

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-2**

Sample Date: 10/21/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/22/2026 through 10/28/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1370	8.54	2.57	46.1
26A	71-47	Presque Isle	400	2.49	2.57	13.5
2NS	63-115	Ray Rd	1200	7.20	2.67	40.4
Total Wt			2970	18.24		100.0

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

Sieve	6AA	26A	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"	97.5	100.0	100.0	98.8	1.2	1.2
3/4"	79.9	100.0	100.0	90.7	8.1	9.3
1/2"	35.3	97.4	100.0	69.8	20.9	30.2
3/8"	18.6	83.7	100.0	60.3	9.5	39.7
#4	2.7	18.8	96.6	42.8	17.4	57.2
#8	1.9	6.0	80.8	34.3	8.5	65.7
#16	1.7	3.2	64.2	27.2	7.2	72.8
#30	1.6	2.5	47.0	20.1	7.1	79.9
#50	1.5	2.3	24.6	10.9	9.1	89.1
#100	1.4	2.2	6.3	3.5	7.5	96.5
LBW	1.2	1.9	1.1	1.3	2.2	98.7



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

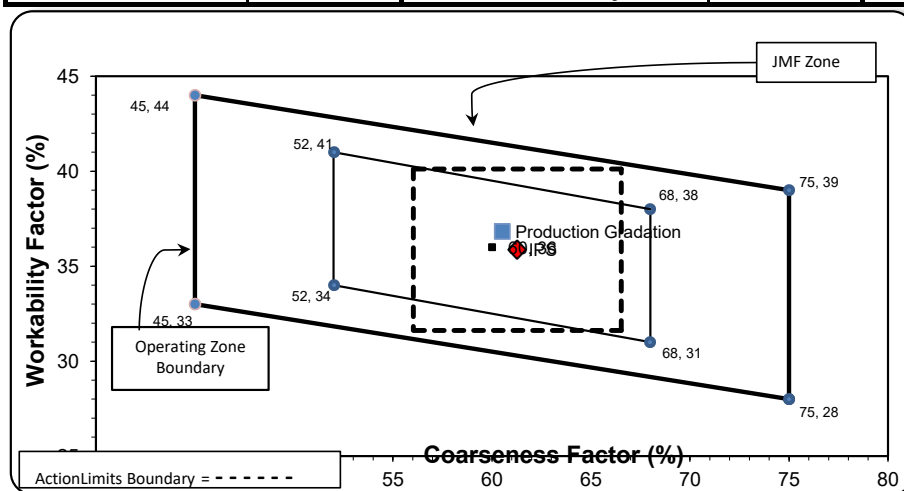
a 1.5" max. size (nom. Max. 1.0") aggregate is used.

Production Gradation ☒ Batch Plant Gradations ☐ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	61	Workability Factor:	34	36.8
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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-102**

Sample Date: 10/21/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/22/2026 through 10/28/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1150	6.85	2.69	37.7
1A	58-003	StoneCo	700	4.17	2.69	23.0
2NS	63-114	Highland	1200	7.23	2.66	39.3
Total Wt			3050	18.25		100.0

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

Sieve	6AA	1A	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"	85.1	100.0	100.0	94.4	5.6	5.6
3/4"	38.7	100.0	100.0	76.9	17.5	23.1
1/2"	20.2	87.0	100.0	66.9	10.0	33.1
3/8"	4.0	74.4	100.0	57.9	9.0	42.1
#4	1.9	18.0	97.0	43.0	14.9	57.0
#8	1.3	2.3	82.9	33.6	9.4	66.4
#16	1.2	1.6	63.2	25.7	7.9	74.3
#30	1.1	1.4	43.5	17.9	7.8	82.1
#50	1.0	1.2	18.0	7.7	10.1	92.3
#100	1.0	1.2	4.0	2.2	5.5	97.8
LBW	0.8	1.0	0.9	0.9	1.3	99.1



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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 4% for the 3/4" sieve when

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

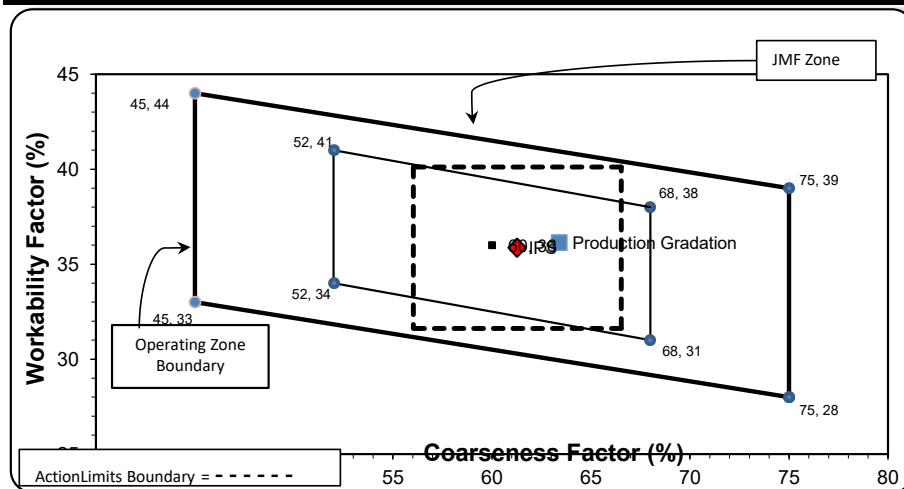
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	34	36.1
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Coarseness Factor:	61
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Workability Factor:	36
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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:
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Approved By:
Nancy Donahue

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-103**

Sample Date: 10/21/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/22/2026 through 10/28/2026

1" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1150	6.85	2.69	37.7
1A	58-003	StoneCo	700	4.17	2.69	23.0
2NS	63-114	Highland	1200	7.23	2.66	39.3
Total Wt			3050	18.25		100.0

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

Sieve	6AA	1A	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"	85.1	100.0	100.0	94.4	5.6	5.6
3/4"	38.7	100.0	100.0	76.9	17.5	23.1
1/2"	20.2	87.0	100.0	66.9	10.0	33.1
3/8"	4.0	74.4	100.0	57.9	9.0	42.1
#4	1.9	18.0	97.0	43.0	14.9	57.0
#8	1.3	2.3	82.9	33.6	9.4	66.4
#16	1.2	1.6	63.2	25.7	7.9	74.3
#30	1.1	1.4	43.5	17.9	7.8	82.1
#50	1.0	1.2	18.0	7.7	10.1	92.3
#100	1.0	1.2	4.0	2.2	5.5	97.8
LBW	0.8	1.0	0.9	0.9	1.3	99.1



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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 4% for the 3/4" sieve when

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

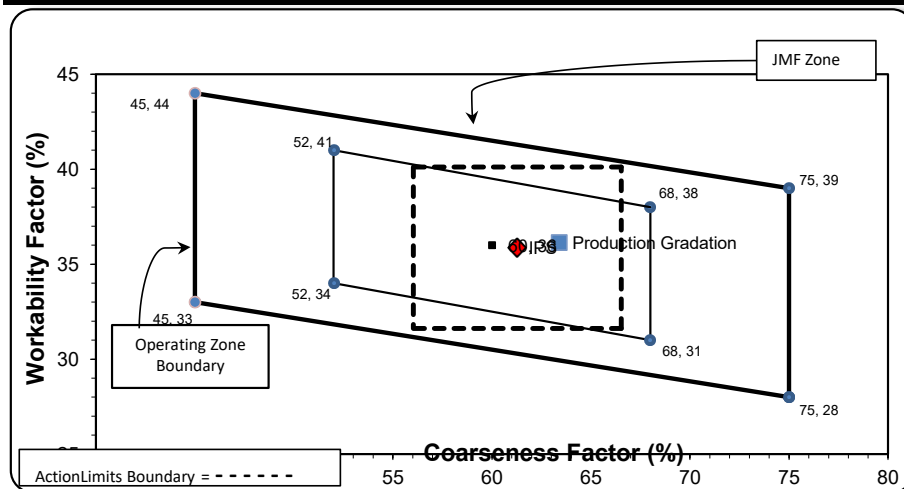
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	63	Workability Factor:	34	36.1
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Coarseness Factor:	61
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Workability Factor:	36
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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:
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Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-2**

Sample Date: 10/21/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/22/2026 through 10/28/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	71-47	Presque Isle	1280	7.98	2.57	44.4
26A	71-47	Presque Isle	400	2.49	2.57	13.9
2NS	63-115	Ray Rd	1200	7.20	2.67	41.7
Total Wt			2880	17.68		100.0

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

Sieve	6AA	26A	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"	97.5	100.0	100.0	98.9	1.1	1.1
3/4"	79.9	100.0	100.0	91.1	7.8	8.9
1/2"	35.3	97.4	100.0	70.9	20.2	29.1
3/8"	18.6	83.7	100.0	61.6	9.3	38.4
#4	2.7	18.8	96.6	44.1	17.5	55.9
#8	1.9	6.0	80.8	35.3	8.7	64.7
#16	1.7	3.2	64.2	28.0	7.4	72.1
#30	1.6	2.5	47.0	20.6	7.3	79.4
#50	1.5	2.3	24.6	11.2	9.4	88.8
#100	1.4	2.2	6.3	3.6	7.7	96.4
LBW	1.2	1.9	1.1	1.3	2.3	98.7



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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 4% for the 3/4" sieve when

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

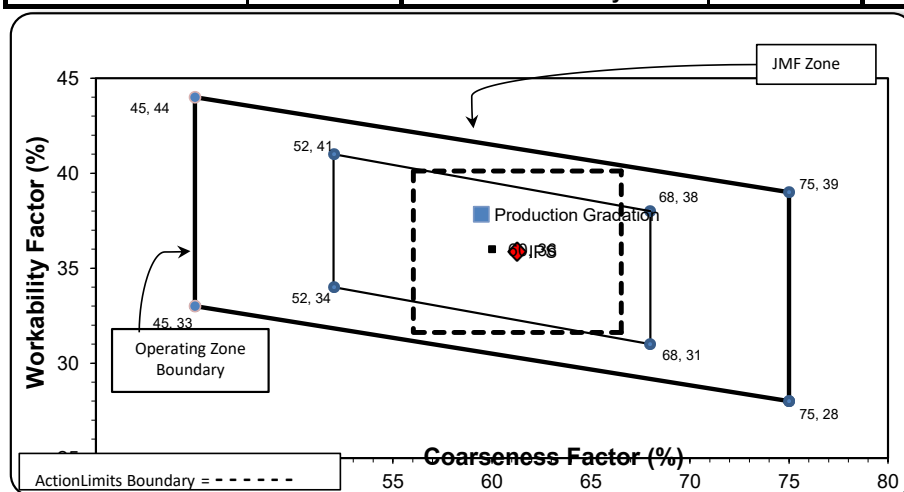
Production Gradation ☒ Batch Plant Gradations ☐ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	59	Workability Factor:	35	37.8
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Coarseness Factor:	61
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Workability Factor:	36
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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-102**

Sample Date: 10/21/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/22/2026 through 10/28/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1050	6.26	2.69	35.6
1A	58-003	StoneCo	700	4.17	2.69	23.7
2NS	63-114	Highland	1200	7.23	2.66	40.7
Total Wt			2950	17.66		100.0

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

Sieve	6AA	1A	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"	85.1	100.0	100.0	94.7	5.3	5.3
3/4"	38.7	100.0	100.0	78.2	16.5	21.8
1/2"	20.2	87.0	100.0	68.5	9.7	31.5
3/8"	4.0	74.4	100.0	59.8	8.8	40.2
#4	1.9	18.0	97.0	44.4	15.4	55.6
#8	1.3	2.3	82.9	34.7	9.7	65.3
#16	1.2	1.6	63.2	26.5	8.2	73.5
#30	1.1	1.4	43.5	18.4	8.1	81.6
#50	1.0	1.2	18.0	8.0	10.5	92.0
#100	1.0	1.2	4.0	2.3	5.7	97.7
LBW	0.8	1.0	0.9	0.9	1.4	99.1



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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 4% for the 3/4" sieve when

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

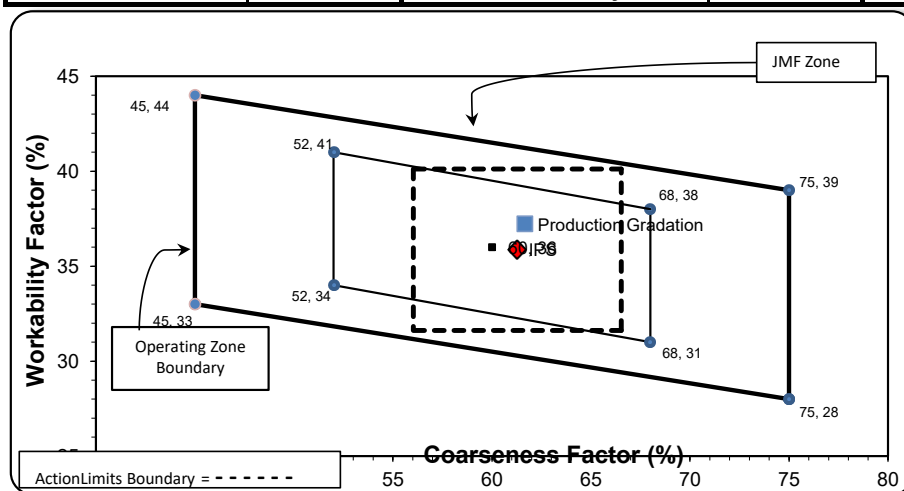
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	35	37.2
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Coarseness Factor:	61
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Workability Factor:	36
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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
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#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-103**

Sample Date: 10/21/26

Concrete Grade: **DM-4500HP**

Contractor: _____

Dates Test Represents: 10/22/2026 through 10/28/2026

5" Slump

MDOT No.: _____

Agg. Class	Pit #	Source	Weight (SSD)	ft³	Specific Gravity	% Contribution
6AA	58-003	StoneCo	1050	6.26	2.69	35.6
1A	58-003	StoneCo	700	4.17	2.69	23.7
2NS	63-114	Highland	1200	7.23	2.66	40.7
Total Wt			2950	17.66		100.0

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



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Sieve	6AA	1A	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"	85.1	100.0	100.0	94.7	5.3	5.3
3/4"	38.7	100.0	100.0	78.2	16.5	21.8
1/2"	20.2	87.0	100.0	68.5	9.7	31.5
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#16	1.2	1.6	63.2	26.5	8.2	73.5
#30	1.1	1.4	43.5	18.4	8.1	81.6
#50	1.0	1.2	18.0	8.0	10.5	92.0
#100	1.0	1.2	4.0	2.3	5.7	97.7
LBW	0.8	1.0	0.9	0.9	1.4	99.1

*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.

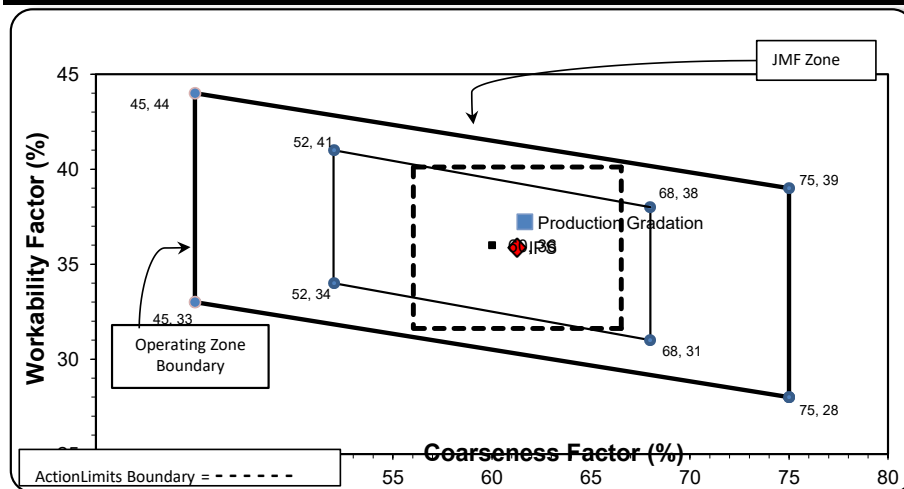
Production Gradation ☐ Batch Plant Gradations ☒ Aggregate Supplier Gradations

Adjusted WF Initial Production Sample (IPS)

Coarseness Factor:	62	Workability Factor:	35	37.2
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Coarseness Factor:	61
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Workability Factor:	36
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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
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#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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