Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P11**

Contractor: _____

Sample Date: 11/4/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/5/2026 through 11/11/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	920	5.74	2.57	29.9
IA	71-47	Presque Isle	974	6.07	2.57	31.7
2NS	63-115	Ray Rd	1180	7.08	2.67	38.4
		Total Wt	**3074**	**18.89**		100.0

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

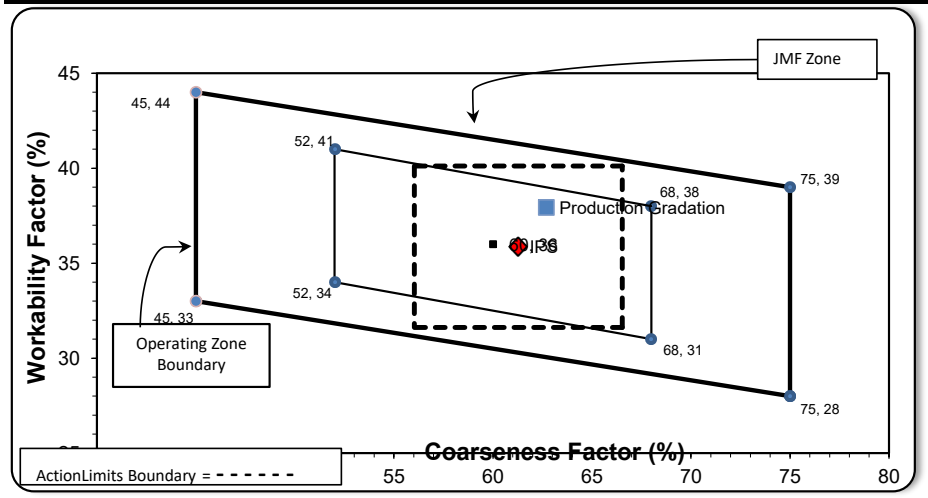
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	24.8	100.0	100.0	77.5	22.5	22.5
3/4"	4.5	100.0	100.0	71.4	6.1	28.6
1/2"	2.1	98.2	100.0	70.1	1.3	29.9
3/8"	1.7	65.1	100.0	59.5	10.6	40.5
#4	1.4	35.8	97.2	49.1	10.4	50.9
#8	1.3	6.9	85.6	35.4	13.6	64.6
#16	1.3	3.1	65.5	26.5	8.9	73.5
#30	1.2	2.2	49.5	20.1	6.5	79.9
#50	1.2	1.9	24.7	10.4	9.6	89.6
#100	1.1	1.8	5.5	3.0	7.4	97.0
LBW	0.9	1.6	1.1	1.2	1.8	98.8

Superior Materials, LLC
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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	63	Workability Factor:	35	Adjusted WF 37.9



Intial Production Sample (IPS)

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:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-21**

Contractor: _____

Sample Date: 11/4/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/5/2026 through 11/11/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	330	2.06	2.57	10.8
IA	71-47	Presque Isle	1550	9.67	2.57	50.7
2NS	81-019	Pleasant Lk	1180	7.14	2.65	38.6
		Total Wt	**3060**	**18.86**		100.0

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

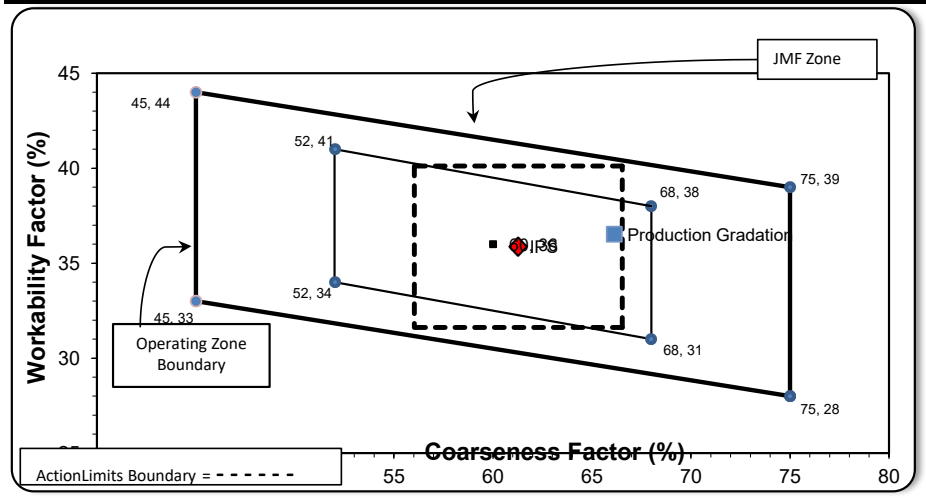
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Suite 500
Farmington Hills, MI 48336

Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	24.8	100.0	100.0	91.9	8.1	8.1
3/4"	4.5	98.2	100.0	88.8	3.1	11.2
1/2"	2.1	65.1	100.0	71.8	17.0	28.2
3/8"	1.7	34.8	100.0	56.4	15.4	43.6
#4	1.4	6.9	97.6	41.3	15.1	58.7
#8	1.3	3.1	83.8	34.0	7.3	66.0
#16	1.3	2.2	62.8	25.5	8.6	74.5
#30	1.2	2.0	43.3	17.8	7.6	82.2
#50	1.2	1.9	19.3	8.5	9.3	91.5
#100	1.1	1.8	4.7	2.8	5.7	97.2
LBW	0.9	1.6	0.8	1.2	1.6	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 Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	34	Adjusted WF 36.5



Intial Production Sample (IPS)

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

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SM, LLC Technical Service

Approved By:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-35**

Contractor: _____

Sample Date: 11/4/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/5/2026 through 11/11/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	StoneCo	1160	6.91	2.69	36.9
IA	58-003	StoneCo	760	4.53	2.69	24.2
2NS	81-019	Pleasant Lk	1220	7.38	2.65	38.9
		Total Wt	**3140**	**18.82**		100.0

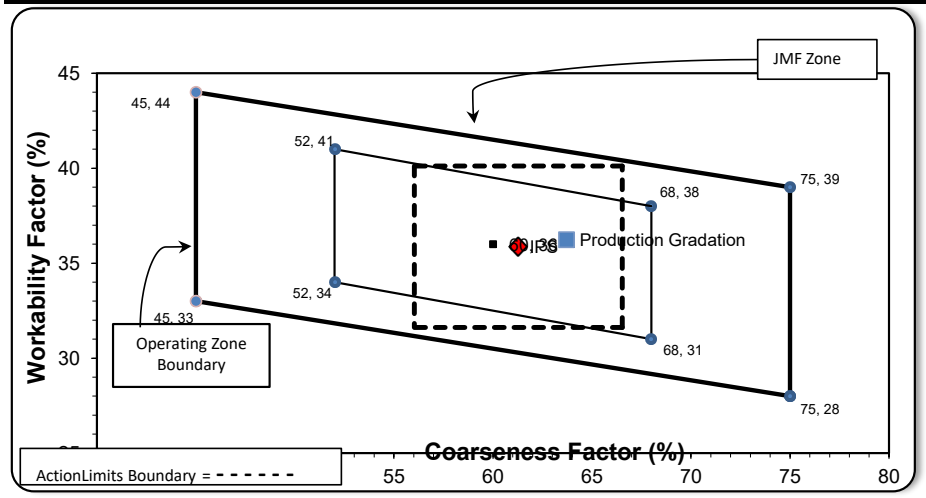
<----- Verify this number is 100%

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"	59.4	100.0	100.0	85.0	15.0	15.0
3/4"	33.8	100.0	100.0	75.5	9.5	24.5
1/2"	9.1	88.1	100.0	63.5	12.0	36.5
3/8"	4.0	72.1	100.0	57.8	5.8	42.2
#4	1.9	17.9	97.6	43.0	14.8	57.0
#8	1.3	2.9	83.8	33.7	9.2	66.3
#16	1.2	1.8	62.8	25.3	8.5	74.7
#30	1.2	1.7	43.3	17.7	7.6	82.3
#50	1.1	1.6	19.3	8.3	9.4	91.7
#100	1.1	1.5	4.7	2.6	5.7	97.4
LBW	0.9	1.3	0.8	1.0	1.6	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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	64	Workability Factor:	34	Adjusted WF 36.2



Intial Production Sample (IPS)

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

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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-39**

Contractor: _____

Sample Date: 11/4/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/5/2026 through 11/11/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	71-47	Presque Isle	330	2.06	2.57	10.8
IA	71-47	Presque Isle	1550	9.67	2.57	50.7
2NS	63-0009	Koenig	1180	7.14	2.65	38.6
		Total Wt	**3060**	**18.86**		100.0

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

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"	24.8	100.0	100.0	91.9	8.1	8.1
3/4"	4.5	98.2	100.0	88.8	3.1	11.2
1/2"	2.1	65.1	100.0	71.8	17.0	28.2
3/8"	1.7	35.8	100.0	56.9	14.9	43.1
#4	1.4	6.9	97.2	41.1	15.8	58.9
#8	1.3	3.1	84.8	34.4	6.7	65.6
#16	1.3	2.2	70.2	28.3	6.1	71.7
#30	1.2	2.0	51.2	20.9	7.4	79.1
#50	1.2	1.9	25.0	10.7	10.2	89.3
#100	1.1	1.8	5.3	3.1	7.7	96.9
LBW	0.9	1.6	0.3	1.0	2.1	99.0

Superior Materials, LLC
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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

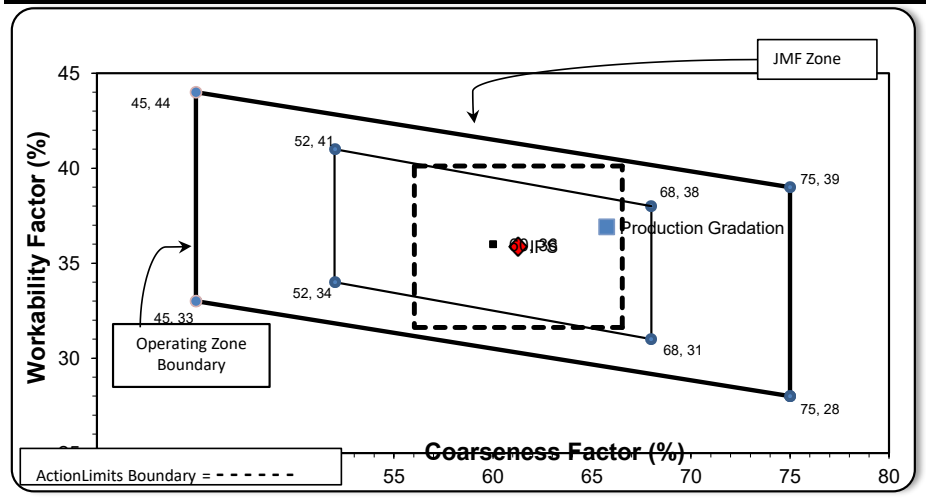
Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	34	Adjusted WF 36.9

Intial Production Sample (IPS)

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



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Approved By:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-102**

Contractor: _____

Sample Date: 11/4/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/5/2026 through 11/11/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	StoneCo	1220	7.27	2.69	38.7
IA	58-003	StoneCo	700	4.17	2.69	22.2
2NS	63-114	Highland	1230	7.41	2.66	39.0
		Total Wt	**3150**	**18.85**		100.0

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

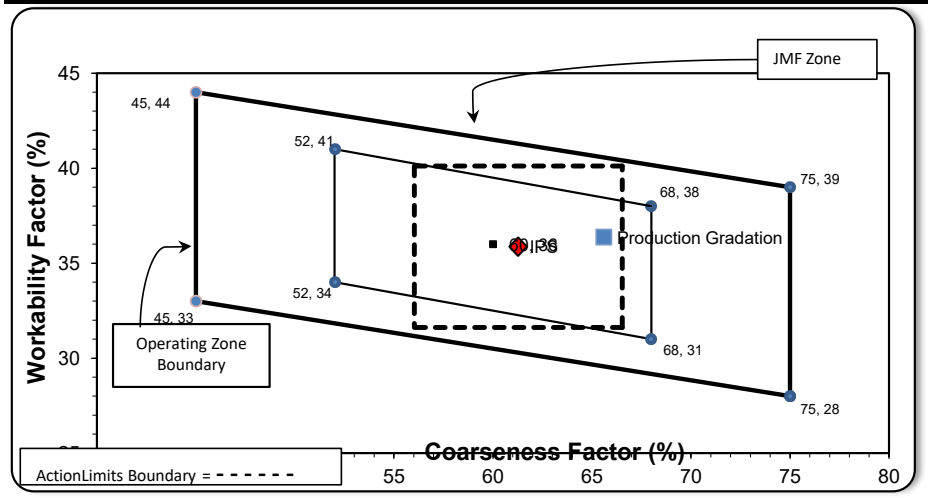
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	59.4	100.0	100.0	84.3	15.7	15.7
3/4"	33.8	100.0	100.0	74.4	9.9	25.6
1/2"	9.1	88.1	100.0	62.1	12.2	37.9
3/8"	4.0	72.1	100.0	56.6	5.5	43.4
#4	1.9	17.9	98.3	43.1	13.5	56.9
#8	1.3	2.9	83.8	33.9	9.2	66.1
#16	1.2	1.8	65.1	26.3	7.6	73.7
#30	1.2	1.7	45.1	18.5	7.8	81.5
#50	1.1	1.6	22.4	9.5	8.9	90.5
#100	1.1	1.5	4.0	2.3	7.2	97.7
LBW	0.9	1.3	0.4	0.8	1.5	99.2

Superior Materials, LLC
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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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	34	Adjusted WF 36.4



Intial Production Sample (IPS)

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:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Contractor: _____

Sample Date: 11/4/26

Concrete Grade: **P1M-3500HP**

Dates Test Represents: 11/5/2026 through 11/11/2026

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
CA	58-003	StoneCo	1220	7.27	2.69	38.7
IA	58-003	StoneCo	700	4.17	2.69	22.2
2NS	63-114	Highland	1230	7.41	2.66	39.0
		Total Wt	**3150**	**18.85**		100.0

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

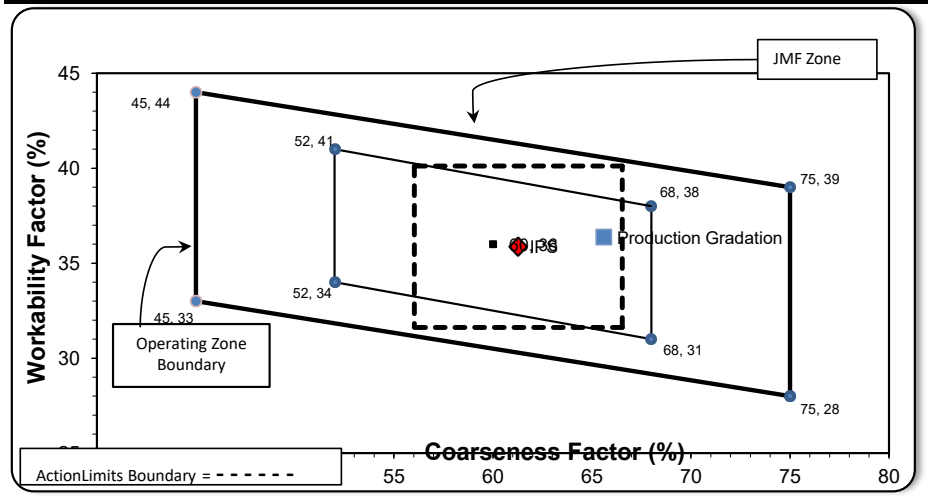
Sieve	CA	IA	2NS	Cumulative % Passing	% Retained	Cumulative % Retained
2"	100.0	100.0	100.0	100.0	0.0	0.0
1.5"	100.0	100.0	100.0	100.0	0.0	0.0
1"	59.4	100.0	100.0	84.3	15.7	15.7
3/4"	33.8	100.0	100.0	74.4	9.9	25.6
1/2"	9.1	88.1	100.0	62.1	12.2	37.9
3/8"	4.0	72.1	100.0	56.6	5.5	43.4
#4	1.9	17.9	98.3	43.1	13.5	56.9
#8	1.3	2.9	83.8	33.9	9.2	66.1
#16	1.2	1.8	65.1	26.3	7.6	73.7
#30	1.2	1.7	45.1	18.5	7.8	81.5
#50	1.1	1.6	22.4	9.5	8.9	90.5
#100	1.1	1.5	4.0	2.3	7.2	97.7
LBW	0.9	1.3	0.4	0.8	1.5	99.2

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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 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ○ Batch Plant Gradations ◉ Aggregate Supplier Gradations

Coarseness Factor:	66	Workability Factor:	34	Adjusted WF 36.4



Intial Production Sample (IPS)

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:
Nancy Donahue