

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-O2**

Sample Date: **8/8/22**

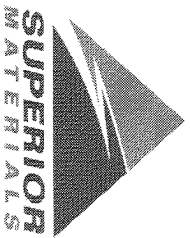
Dates Test Represents: **8/9/2022**

through **8/15/2022**

Concrete Grade: **P1M, 3500HP**

Contractor: _____

MDOT No.: _____



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

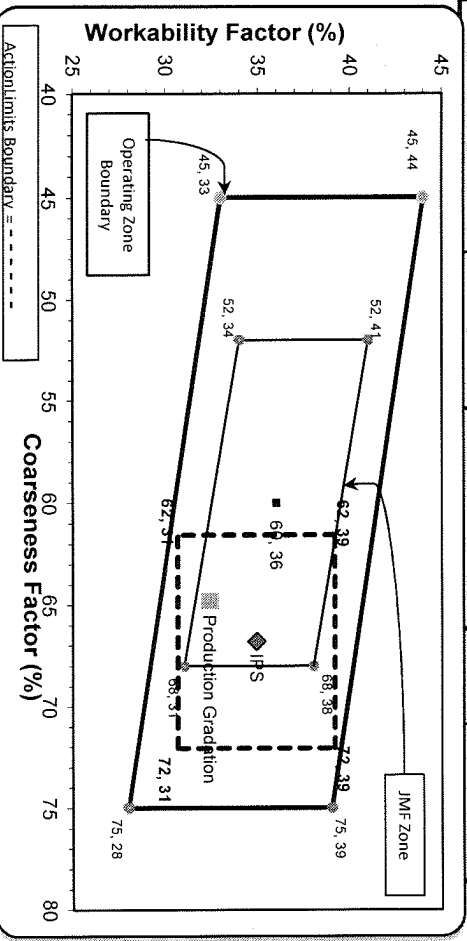
| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | Contribution % |
|------------|--------|--------------|--------------|-----------------|------------------|----------------|
| CA | 71-47 | Presque Isle | 960 | 5.81 | 2.62 | 30.9 |
| IA | 71-47 | Presque Isle | 870 | 5.32 | 2.62 | 28.3 |
| NNS | 63-115 | Ray Rd | 1250 | 7.56 | 2.65 | 40.7 |
| Total Wt | | | 3070 | 18.69 | | 100.0 |

| Sieve | CA | IA | NNS | Cumulative % Passing | % Retained | Cumulative % Retained |
|-------|-------|-------|-------|----------------------|------------|-----------------------|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 98.3 | 100.0 | 100.0 | 99.5 | 0.5 | 0.5 |
| 1" | 74.3 | 100.0 | 100.0 | 79.7 | 19.8 | 20.3 |
| 3/4" | 7.3 | 99.4 | 100.0 | 71.1 | 8.5 | 28.9 |
| 1/2" | 2.3 | 79.9 | 100.0 | 64.1 | 7.1 | 35.9 |
| 3/8" | 2.1 | 52.3 | 100.0 | 56.2 | 7.9 | 43.8 |
| #4 | 2.0 | 10.8 | 95.2 | 42.4 | 13.7 | 57.6 |
| #8 | 2.0 | 3.5 | 75.6 | 32.4 | 10.0 | 67.6 |
| #16 | 2.0 | 2.6 | 59.4 | 25.5 | 6.9 | 74.5 |
| #30 | 2.0 | 2.3 | 45.6 | 19.8 | 5.7 | 80.2 |
| #50 | 1.9 | 2.2 | 26.9 | 12.2 | 7.7 | 87.8 |
| #100 | 1.8 | 2.1 | 9.0 | 4.8 | 7.3 | 95.2 |
| LBW | 1.5 | 1.8 | 1.6 | 1.6 | 3.2 | 98.4 |

*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: **65** Workability Factor: **32**



Initial Production Sample (IPS)

| Sieve | Coarseness Factor: | Workability Factor: | % Retained | Cumulative % Retained |
|-------|--------------------|---------------------|------------|-----------------------|
| 2" | 67 | 35 | 0.0 | 0.0 |
| 1.5" | | | 0.0 | 0.0 |
| 1" | | | 15.0 | 15.0 |
| 3/4" | | | 12.7 | 27.7 |
| 1/2" | | | 7.8 | 35.5 |
| 3/8" | | | 8.0 | 43.5 |
| #4 | | | 13.8 | 57.3 |
| #8 | | | 7.8 | 65.1 |
| #16 | | | 5.9 | 71.0 |
| #30 | | | 8.0 | 79.0 |
| #50 | | | 12.8 | 91.8 |
| #100 | | | 6.5 | 98.4 |
| LBW | | | 0.9 | 99.3 |

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



Plant S02-Superior Hoover
Product 1022-2NS GR
Period: 08/07/2022 - 08/13/2022

Name/Title Doug Storey / QC Technician
Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|-----------|-----------------------|--------|------|-------------|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 95.2 | % | 95-100 |
| | #8 (2.36mm) | 75.6 | % | 65-95 |
| | #16 (1.18mm) | 59.4 | % | 35-75 |
| | #30 (.6mm) | 45.6 | % | 20-55 |
| | #50 (.3mm) | 26.9 | % | 10-30 |
| | #100 (.15mm) | 9.0 | % | 0-10 |
| | #200 (75µm) | 1.9 | % | |
| | FM | 2.88 | | 2.6-3 |
| | Wash Loss (#200/75um) | 1.6 | % | 0-3 |
| | Total Moisture | 5.86 | % | |



Plant S02-Superior Hoover

Product 7920-INTERMED AGG P1M LS

Name/Title Doug Storey / QC Technician

Period: 08/07/2022 - 08/13/2022

Report Date 08/12/2022

| 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) | 99.4 | % | |
| | 1/2" (12.5mm) | 79.9 | % | |
| | 3/8" (9.5mm) | 52.3 | % | |
| | #4 (4.75mm) | 10.8 | % | |
| | #8 (2.36mm) | 3.5 | % | |
| | #16 (1.18mm) | 2.6 | % | |
| | #30 (.6mm) | 2.3 | % | |
| | #50 (.3mm) | 2.2 | % | |
| | #100 (.15mm) | 2.1 | % | |
| | #200 (75µm) | 1.9 | % | |
| | Wash Loss (#200/75µm) | 1.8 | % | 0-3 |
| | Total Moisture | 3.42 | % | |



Plant S02-Superior Hoover

Product 7919-COARSE AGG P1M

Name/Title Doug Storey / QC Technician

Period: 08/07/2022 - 08/13/2022

Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | Coarse Agg P1M LS Target |
|-----------|-----------------------|--------|------|--------------------------|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 98.3 | % | |
| | 1" (25mm) | 34.3 | % | |
| | 3/4" (19mm) | 7.3 | % | |
| | 1/2" (12.5mm) | 2.3 | % | |
| | 3/8" (9.5mm) | 2.1 | % | |
| | #4 (4.75mm) | 2.0 | % | |
| | #8 (2.36mm) | 2.0 | % | |
| | #16 (1.18mm) | 2.0 | % | |
| | #30 (.6mm) | 2.0 | % | |
| | #50 (.3mm) | 1.9 | % | |
| | #100 (.15mm) | 1.8 | % | |
| | #200 (75µm) | 1.6 | % | |
| | Wash Loss (#200/75um) | 1.5 | % | 0-2 |
| | Total Moisture | 1.44 | % | |

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-32**

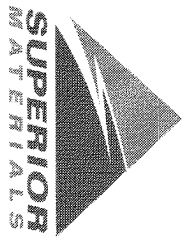
Sample Date: **8/8/22**

Dates Test Represents: **8/9/2022** through **8/15/2022**

Concrete Grade: **P1M, 3500HP**

Contractor: _____

MDOT No.: _____



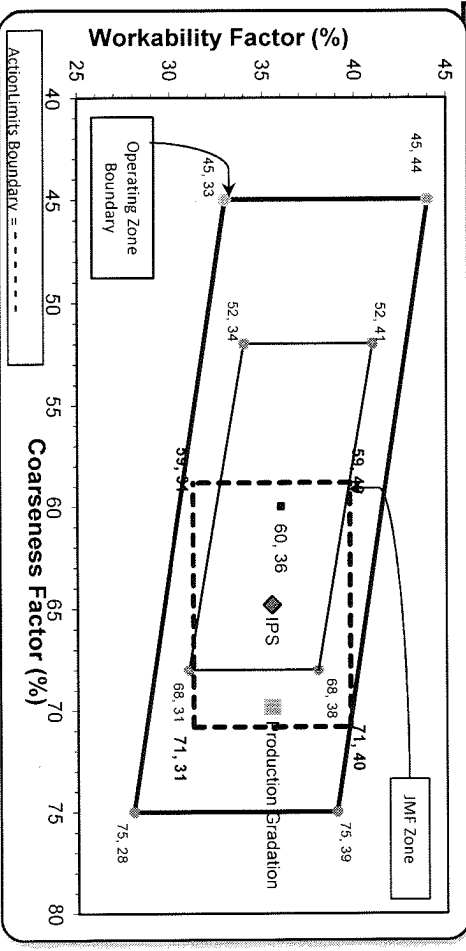
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

| Agg. Class | Pit # | Source | Weight (ssd) | ft ³ | Specific Gravity | Contribution % |
|------------|--------|--------------|-----------------|-----------------|------------------|----------------|
| CA | 71-47 | Presque Isle | 900 | 5.50 | 2.62 | 29.3 |
| IA | 71-47 | Presque Isle | 920 | 5.63 | 2.62 | 30.0 |
| 2NS | 95-013 | Smelter Bay | 1250 | 7.56 | 2.65 | 40.7 |
| | | | Total Wt | 3070 | 18.69 | 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" | 46.3 | 100.0 | 100.0 | 84.3 | 15.7 | 15.7 |
| 3/4" | 13.6 | 97.0 | 100.0 | 73.8 | 10.5 | 26.2 |
| 1/2" | 3.7 | 68.5 | 100.0 | 62.3 | 11.4 | 37.7 |
| 3/8" | 3.1 | 44.5 | 100.0 | 55.0 | 7.4 | 45.0 |
| #4 | 2.8 | 8.9 | 95.5 | 42.4 | 12.6 | 57.6 |
| #8 | 2.7 | 4.0 | 82.3 | 35.5 | 6.9 | 64.5 |
| #16 | 2.6 | 3.2 | 67.1 | 29.0 | 6.5 | 71.0 |
| #30 | 2.6 | 3.0 | 48.8 | 21.5 | 7.5 | 78.5 |
| #50 | 2.5 | 2.8 | 24.7 | 11.6 | 9.9 | 88.4 |
| #100 | 2.2 | 2.6 | 8.0 | 4.7 | 6.9 | 95.3 |
| LBW | 1.6 | 2.1 | 1.4 | 1.7 | 3.0 | 98.3 |

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: **70** Workability Factor: **36**



Initial Production Sample (IPS)

| Sieve | Coarseness Factor: | Workability Factor: | % Retained | Cumulative % Retained |
|-------|--------------------|---------------------|------------|-----------------------|
| 2" | 65 | 36 | 0.0 | 0.0 |
| 1.5" | | | 0.6 | 0.6 |
| 1" | | | 15.3 | 16.0 |
| 3/4" | | | 10.5 | 26.5 |
| 1/2" | | | 8.2 | 34.8 |
| 3/8" | | | 7.1 | 41.8 |
| #4 | | | 14.1 | 55.9 |
| #8 | | | 8.6 | 64.5 |
| #16 | | | 6.4 | 70.9 |
| #30 | | | 7.3 | 78.1 |
| #50 | | | 12.2 | 90.4 |
| #100 | | | 7.1 | 97.4 |
| LBW | | | 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 8% for the 1" sieve when
 a 2" max. size (nom. Max. 1.5") aggregate is used.

PREPARED BY:
SM, LLC Technical Service

Approved By: _____

Plant 958-JMT

Product 1022-2NS GR - Smelter Bay

Name/Title Doug Storey / QC Technician

Period: 08/07/2022 - 08/13/2022

Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|-----------|-----------------------|--------|------|-------------|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 95.5 | % | 95-100 |
| | #8 (2.36mm) | 82.3 | % | 65-95 |
| | #16 (1.18mm) | 67.1 | % | 35-75 |
| | #30 (.6mm) | 48.8 | % | 20-55 |
| | #50 (.3mm) | 24.7 | % | 10-30 |
| | #100 (.15mm) | 8.0 | % | 0-10 |
| | #200 (75µm) | 2.1 | % | |
| | FM | 2.74 | | 2.6-3 |
| | Wash Loss (#200/75um) | 1.4 | % | 0-3 |
| | Total Moisture | 3.5 | % | |

Plant 958-JMT

Product 7920-INTERMED AGG P1M LS PI

Name/Title Doug Storey / QC Technician

Period: 08/07/2022 - 08/13/2022

Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | Intermed Agg P1M LS PI Target |
|-----------|-----------------------|--------|------|-------------------------------|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | |
| | 1" (25mm) | 100.0 | % | |
| | 3/4" (19mm) | 97.0 | % | |
| | 1/2" (12.5mm) | 68.5 | % | |
| | 3/8" (9.5mm) | 44.5 | % | |
| | #4 (4.75mm) | 8.9 | % | |
| | #8 (2.36mm) | 4.0 | % | |
| | #16 (1.18mm) | 3.2 | % | |
| | #30 (.6mm) | 3.0 | % | |
| | #50 (.3mm) | 2.8 | % | |
| | #100 (.15mm) | 2.6 | % | |
| | #200 (75µm) | 2.3 | % | |
| | Wash Loss (#200/75um) | 2.1 | % | 0-3 |
| | Total Moisture | 2.3 | % | |

Edw. C. Levy Co.

JMT
8911 W. Jefferson
Detroit, 48209
(313) 429-2429

Plant 958-JMT

Product 7919-COARSE AGG P1M LS PI

Name/Title Doug Storey / QC Technician

Period: 08/07/2022 - 08/13/2022

Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | Coarse Agg P1M LS PI Target |
|-----------|-----------------------|--------|------|-----------------------------|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 100.0 | % | |
| | 1" (25mm) | 46.3 | % | |
| | 3/4" (19mm) | 13.6 | % | |
| | 1/2" (12.5mm) | 3.7 | % | |
| | 3/8" (9.5mm) | 3.1 | % | |
| | #4 (4.75mm) | 2.8 | % | |
| | #8 (2.36mm) | 2.7 | % | |
| | #16 (1.18mm) | 2.6 | % | |
| | #30 (.6mm) | 2.6 | % | |
| | #50 (.3mm) | 2.5 | % | |
| | #100 (.15mm) | 2.2 | % | |
| | #200 (75µm) | 1.8 | % | |
| | Wash Loss (#200/75um) | 1.6 | % | 0-2 |
| | Total Moisture | 0.7 | % | |

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-36

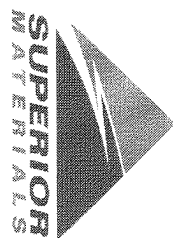
Sample Date: 8/8/22

Dates Test Represents: 8/9/2022 through 8/15/2022

Concrete Grade: P1M, 3500HP

Contractor: _____

MDOT No.: _____



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

| Agg. Class | Pit # | Source | Weight (ssd) | ft ³ | Specific Gravity | Contribution % |
|------------|-------|-----------------|--------------|-----------------|------------------|----------------|
| CA | 71-47 | Presque Isle | 900 | 5.50 | 2.62 | 29.3 |
| IA | 71-47 | Presque Isle | 970 | 5.93 | 2.62 | 31.6 |
| 2NS | 63-92 | Grange Hall | 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" | 96.6 | 100.0 | 100.0 | 99.0 | 1.0 | 1.0 |
| 1" | 29.3 | 100.0 | 100.0 | 79.3 | 19.7 | 20.7 |
| 3/4" | 6.0 | 100.0 | 100.0 | 72.4 | 6.8 | 27.6 |
| 1/2" | 2.5 | 80.6 | 100.0 | 65.3 | 7.2 | 34.7 |
| 3/8" | 2.2 | 51.4 | 100.0 | 56.0 | 9.3 | 44.0 |
| #4 | 2.1 | 9.5 | 97.6 | 41.8 | 14.2 | 58.2 |
| #8 | 2.1 | 4.0 | 80.1 | 33.2 | 8.6 | 66.8 |
| #16 | 2.0 | 3.1 | 63.5 | 26.4 | 6.8 | 73.6 |
| #30 | 1.9 | 2.8 | 43.0 | 18.2 | 8.1 | 81.8 |
| #50 | 1.8 | 2.7 | 14.1 | 6.9 | 11.4 | 93.1 |
| #100 | 1.6 | 2.4 | 2.7 | 2.3 | 4.6 | 97.7 |
| LBW | 1.2 | 1.8 | 0.4 | 1.1 | 1.2 | 98.9 |

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

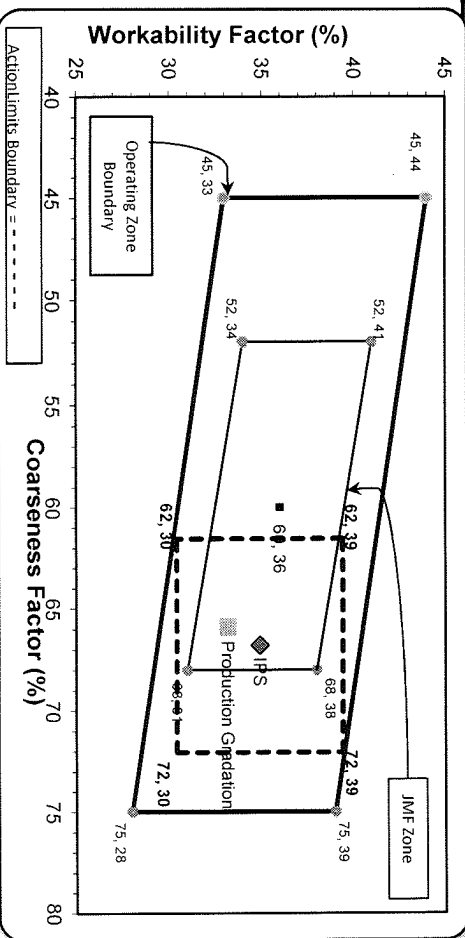
*Maximum % Retained must be above the 3/8" sieve.
 *Any two adjacent sieves must equal 10% except max.
 nom. max., #100 and #200 sieves.
 *% Retained must be at least 4% for each sieve except max.
 nom. max., #100 and #200 sieves.
 *% Retained must be at least 8% for the 1" sieve when
 a 2" max. size (nom. Max. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Initial Production Sample (IPS)

Coarseness Factor: 66 Workability Factor: 33

Coarseness Factor: 67 Workability Factor: 35



| Sieve | Cumulative % Passing | % Retained | Cumulative % Retained |
|-------|----------------------|------------|-----------------------|
| 2" | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 0.0 | 0.0 |
| 1" | 85.0 | 15.0 | 15.0 |
| 3/4" | 72.1 | 12.9 | 27.9 |
| 1/2" | 64.5 | 7.6 | 35.5 |
| 3/8" | 56.5 | 8.0 | 43.5 |
| #4 | 42.7 | 13.8 | 57.3 |
| #8 | 34.9 | 7.8 | 65.1 |
| #16 | 29.0 | 5.9 | 71.0 |
| #30 | 21.0 | 8.0 | 79.0 |
| #50 | 8.2 | 12.8 | 91.8 |
| #100 | 1.6 | 6.5 | 98.4 |
| LBW | 0.7 | 0.9 | 99.3 |

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



Superior Auburn Hills
 2470 Auburn Road
 Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 08/07/2022 - 08/13/2022

Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|-----------|-----------------------|--------|------|-------------|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 97.6 | % | 95-100 |
| | #8 (2.36mm) | 80.1 | % | 65-95 |
| | #16 (1.18mm) | 63.5 | % | 35-75 |
| | #30 (.6mm) | 43.0 | % | 20-55 |
| | #50 (.3mm) | 14.1 | % | 10-30 |
| | #100 (.15mm) | 2.7 | % | 0-10 |
| | #200 (75µm) | 0.6 | % | |
| | FM | 2.99 | | 2.6-3 |
| | Wash Loss (#200/75um) | 0.4 | % | 0-3 |



Superior Auburn Hills
 2470 Auburn Road
 Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills
 Product 7920-INTERMED AGG P1M LS
 Period: 08/07/2022 - 08/13/2022

Name/Title Doug Storey / QC Technician
 Report Date 08/12/2022

| 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) | 100.0 | % | |
| | 1/2" (12.5mm) | 80.6 | % | |
| | 3/8" (9.5mm) | 51.4 | % | |
| | #4 (4.75mm) | 9.5 | % | |
| | #8 (2.36mm) | 4.0 | % | |
| | #16 (1.18mm) | 3.1 | % | |
| | #30 (.6mm) | 2.8 | % | |
| | #50 (.3mm) | 2.7 | % | |
| | #100 (.15mm) | 2.4 | % | |
| | #200 (75µm) | 2.1 | % | |
| | Wash Loss (#200/75um) | 1.8 | % | 0-3 |
| | Total Moisture | 2.98 | % | |



Superior Auburn Hills
 2470 Auburn Road
 Auburn Hills, MI 48432

Plant S36-Superior Auburn Hills
Product 7919-COARSE AGG P1M LS
Period: 08/07/2022 - 08/13/2022

Name/Title Doug Storey / QC Technician
Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | Coarse Agg P1M LS Target |
|-----------|-----------------------|--------|------|--------------------------|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 96.6 | % | |
| | 1" (25mm) | 29.3 | % | |
| | 3/4" (19mm) | 6.0 | % | |
| | 1/2" (12.5mm) | 2.5 | % | |
| | 3/8" (9.5mm) | 2.2 | % | |
| | #4 (4.75mm) | 2.1 | % | |
| | #8 (2.36mm) | 2.1 | % | |
| | #16 (1.18mm) | 2.0 | % | |
| | #30 (.6mm) | 1.9 | % | |
| | #50 (.3mm) | 1.8 | % | |
| | #100 (.15mm) | 1.6 | % | |
| | #200 (75µm) | 1.3 | % | |
| | Wash Loss (#200/75um) | 1.2 | % | 0-2 |
| | Total Moisture | 1.55 | % | |

Aggregate Optimization Chart

Production Gradation Report

PLANT #: P-39

Sample Date: 8/8/22

Dates Test Represents: 8/9/2022 through 8/15/2022

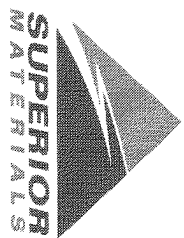
Concrete Grade: P1M, 3500HP

Contractor: _____

MDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | Contribution % |
|------------|--------|-----------------|--------------|-----------------|------------------|----------------|
| CA | 71-47 | Presque Isle | 1020 | 6.24 | 2.62 | 33.2 |
| IA | 71-47 | Presque Isle | 800 | 4.89 | 2.62 | 26.1 |
| NNS | 44-051 | Krake Willis Rd | 1250 | 7.56 | 2.65 | 40.7 |
| Total Wt | | | 3070 | 18.69 | | 100.0 |

| Sieve | CA | IA | NNS | Cumulative % Passing | % Retained | Cumulative % Retained |
|-------|-------|-------|-------|----------------------|------------|-----------------------|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 95.0 | 100.0 | 100.0 | 98.3 | 1.7 | 1.7 |
| 1" | 54.4 | 100.0 | 100.0 | 84.8 | 13.5 | 15.2 |
| 3/4" | 14.3 | 97.2 | 100.0 | 70.8 | 14.1 | 29.2 |
| 1/2" | 3.6 | 67.3 | 100.0 | 59.5 | 11.3 | 40.5 |
| 3/8" | 2.2 | 37.3 | 100.0 | 51.2 | 8.3 | 48.8 |
| #4 | 1.9 | 3.9 | 98.0 | 41.5 | 9.6 | 58.5 |
| #8 | 1.9 | 2.0 | 82.7 | 34.8 | 6.7 | 65.2 |
| #16 | 1.9 | 1.6 | 68.5 | 28.9 | 5.9 | 71.1 |
| #30 | 1.9 | 1.5 | 51.7 | 22.1 | 6.9 | 77.9 |
| #50 | 1.8 | 1.4 | 25.5 | 11.3 | 10.7 | 88.7 |
| #100 | 1.7 | 1.3 | 7.2 | 3.8 | 7.5 | 96.2 |
| LBW | 1.3 | 1.2 | 1.2 | 1.2 | 2.6 | 98.8 |



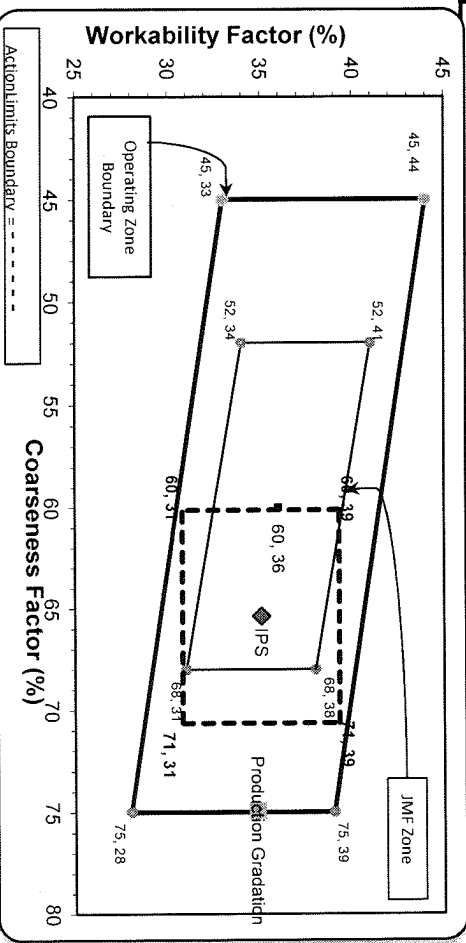
Superior Materials, LLC
30701 W. 10 Mile Rd.
Suite 500
Farmington Hills, MI 48336

| Sieve | CA | IA | NNS | Cumulative % Passing | % Retained | Cumulative % Retained |
|-------|-------|-------|-------|----------------------|------------|-----------------------|
| 2" | 100.0 | 100.0 | 100.0 | 100.0 | 0.0 | 0.0 |
| 1.5" | 95.0 | 100.0 | 100.0 | 98.3 | 1.7 | 1.7 |
| 1" | 54.4 | 100.0 | 100.0 | 84.8 | 13.5 | 15.2 |
| 3/4" | 14.3 | 97.2 | 100.0 | 70.8 | 14.1 | 29.2 |
| 1/2" | 3.6 | 67.3 | 100.0 | 59.5 | 11.3 | 40.5 |
| 3/8" | 2.2 | 37.3 | 100.0 | 51.2 | 8.3 | 48.8 |
| #4 | 1.9 | 3.9 | 98.0 | 41.5 | 9.6 | 58.5 |
| #8 | 1.9 | 2.0 | 82.7 | 34.8 | 6.7 | 65.2 |
| #16 | 1.9 | 1.6 | 68.5 | 28.9 | 5.9 | 71.1 |
| #30 | 1.9 | 1.5 | 51.7 | 22.1 | 6.9 | 77.9 |
| #50 | 1.8 | 1.4 | 25.5 | 11.3 | 10.7 | 88.7 |
| #100 | 1.7 | 1.3 | 7.2 | 3.8 | 7.5 | 96.2 |
| LBW | 1.3 | 1.2 | 1.2 | 1.2 | 2.6 | 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 8% for the 1" sieve when a 2" max. size (nom. 1.5") aggregate is used.

Production Gradation Batch Plant Gradations Aggregate Supplier Gradations

Coarseness Factor: 75 Workability Factor: 35



Initial Production Sample (IPS)

| Sieve | % Passing | % Retained | Cumulative % Retained |
|-------|-----------|------------|-----------------------|
| 2" | 100.0 | 0.0 | 0.0 |
| 1.5" | 99.6 | 0.4 | 0.4 |
| 1" | 83.9 | 15.7 | 16.1 |
| 3/4" | 74.1 | 9.8 | 25.9 |
| 1/2" | 64.3 | 9.7 | 35.7 |
| 3/8" | 57.5 | 6.8 | 42.5 |
| #4 | 44.5 | 13.1 | 55.5 |
| #8 | 35.1 | 9.4 | 64.9 |
| #16 | 27.9 | 7.2 | 72.1 |
| #30 | 21.7 | 6.2 | 78.3 |
| #50 | 12.6 | 9.1 | 87.4 |
| #100 | 3.5 | 9.1 | 96.5 |
| LBW | 1.2 | 2.4 | 98.8 |

PREPARED BY: SM, LLC Technical Service

Approved By: _____



Plant S39-Superior Sterling Heights

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 08/07/2022 - 08/13/2022

Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|-----------|-----------------------|--------|------|-------------|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 98.0 | % | 95-100 |
| | #8 (2.36mm) | 82.7 | % | 65-95 |
| | #16 (1.18mm) | 68.5 | % | 35-75 |
| | #30 (.6mm) | 51.7 | % | 20-55 |
| | #50 (.3mm) | 25.5 | % | 10-30 |
| | #100 (.15mm) | 7.2 | % | 0-10 |
| | #200 (75µm) | 1.7 | % | |
| | FM | 2.66 | | 2.6-3 |
| | Wash Loss (#200/75um) | 1.2 | % | 0-3 |
| | Total Moisture | 4.52 | % | |



Plant S39-Superior Sterling Heights
 Product 7920-INTERMED AGG P1M LS
 Period: 08/07/2022 - 08/13/2022

Name/Title Doug Storey / QC Technician
 Report Date 08/12/2022

| 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) | 97.2 | % | |
| | 1/2" (12.5mm) | 67.3 | % | |
| | 3/8" (9.5mm) | 37.3 | % | |
| | #4 (4.75mm) | 3.9 | % | |
| | #8 (2.36mm) | 2.0 | % | |
| | #16 (1.18mm) | 1.6 | % | |
| | #30 (.6mm) | 1.5 | % | |
| | #50 (.3mm) | 1.4 | % | |
| | #100 (.15mm) | 1.3 | % | |
| | #200 (75µm) | 1.2 | % | |
| | Wash Loss (#200/75um) | 1.2 | % | 0-3 |
| | Total Moisture | 2.99 | % | |



Plant S39-Superior Sterling Heights

Product 7919-COARSE AGG P1M LS

Period: 08/07/2022 - 08/13/2022

Name/Title Doug Storey / QC Technician

Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | Coarse Agg P1M LS Target |
|-----------|-----------------------|--------|------|--------------------------|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 95.0 | % | |
| | 1" (25mm) | 54.4 | % | |
| | 3/4" (19mm) | 14.3 | % | |
| | 1/2" (12.5mm) | 3.6 | % | |
| | 3/8" (9.5mm) | 2.2 | % | |
| | #4 (4.75mm) | 1.9 | % | |
| | #8 (2.36mm) | 1.9 | % | |
| | #16 (1.18mm) | 1.9 | % | |
| | #30 (.6mm) | 1.9 | % | |
| | #50 (.3mm) | 1.8 | % | |
| | #100 (.15mm) | 1.7 | % | |
| | #200 (75µm) | 1.4 | % | |
| | Wash Loss (#200/75um) | 1.3 | % | 0-2 |
| | Total Moisture | 1.29 | % | |

Aggregate Optimization Chart

Production Gradation Report

PLANT #: **P-101**

Sample Date: **8/8/22**

Dates Test Represents: **8/9/2022** through **8/15/2022**

Concrete Grade: **P1M, 3500HP**

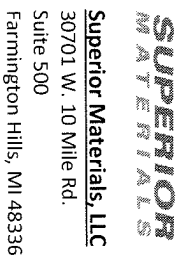
Contractor: _____

MIDOT No.: _____

| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | Contribution % |
|------------|--------|--------------|--------------|-----------------|------------------|----------------|
| CA | 71-47 | Presque Isle | 1070 | 6.54 | 2.62 | 34.9 |
| IA | 71-47 | Presque Isle | 800 | 4.89 | 2.62 | 26.1 |
| 2NS | 75-051 | Mid Michigan | 1200 | 7.23 | 2.66 | 39.1 |
| Total Wt | | | 3070 | | | 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" | 90.0 | 100.0 | 100.0 | 96.5 | 3.5 | 3.5 |
| 1" | 26.0 | 100.0 | 100.0 | 74.2 | 22.3 | 25.8 |
| 3/4" | 5.6 | 99.6 | 100.0 | 67.0 | 7.2 | 33.0 |
| 1/2" | 1.8 | 81.3 | 100.0 | 60.9 | 6.1 | 39.1 |
| 3/8" | 1.6 | 55.3 | 100.0 | 54.1 | 6.8 | 45.9 |
| #4 | 1.6 | 13.8 | 98.7 | 42.7 | 11.3 | 57.3 |
| #8 | 1.5 | 6.7 | 81.2 | 34.0 | 8.7 | 66.0 |
| #16 | 1.5 | 5.3 | 64.0 | 26.9 | 7.1 | 73.1 |
| #30 | 1.4 | 4.8 | 47.3 | 20.2 | 6.7 | 79.8 |
| #50 | 1.3 | 4.1 | 23.3 | 10.6 | 9.6 | 89.4 |
| #100 | 1.2 | 3.1 | 6.0 | 3.6 | 7.1 | 96.4 |
| LBW | 0.9 | 2.4 | 0.5 | 1.1 | 2.4 | 98.9 |

Verify this number is 100%



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

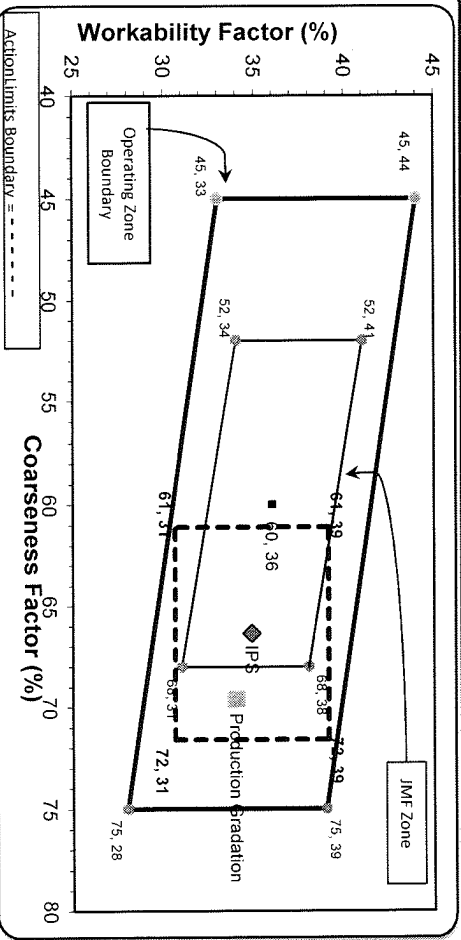
*Maximum % Retained must be above the 3/8" sieve.
*Any two adjacent sieves must equal 10% except max.
nom. max. #100 and #200 sieves.
*% Retained must be at least 4% for each sieve except max.
nom. max. #100 and #200 sieves.
*% Retained must be at least 8% for the 1" sieve when
a 2" max. size (nom. 1.5") aggregate is used.

Production Gradation

Batch Plant Gradations

Aggregate Supplier Gradations

Coarseness Factor: **70** Workability Factor: **34**



Initial Production Sample (IPS)

Coarseness Factor: **66**
Workability Factor: **35**

| Sieve | Cumulative % Passing | % Retained | Cumulative % Retained |
|-------|----------------------|------------|-----------------------|
| 2" | 100.0 | 0.0 | 0.0 |
| 1.5" | 99.6 | 0.4 | 0.4 |
| 1" | 84.3 | 15.3 | 15.7 |
| 3/4" | 74.8 | 9.6 | 25.2 |
| 1/2" | 64.3 | 10.4 | 35.7 |
| 3/8" | 56.8 | 7.5 | 43.2 |
| #4 | 43.0 | 13.8 | 57.0 |
| #8 | 34.9 | 8.1 | 65.1 |
| #16 | 26.4 | 8.5 | 73.6 |
| #30 | 19.9 | 6.5 | 80.1 |
| #50 | 10.4 | 9.5 | 89.6 |
| #100 | 3.4 | 7.0 | 96.6 |
| LBW | 1.2 | 2.2 | 98.8 |

PREPARED BY:
SM, LLC Technical Service

Approved By: _____



Plant S101-Superior Mount Clemens

Product 1022-2NS GR

Name/Title Doug Storey / QC Technician

Period: 08/07/2022 - 08/13/2022

Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | 2NS GR Spec |
|-----------|-----------------------|--------|------|-------------|
| | 3/8" (9.5mm) | 100.0 | % | 100-100 |
| | #4 (4.75mm) | 98.7 | % | 95-100 |
| | #8 (2.36mm) | 81.2 | % | 65-95 |
| | #16 (1.18mm) | 64.0 | % | 35-75 |
| | #30 (.6mm) | 47.3 | % | 20-55 |
| | #50 (.3mm) | 23.3 | % | 10-30 |
| | #100 (.15mm) | 6.0 | % | 0-10 |
| | #200 (75µm) | 0.8 | % | |
| | FM | 2.79 | | 2.6-3 |
| | Wash Loss (#200/75um) | 0.5 | % | 0-3 |
| | Total Moisture | 4.05 | % | |



Plant S101-Superior Mount Clemens
 Product 7920-INTERMED AGG P1M LS
 Period: 08/07/2022 - 08/13/2022

Name/Title Doug Storey / QC Technician
 Report Date 08/12/2022

| 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) | 99.6 | % | |
| | 1/2" (12.5mm) | 81.3 | % | |
| | 3/8" (9.5mm) | 55.3 | % | |
| | #4 (4.75mm) | 13.8 | % | |
| | #8 (2.36mm) | 6.7 | % | |
| | #16 (1.18mm) | 5.3 | % | |
| | #30 (.6mm) | 4.8 | % | |
| | #50 (.3mm) | 4.1 | % | |
| | #100 (.15mm) | 3.1 | % | |
| | #200 (75µm) | 2.5 | % | |
| | Wash Loss (#200/75um) | 2.4 | % | 0-3 |
| | Total Moisture | 2.08 | % | |



Plant S101-Superior Mount Clemens
Product 7919-COARSE AGG P1M LS
Period: 08/07/2022 - 08/13/2022

Name/Title Doug Storey / QC Technician
Report Date 08/12/2022

| Procedure | Sieve/Test | Result | Unit | Coarse Agg P1M LS Target |
|-----------|-----------------------|--------|------|--------------------------|
| | 2" (50mm) | 100.0 | % | |
| | 1 1/2" (37.5mm) | 90.0 | % | |
| | 1" (25mm) | 26.0 | % | |
| | 3/4" (19mm) | 5.6 | % | |
| | 1/2" (12.5mm) | 1.8 | % | |
| | 3/8" (9.5mm) | 1.6 | % | |
| | #4 (4.75mm) | 1.6 | % | |
| | #8 (2.36mm) | 1.5 | % | |
| | #16 (1.18mm) | 1.5 | % | |
| | #30 (.6mm) | 1.4 | % | |
| | #50 (.3mm) | 1.3 | % | |
| | #100 (.15mm) | 1.2 | % | |
| | #200 (75µm) | 1.0 | % | |
| | Wash Loss (#200/75um) | 0.9 | % | 0-2 |
| | Total Moisture | 0.17 | % | |