, 31	68,33	ı		#8	35.1	6.6	64.9		
Ř. – Ř	Operating Zone						#16	28.5	6.6	71.5		
	Boundary				75, 28		#30	21.2	7.3	78.8		
							#50	8.7	12.5	91.3		
Workability Factor (%)										000		
	45	50 55	5 60	Factor (%)	75	80	#100 LBW	1.8 0.7	7.0	98.2 99.3		

Approved By:

PLANT		P-O2					Contractor:				
Sample Date		12/11/23			Concrete Grade	DM, 4500HP					
Dates Test F	Represents:	12/12/2023	through	12/18/2023			MDOT No.:				
Agg. Class	Pit #	Source	Weight (SSD)	ft ³	Specific	%					
6AA	71-47	Presque Isle	1450	8.87	Gravity 2.62	Contribution 49.9					
26A	71-47	Presque Isle	305	1.87	2.62	10.5					
20A 2NS	63-115	Ray Rd	1150	6.95	2.65	39.6					
20	00 110	Total Wt		17.69		100.0	< Verify this n	umber is 100%	_	SUP	ERIOR
Sieve		6AA	26	A	2NS	Cumulative % Passing	% Retained	Cumulative % Retained		Superior I 30701 W. 1	Materials, LLC 10 Mile Rd.
2"		00.0	10	0.0	100.0	100.0	0.0	0.0		Suite 500	
1.5"		00.0	-	0.0	100.0	100.0	0.0	0.0		Farmingtor	n Hills, MI 48336
1"		98.9		0.0	100.0	99.5	0.5	0.5			
3/4"		72.8	-	0.0	100.0	86.4	13.0	13.6			
1/2"		29.1	96		100.0 100.0	64.2	22.2	35.8		5 · · · · · ·	
3/8" #4		15.8 2.6				56.4 41.7	7.8 14.7	43.6 58.3			above the 3/8" sieve.
#4 #8		1.4	4	-	96.7 81.2	33.3	8.5	56.3 66.7		00 and #200 sieves	qual 10% except max.,
#16		1.2		.8	64.8	26.4	6.8	73.6	,		o for each sieve except
#30		1.1		.5	48.8	20.4	6.4	80.0		00 and #200 sieves	•
#50		1.1	1		26.2	11.1	9.0	88.9			for the 3/4" sieve whe
#100		1.0	1	.3	5.6	2.9	8.2	97.1		e (nom. Max. 1.0")	
LBW		0.9	1	.2	1.1	1.0	1.8	99.0		· · · · ·	
Production G	Gradation	O Batch Plant Gra	dations 💿 Agg	regate SupplierGrad	lations	Adjusted WF	Intial Production	on Sample (IPS	5)		
	ess Factor:	65	Work	ability Factor:	33	35.8	Coars	eness Factor:	63		
				,			Work	ability Factor:	35		
45								Cumulative	%	Cumulative	
-	45, 44				JMF Zone		Sieve	% Passing	Retained	% Retained	
-		52, 41					2"	100.0	0.0	0.0	
			58, 39	68, 39 68, 38	75, 39		1.5"	100.0	0.0	0.0	
्र ⁴⁰			i	00, 30	I		1"	100.0	0.0	0.0	
<u>چ</u> ⁴⁰			6 0, 36	IPS Production G	Fradation		3/4"	95.1	4.9	4.9	
tor (%)							1/2"	74.6	20.5	25.4	
actor (%)			i					59.3	15.3	40.7	
y Factor (%)		52, 34					3/8"		17 0	57.0	
ility Factor (%)	45, 33	52, 34					#4	42.1	17.2	57.9	
ability Factor (%)			58, 31	688,331			#4 #8	42.1 35.1	7.1	64.9	
orkability Factor (%)	Operating Zone						#4 #8 #16	42.1 35.1 29.2	7.1 5.9	64.9 70.8	
Workability Factor (%)					75, 28		#4 #8 #16 #30	42.1 35.1 29.2 21.9	7.1 5.9 7.3	64.9 70.8 78.1	
ility Factor (%)	Operating Zone		58, 31		75, 28		#4 #8 #16	42.1 35.1 29.2	7.1 5.9	64.9 70.8	

Approved By: Marthe Bal