

Aggregate Optimization Chart

PLANT #: **P11**

Sample Date: 12/18/23

Dates Test Represents: 12/19/2023 through 12/25/2023

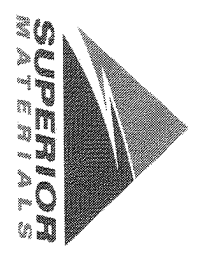
Concrete Grade: **P1M, 3500HP**

Contractor: _____

MDOT No.: _____

Aggr. Class	Pit #	Source	Weight (ssd)	ft ³	Specific Gravity	Contribution %
CA	71-47	Presque Isle	720	4.40	2.62	23.5
IA	71-47	Presque Isle	1150	7.03	2.62	37.5
2NS	95-013	Smelter Bay	1200	7.26	2.65	39.1
		Total Wt	3070	18.70		100.0

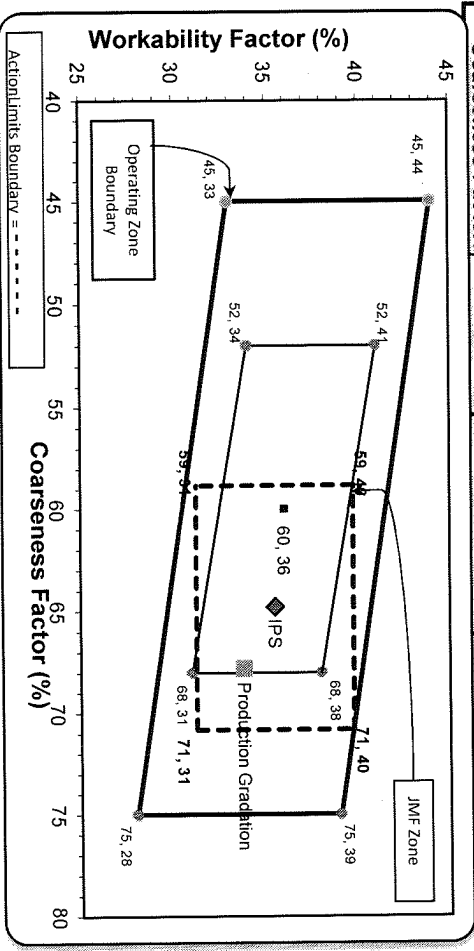
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	38.3	100.0	100.0	85.5	14.5	14.5
3/4"	11.2	98.3	100.0	78.5	7.0	21.5
1/2"	2.8	71.5	100.0	66.5	12.0	33.5
3/8"	2.1	41.5	100.0	55.1	11.4	44.9
#4	2.0	8.0	96.9	41.3	13.8	58.7
#8	1.9	3.6	81.9	33.8	7.5	66.2
#16	1.9	3.0	66.6	27.6	6.2	72.4
#30	1.8	2.8	50.2	21.1	6.5	78.9
#50	1.8	2.7	25.6	11.4	9.7	88.6
#100	1.7	2.5	5.6	3.5	7.9	96.5
LBW	1.4	2.2	1.2	1.6	1.9	98.4



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*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: **68** Workability Factor: **34**



Initial Production Sample (IPS)

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: _____



Plant S101-Superior Mount Clemens

Product 7919-COARSE AGG P1M LS

Period: 12/17/2023 - 12/23/2023

Name/Title Doug Storey / QC Technician

Report Date 12/21/2023

Procedure	Sieve/Test	Result	Unit	Coarse Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	38.3	%	
	3/4" (19mm)	11.2	%	
	1/2" (12.5mm)	2.8	%	
	3/8" (9.5mm)	2.1	%	
	#4 (4.75mm)	2.0	%	
	#8 (2.36mm)	1.9	%	
	#16 (1.18mm)	1.9	%	
	#30 (.6mm)	1.8	%	
	#50 (.3mm)	1.8	%	
	#100 (.15mm)	1.7	%	
	#200 (75µm)	1.5	%	
	Wash Loss (#200/75µm)	1.4	%	0-2
	Total Moisture	0.67	%	



Plant S101-Superior Mount Clemens

Product 7920-INTERMED AGG P1M LS

Period: 12/17/2023 - 12/23/2023

Name/Title Doug Storey / QC Technician

Report Date 12/21/2023

Procedure	Sieve/Test	Result	Unit	Intermed Agg P1M LS Target
	2" (50mm)	100.0	%	
	1 1/2" (37.5mm)	100.0	%	
	1" (25mm)	100.0	%	
	3/4" (19mm)	98.3	%	
	1/2" (12.5mm)	71.5	%	
	3/8" (9.5mm)	41.5	%	
	#4 (4.75mm)	8.0	%	
	#8 (2.36mm)	3.6	%	
	#16 (1.18mm)	3.0	%	
	#30 (.6mm)	2.8	%	
	#50 (.3mm)	2.7	%	
	#100 (.15mm)	2.5	%	
	#200 (75µm)	2.3	%	
	Wash Loss (#200/75µm)	2.2	%	0-3
	Total Moisture	2.00	%	



Plant S101-Superior Mount Clemens

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 12/17/2023 - 12/23/2023

Report Date 12/21/2023

Procedure	Sieve/Test	Result	Unit	2NS GR Spec
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	96.9	%	95-100
	#8 (2.36mm)	81.9	%	65-95
	#16 (1.18mm)	66.6	%	35-75
	#30 (.6mm)	50.2	%	20-55
	#50 (.3mm)	25.6	%	10-30
	#100 (.15mm)	5.6	%	0-10
	#200 (75µm)	1.4	%	
	FM	2.73		2.6-3
	Wash Loss (#200/75µm)	1.2	%	0-3
	Total Moisture	2.96	%	