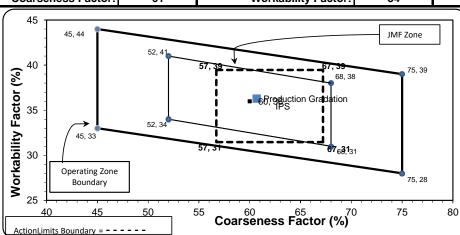
| Production | Gradation | Report |
|------------|-----------|--------|
|------------|-----------|--------|

| PLANT # | #: | P-101 | | | | | Contractor: | | | |
|------------------|-----------------|------------------------------|---------------|---------------------------------|-----------------|-------------------------|------------------|--------------------------|-----------------|---------------------------|
| Sample Date | : | 9/4/23 | | C | Concrete Grade: | DM, 4500HP | | | | |
| Dates Test R | epresents: | 9/5/2023 | - through | 9/11/2023 | | | MDOT No.: | | | |
| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific | % | | | | |
| | | | U | | Gravity | Contribution | | | | |
| 6AA | 71-47 | Presque Isle | 1500 250 | 9.17 1.53 | 2.62 | 51.7 | | | | |
| 26A 2NS | 71-47 75-051 | Presque Isle Mid Michigan | 1150 | 6.93 | 2.62 2.66 | 8.6 39.7 | | | | |
| 2113 | 75-051 | Total Wt | | 17.63 | 2.00 | 100.0 | < Verify this n | umber is 100% | | SUF |
| | | Total Wi | 2300 | 17.05 | | | | | 1 | MAT |
| Sieve | (| 6AA | 26 | A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | | <u>Superio</u> 30701 W |
| 2" | 1 | 100.0 | 100 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | 1 | Suite 500 |
| 1.5" | 1 | 100.0 | 100 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | | Farmingt |
| 1" | | 96.8 | 100 | | 100.0 | 98.3 | 1.7 | 1.7 | | |
| 3/4" | | 80.0 | 100 | | 100.0 | 89.7 | 8.7 | 10.3 | | |
| 1/2" | | 40.3 | 96 | | 100.0 | 68.8 | 20.9 | 31.2 | | |
| 3/8" | | 24.8 | 85 | | 100.0 | 59.8 | 9.0 | 40.2 | *Maximum % | Retained must b |
| #4 | | 4.5 | 22 | | 95.9 | 42.3 | 17.6 | 57.7 | *Any two adja | icent sieves must |
| #8 | | 2.3 | 5. | | 81.1 | 33.8 | 8.5 | 66.2 | nom. max., #10 | 00 and #200 siev |
| #16 | | 2.0 | 2. | | 67.1 | 27.9 | 5.9 | 72.1 | *% Retained r | must be at least 4 |
| #30 | | 1.9 | 2. | | 53.1 | 22.2 | 5.6 | 77.8 | | 00 and #200 siev |
| #50 | | 1.8 | 1. | | 26.7 | 11.7 | 10.5 | 88.3 | *% Retained I | must be at least 4 |
| #100 | | 1.8 | 1. | | 6.2 | 3.5 | 8.1 | 96.5 | a 1.5" max. siz | e (nom. Max. 1.0 |
| LBW | | 1.5 | 1. | 5 | 1.0 | 1.3 | 2.2 | 98.7 | | |
| Production G | radation | O Batch Plant Gra | dations 💿 Agg | regate Supplier Gra | adations | Adjusted WF | Initial Producti | ion Sample (IPS | S) | |
| Coarsene | ss Factor: | 61 | Work | ability Factor: | 34 | 36.3 | Coars | eness Factor: | 62 | |
| 45 | | | | | | | Work | ability Factor: | 35 | |
| 45 | 45, 44 | | | | JMF Zone | | Ciava | Cumulative | % | Cumulative |
| | -0, | | | | JIVII ZOITE | | Sieve | % Passing | Retained | % Retained |
| 40 | | 52, 41 | | | | | 2" | 100.0 | 0.0 | 0.0 |
| ्र ⁴⁰ | | | 57, 39 | 67, 39 68, 3 | 75, 39 | | 1.5" | 100.0 | 0.0 | 0.0 |
| e | | | ! | | 0 | | 1" | 100.0 | 0.0 | 0.0 |
| <u></u> | | | ■_68,rg | duction Gradation | | | 3/4" | 95.0 | 5.0 | 5.0 |
| 5 35 | | | ļ | 195 | | | 1/2" | 70.5 | 24.5 | 29.5 |
| ility Factor (%) | \rightarrow | 52, 34 | | i | | | 3/8" | 60.0 | 10.5 | 40.0 |
| l E | 45, 33 | | 57, 31 | | | | #4 | 44.4 | 15.6 | 55.6 |
| | 1 | | 51, 51 | 67 ₆ 31 ₃ | 31 | | #8 | 35.5 | 90 | 64.5 |



or Materials, LLC /. 10 Mile Rd. n ton Hills, MI 48336

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



| Coars | seness Factor: | 62 | |
|-------|-----------------|----------|------------|
| Work | ability Factor: | 35 | |
| Sieve | Cumulative | % | Cumulative |
| Sleve | % Passing | Retained | % Retained |
| 2" | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 0.0 | 0.0 |
| 1" | 100.0 | 0.0 | 0.0 |
| 3/4" | 95.0 | 5.0 | 5.0 |
| 1/2" | 70.5 | 24.5 | 29.5 |
| 3/8" | 60.0 | 10.5 | 40.0 |
| #4 | 44.4 | 15.6 | 55.6 |
| #8 | 35.5 | 9.0 | 64.5 |
| #16 | 28.5 | 7.0 | 71.5 |
| #30 | 21.5 | 7.0 | 78.5 |
| #50 | 10.2 | 11.3 | 89.8 |
| #100 | 3.1 | 7.1 | 96.9 |
| LBW | 1.3 | 1.8 | 98.7 |

Approved By:

| PLANT # | #: | P-102 | | | | | Contractor: | | | |
|--------------|-------------|-------------------|---------------|--------------------|---------------------|-------------------------|-------------------|--------------------------|------------------|---------------------------|
| Sample Date | : | 9/4/23 | | | Concrete Grade | DM, 4500HP | | | | |
| Dates Test R | epresents: | 9/5/2023 | through | 9/11/2023 | | | MDOT No.: | | | |
| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution | | | | _ |
| 6AA | 58-003 | Stoneco | 1525 | 9.09 | 2.69 | 51.7 | | | | |
| 26A | 58-003 | Stoneco | 275 | 1.64 | 2.69 | 9.3 | | | | |
| 2NS | 81-019 | Pleasant Lake | 1150 | 6.95 | 2.65 | 39.0 | | | | SII |
| | | Total Wt | 2950 | 17.68 | | 100.0 | < Verify this n | umber is 100% | | SU M A 1 |
| Sieve | | 6AA | 26 | A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | | <u>Superio</u> 30701 \ |
| 2" | 1 | 00.0 | 10 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | | Suite 50 |
| 1.5" | 1 | 00.0 | 10 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | | Farmin |
| 1" | 1 | 00.0 | 10 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | | |
| 3/4" | | 86.8 | 10 | 0.0 | 100.0 | 93.2 | 6.8 | 6.8 | | |
| 1/2" | | 43.5 | 99 | 0.6 | 100.0 | 70.8 | 22.4 | 29.2 | | |
| 3/8" | : | 22.3 | 89 |).7 | 100.0 | 58.9 | 11.9 | 41.1 | *Maximum % | Retained must |
| #4 | | 4.9 | 23 | 5.6 | 97.9 | 42.9 | 16.0 | 57.1 | *Any two adja | icent sieves mu |
| #8 | | 2.9 | 5 | .8 | 83.0 | 34.4 | 8.5 | 65.6 | nom. max., #10 | 00 and #200 sie |
| #16 | | 2.5 | 3 | .4 | 66.4 | 27.5 | 6.9 | 72.5 | *% Retained r | must be at least |
| #30 | | 2.3 | 2 | .8 | 47.2 | 19.9 | 7.6 | 80.2 | nom. max., #10 | 00 and #200 sie |
| #50 | | 2.2 | 2 | .6 | 23.2 | 10.4 | 9.4 | 89.6 | *% Retained r | must be at least |
| #100 | | 2.0 | | .4 | 4.4 | 3.0 | 7.5 | 97.0 | a 1.5" max. size | e (nom. Max. 1. |
| LBW | | 1.6 | 2 | 1 | 0.4 | 1.2 | 1.8 | 98.8 |] | |
| Production G | radation | O Batch Plant Gra | dations 💿 Agg | regate Supplier Gi | radations | Adjusted WF | Intial Production | on Sample (IPS | 5) | - |
| Coarsene | ess Factor: | 63 | Work | ability Factor | : 34 | 36.9 | Coars | eness Factor: | 61 | |



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., m. max., #100 and #200 sieves. % Retained must be at least 4% for each sieve except max., m. max., #100 and #200 sieves. % Retained must be at least 4% for the 3/4" sieve when 1.5" max. size (nom. Max. 1.0") aggregate is used.

45 45, 44 JMF Zone 52, 4 Workability Factor (%) 75, 39 68, 38 Production Gradation 52, 34 45, 33 56, 3 67, 32, 31 Operating Zone Boundary 75, 28 25 $\operatorname{Coarseness}^{60}\operatorname{Factor}^{65}\operatorname{(\%)}^{70}$ 55 40 45 50 75 80 ActionLimits Boundary = - - - - -

| | Coars | eness Factor: | 61 | |
|----|-----------|-----------------|----------|------------|
| | Work | ability Factor: | 36 | |
| Si | eve | Cumulative | % | Cumulative |
| 51 | eve | % Passing | Retained | % Retained |
| 2 | <u>2"</u> | 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 |
| # | ŧ4 | 44.4 | 16.3 | 55.6 |
| ŧ | ‡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 |
| | 00 | 1.9 | 5.6 | 98.1 |
| LE | 3W | 0.7 | 1.2 | 99.3 |

Approved By: Mary P. Ball

| PLANT : | #: | P-103 | | | | | Contractor: | | | | |
|------------------------|----------------|-------------------|------------------|------------------------|---------------------|-------------------------|-----------------|--------------------------|-----------------|--------------------|--------------------------------------|
| Sample Date |): | 9/4/23 | | | Concrete Grade: | DM, 4500HP | | | | | |
| Dates Test R | Represents: | 9/5/2023 | through | 9/11/2023 | | | MDOT No.: | | | | |
| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution | | | | | |
| 6AA | 58-003 | Stoneco | 1525 | 9.09 | 2.69 | 51.7 | | | | | |
| 26A | 58-003 | Stoneco | 275 | 1.64 | 2.69 | 9.3 | | | | | |
| 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 | (| 6AA | 26 | Α | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | | | Materials, LLC 10 Mile Rd. |
| 2" | 1 | 00.0 | 100 |).0 | 100.0 | 100.0 | 0.0 | 0.0 | | Suite 500 | |
| 1.5" | 1 | 00.0 | 100 |).0 | 100.0 | 100.0 | 0.0 | 0.0 | | Farmingto | n Hills, MI 48336 |
| 1" | 1 | 00.0 | 100 | | 100.0 | 100.0 | 0.0 | 0.0 | | | |
| 3/4" | | 36.8 | 100 | | 100.0 | 93.2 | 6.8 | 6.8 | | | |
| 1/2" | | 43.5 | 99 | | 100.0 | 70.8 | 22.4 | 29.2 | | | |
| 3/8" | | 22.3 | 89 | | 100.0 | 58.9 | 11.9 | 41.1 | *Maximum % | Retained must be | above the 3/8" sieve. |
| #4 | | 4.9 | 23 | | 97.9 | 42.9 | 16.0 | 57.1 | | | qual 10% except max., |
| #8 | | 2.9 | 5. | | 83.0 | 34.4 | 8.5 | 65.6 | | 00 and #200 sieves | |
| #16 | | 2.5 | 3. | | 66.4 | 27.5 | 6.9 | 72.5 | | | for each sieve except |
| #30 #50 | | 2.3 2.2 | 2. | | 47.2 23.2 | 19.9 10.4 | 7.6 9.4 | 80.2 89.6 | - | 00 and #200 sieves | |
| #50 #100 | | 2.2 | 2. | | 4.4 | 3.0 | 9.4 7.5 | 89.6 97.0 | | | for the 3/4" sieve whe |
| LBW | | <u>2.0</u> 1.6 | 2. | | 0.4 | 3.0 1.2 | 1.8 | 97.0 | a 1.5° max. siz | e (nom. Max. 1.0") | aggregate is used. |
| Production G | | Batch Plant Gra | â | ' regate Supplier G | | Adjusted WF | l. | on Sample (IPS | 3 | | |
| | ess Factor: | 63 | | ability Facto | r: 34 | 36.9 | | eness Factor: | , 61 | | |
| | | | | usinty i doto | | 00.0 | | ability Factor: | 36 | | |
| ⁴⁵] | - | | | | | | | Cumulative | % | Cumulative | |
| | 45, 44 | | | | JMF Zone | | Sieve | % Passing | Retained | % Retained | |
| 1 | | 52, 41 | | 07.40 | | | 2" | 100.0 | 0.0 | 0.0 | |
| a ⁴⁰ | | -36 | 40 | | 75, 39 | | 1.5" | 100.0 | 0.0 | 0.0 | |
| 8 | | | - | 68, 3 | 88 | | 1" | 99.3 | 0.7 | 0.7 | |
| ō | | | ■ 601 86 | Production Grada | ation | | 3/4" | 89.2 | 10.1 | 10.8 | |
| Factor (%) | | | | | | | 1/2" | 70.7 | 18.5 | 29.3 | |
| | \rightarrow | 52, 34 | ÷ | . | | | 3/8" | 60.7 | 10.0 | 39.3 | |
| Ę | 45, 33 | | L | | | | #4 | 44.4 | 16.3 | 55.6 | |
| Workability | | 56, | 52 | 67, 32, | 31 | | #8 | 35.9 | 8.5 | 64.1 | |
| ka | Operating Zone | | | | | | #16 | 27.3 | 8.6 | 72.7 | |
| | Boundary | | | | 75, 28 | | #30 | 19.1 | 8.2 | 80.9 | |
| S 25 | | | | | | | #50 | 7.4 | 11.7 | 92.6 | |
| 25 40 | 45 | 50 55 | 60 Coarseness | 65 7 | 0 75 | 80 | #100 | 1.9 | 5.6 | 98.1 | |
| | 10 | 00 | Coorčenoos | Easter (0/) | | | LBW | 0.7 | 1.2 | 99.3 | |

Approved BY: Mary P. Ball

| PLANT # | #: | 14 | | | | | Contractor: | | | | |
|-----------------|----------------|-----------------|----------------|-------------------|---------------------|-------------------------|--------------------|--------------------------|-----------------|-------------------------------|--------------------------------|
| Sample Date | - | 9/4/23 | | | Concrete Grade: | DM, 4500HP | | | | | |
| Dates Test R | epresents: | 9/5/2023 | through | 9/11/2023 | | | MDOT No.: | | | | |
| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution | | | | Γ | |
| 6AA | 58-003 | Stoneco | 1500 | 8.94 | 2.69 | 50.7 | | | | | |
| 26A | 58-003 | Stoneco | 360 | 2.14 | 2.69 | 12.2 | | | | L | |
| 2NS | 19-04 | Schlegel | 1100 | 6.60 | 2.67 | 37.2 | | | | Bui | lders' |
| | | Total Wt | 2960 | 17.68 | | 100.0 | < Verify this n | umber is 100% | • | Finish F | DI-MIX |
| Sieve | 6 | AA | 26 | A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | | <u>Builders I</u> 30701 W. | Redi-Mix 10 Mile Rd. |
| 2" | 1(| 0.00 | 100 | .0 | 100.0 | 100.0 | 0.0 | 0.0 | 1 | Suite 500 | |
| 1.5" | 1(| 0.00 | 100 | .0 | 100.0 | 100.0 | 0.0 | 0.0 |] | Farmingto | n Hills, MI 48336 |
| 1" | | 0.00 | 100 | | 100.0 | 100.0 | 0.0 | 0.0 |] | | |
| 3/4" | | 6.8 | 100 | | 100.0 | 93.3 | 6.7 | 6.7 | | | |
| 1/2" | | 3.5 | 99 | | 100.0 | 71.3 | 22.0 | 28.7 | | | |
| 3/8" | | 2.3 | 89 | | 100.0 | 59.4 | 11.9 | 40.6 | | | above the 3/8" sieve. |
| #4 | | 4.9 | 23 | | 99.9 | 42.5 | 16.9 | 57.5 | | | equal 10% except max., |
| #8 | | 2.9 | 5. | - | 90.1 | 35.7 | 6.8 | 64.3 | | 00 and #200 sieves | |
| #16 | | 2.5 | 3.4 | | 69.4 | 27.5 | 8.2 | 72.5 | | | 6 for each sieve except |
| #30 | | 2.3 | 2. | - | 44.5 | 18.0 | 9.4 | 82.0 | · · · · | 00 and #200 sieves | |
| #50 #100 | | 2.2 2.0 | 2. | | 14.3 2.7 | 6.7 2.3 | <u>11.3</u> 4.4 | 93.3 97.7 | | | 6 for the 3/4" sieve when |
| LBW | | 2.0 1.6 | 2. | | 0.2 | 2.3 | 4.4 | 97.7 | a 1.5° max. siz | e (nom. Max. 1.0") | aggregate is used. |
| Production G | | Batch Plant Gra | | egate Supplier Gr | | | - | on Sample (IPS | 」 6) | | |
| Coarsene | ess Factor: | 63 | Work | ability Factor | : 36 | 38.2 | | eness Factor: | | | |
| 45 | | | | <i>,</i> | | | Work | ability Factor: | 36 | | |
| 45 | 45, 44 | | | | JMF Zone | | 0.1 | Cumulative | % | Cumulative | |
| 1 | +3, 44 | | | | JIVIF 2011e | | Sieve | % Passing | Retained | % Retained | |
| | | 52, 41 | 57.40 | 68, 40 | | | 2" | 100.0 | 0.0 | 0.0 | |
| ् ⁴⁰ | | | | | 75, 39 | | 1.5" | 100.0 | 0.0 | 0.0 | |
| ల ! | | | i 🗖 | Production 68, 38 | ation | | 1" | 99.3 | 0.7 | 0.7 | |
| 1 t o | | | 6 0, 36 | PS | | | 3/4" | 89.0 | 10.3 | 11.0 | |
| Factor (%) | | | i | | | | 1/2" | 70.3 | 18.7 | 29.7 | |
| | | 52, 34 | | j | | | 3/8" | 59.9 | 10.4 | 40.1 | |
| Workability | 45, 33 | | 57,22 | | , | | #4 | 41.9 | 18.0 | 58.1 | |
| | ļ | - | | | T | | #8 | 35.9 27.8 | 6.0 8.2 | 64.1 72.2 | |
| ž | Operating Zone | | | | | | #16 #30 | 27.8 | 8.2 8.8 | 72.2 81.1 | |
| \$ L | Boundary | | | | 75, 28 | | #30 #50 | 6.3 | 12.6 | 93.7 | |
| 25 L | | | | | | | #30 #100 | 0.3 | 12.0 | 93.7 | |

80

75

 $\operatorname{Coarseness}^{60}\operatorname{Factor}^{65}(\%)^{70}$

#100

LBW

1.7

1.0

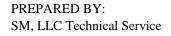
4.6

0.7

98.3

99.0





50

55

45

ActionLimits Boundary = - - - - -

25

40

| #: | 12 | | | | | Contractor: | | | | |
|---|--|---|---|---|--|---|--|---|--|---|
| : | 9/4/23 | | | Concrete Grade | DM, 4500HP | _ | | | - | |
| epresents: | 9/5/2023 | through | 9/11/2023 | | | MDOT No.: | | | | |
| Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution | | | | | |
| 71-47 | Presque Isle | 1450 | 8.87 | 2.62 | 49.9 | | | | | |
| 71-47 | Presque Isle | 305 | 1.87 | 2.62 | 10.5 | | | | | |
| 63-115 | | | | 2.65 | | | | | SUD | FRIOR |
| | Total Wt | 2905 | 17.69 | | 100.0 | < Verify this n | umber is 100% | • | MATE | RIALS |
| | 6AA | 26 | A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | | | <u>Naterials, LLC</u> |
| 1 | 00.0 | 100 | 0 | 100.0 | 100.0 | 0.0 | 0.0 | - | | U MIIE Ra. |
| | | | | | | | | 1 | | Hills, MI 48336 |
| | | | | 100.0 | | | 1.7 | 1 | | |
| | | | | 100.0 | 87.5 | 10.8 | 12.5 | 1 | | |
| | | 96 | .5 | 100.0 | 65.1 | 22.4 | 34.9 | 1 | | |
| | 14.8 | 87 | .2 | 100.0 | 56.1 | 9.0 | 43.9 | *Maximum % | Retained must be a | above the 3/8" sieve. |
| | 3.8 | 25 | .7 | 96.5 | 42.8 | 13.3 | 57.2 | *Any two adja | icent sieves must eo | qual 10% except max., |
| | 2.2 | 6.3 | | 82.8 | 34.5 | 8.3 | 65.5 | nom. max., #10 | 00 and #200 sieves. | |
| | 1.8 | | | 68.0 | 28.1 | 6.4 | 71.9 | *% Retained | must be at least 4% | for each sieve except |
| | 1.6 | 2. | 1 | 50.8 | 21.1 | 7.0 | 78 9 | nom max #1(| 00 and #200 sieves | |
| | | | | | | 1.0 | | π | 50 anu #200 sieves. | |
| | 1.6 | 1. | | 25.7 | 11.2 | 10.0 | 88.8 | · · | | for the 3/4" sieve whe |
| | 1.4 | <u> </u> | 9 8 | 25.7 5.3 | 11.2 3.0 | 10.0 8.2 | 88.8 97.0 | *% Retained i | | |
| | - | 1. | 9 8 | 25.7 | 11.2 | 10.0 | 88.8 | *% Retained i | must be at least 4% | |
| | 1.4 | 1. 1. 1. | 9 8 | 25.7 5.3 0.6 | 11.2 3.0 1.0 | 10.0 8.2 2.0 | 88.8 97.0 | *% Retained a 1.5" max. siz | must be at least 4% | |
| | 1.4 1.2 | 1. 1. 1. dations () Aggu | 9 8 6 | 25.7 5.3 0.6 radations | 11.2 3.0 1.0 | 10.0 8.2 2.0 Intial Productio | 88.8 97.0 99.0 | *% Retained i a 1.5" max. siz | must be at least 4% | |
| radation | 1.4 1.2 O Batch Plant Gra | 1. 1. 1. dations () Aggu | 9 8 6 regate Supplier G | 25.7 5.3 0.6 radations | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars | 88.8 97.0 99.0 on Sample (IPS | *% Retained i a 1.5" max. siz | must be at least 4% | |
| radation | 1.4 1.2 O Batch Plant Gra | 1. 1. 1. dations () Aggu | 9 8 6 regate Supplier G | 25.7 5.3 0.6 iradations r: 35 | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work | 88.8 97.0 99.0 on Sample (IPS eness Factor: | *% Retained i a 1.5" max. siz 63 | must be at least 4% | |
| radation ss Factor: | 1.4 1.2) Batch Plant Gra 67 | 1. 1. 1. dations () Aggu | 9 8 6 regate Supplier G | 25.7 5.3 0.6 radations | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: | *% Retained n a 1.5" max. siz 63 63 36 | must be at least 4% e (nom. Max. 1.0") a | |
| radation ss Factor: | 1.4 1.2 O Batch Plant Gra | 1. 1. 1. dations () Aggu | 9 8 6 regate Supplier G | 25.7 5.3 0.6 radations r: 35 | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 | *% Retained (a 1.5" max. siz 63 63 63 86 86 86 86 86 86 86 80 80 80 80 80 80 80 80 80 80 80 80 80 | must be at least 4% e (nom. Max. 1.0") ; Cumulative | |
| radation ss Factor: | 1.4 1.2) Batch Plant Gra 67 | 1. 1. 1. dations () Aggu | 9 8 6 regate Supplier G ability Facto | 25.7 5.3 0.6 iradations r: 35 | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 | *% Retained (a 1.5" max. siz 63 63 63 86 86 86 86 86 86 80 80 80 80 80 80 80 80 80 80 80 80 80 | must be at least 4% e (nom. Max. 1.0") a Cumulative % Retained 0.0 0.0 | |
| radation ss Factor: | 1.4 1.2) Batch Plant Gra 67 | 1. 1. 1. dations () Aggu | 9 8 6 regate Supplier G ability Facto | 25.7 5.3 0.6 iradations r: 35 | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" 1" | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 | *% Retained (a 1.5" max. siz 63 63 63 86 86 86 86 86 86 86 86 86 86 86 86 86 | must be at least 4% e (nom. Max. 1.0") a Cumulative % Retained 0.0 0.0 0.7 | |
| radation ss Factor: | 1.4 1.2) Batch Plant Gra 67 | 1. 1. 1. dations () Aggu | 9 8 6 ability Facto 68, 40 68, 3 8 7 rodu | 25.7 5.3 0.6 radations r: 35 JMF Zone | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 | *% Retained I a 1.5" max. siz 63 63 63 63 8 8 8 8 8 8 8 8 8 8 8 8 8 8 | must be at least 4% e (nom. Max. 1.0") a Cumulative % Retained 0.0 0.0 0.7 11.0 | |
| radation ss Factor: | 1.4 1.2) Batch Plant Gra 67 52, 41 | 1. 1. 1. dations () Aggu Work | 9 8 6 ability Facto 68, 40 68, 3 8 7 rodu | 25.7 5.3 0.6 radations r: 35 JMF Zone | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 | *% Retained I a 1.5" max. siz 63 63 63 63 86 86 86 86 86 86 86 86 86 86 86 86 86 | must be at least 4% e (nom. Max. 1.0") a Cumulative % Retained 0.0 0.0 0.7 11.0 29.7 | |
| radation ess Factor: | 1.4 1.2) Batch Plant Gra 67 | 1. 1. 1. dations () Aggu Work | 9 8 6 ability Facto 68, 40 68, 3 8 7 rodu | 25.7 5.3 0.6 radations r: 35 JMF Zone | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 | *% Retained (a 1.5" max. siz 63 63 63 86 86 86 86 86 86 86 86 86 86 86 86 86 | must be at least 4% e (nom. Max. 1.0") a Cumulative % Retained 0.0 0.0 0.7 11.0 29.7 40.1 | |
| radation ss Factor: | 1.4 1.2) Batch Plant Gra 67 52, 41 | 1. 1. 1. dations () Aggu Work | 9 8 6 regate Supplier G ability Facto 68, 40 68, 3 PS | 25.7 5.3 0.6 radations r: 35 JMF Zone 75, 39 iction Gradation | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 | *% Retained I a 1.5" max. siz 63 63 63 63 64 86 86 86 86 86 86 86 86 86 86 86 86 86 | Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 | |
| radation ess Factor: | 1.4 1.2) Batch Plant Gra 67 52, 41 | 1. 1. 1. dations () Aggu Work | 9 8 6 ability Facto 68, 40 68, 3 8 7 rodu | 25.7 5.3 0.6 radations r: 35 JMF Zone 75, 39 iction Gradation | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9 | *% Retained I a 1.5" max. siz 63 63 63 63 76 80 80 80 80 80 80 80 90 80 80 90 80 90 80 90 80 90 90 90 90 90 90 90 90 90 90 90 90 90 | must be at least 4% e (nom. Max. 1.0") a Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 64.1 | |
| radation ss Factor: 5, 44 45, 33 Operating Zone | 1.4 1.2 () Batch Plant Gra 67 52, 41 52, 34 | 1. 1. 1. dations () Aggu Work | 9 8 6 regate Supplier G ability Facto 68, 40 68, 3 PS | 25.7 5.3 0.6 radations r: 35 JMF Zone 35 state of the second seco | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9 27.8 | *% Retained I a 1.5" max. siz 63 63 63 63 86 % Retained 0.0 0.0 0.0 0.7 10.3 18.7 10.4 18.0 6.0 8.2 | Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 64.1 72.2 | |
| radation ss Factor: 5, 44 45, 33 | 1.4 1.2 () Batch Plant Gra 67 52, 41 52, 34 | 1. 1. 1. dations () Aggu Work | 9 8 6 regate Supplier G ability Facto 68, 40 68, 3 PS | 25.7 5.3 0.6 radations r: 35 JMF Zone 75, 39 iction Gradation | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30 | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9 27.8 18.9 | *% Retained I a 1.5" max. siz 63 63 63 63 76 80 80 80 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0. | Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 64.1 72.2 81.1 | |
| radation ss Factor: 5, 44 45, 33 Operating Zone | 1.4 1.2 () Batch Plant Gra 67 52, 41 52, 34 | 1. 1. 1. 1. 1. 4ations • Aggu Work 57, 40 • 60, 36 | 9 8 6 regate Supplier G ability Facto 68, 40 68, 40 8 8 8 8 8 8 8 9 | 25.7 5.3 0.6 radations r: 35 JMF Zone 35 riction Gradation 25 75, 28 | 11.2 3.0 1.0 Adjusted WF | 10.0 8.2 2.0 Intial Productio Coars Work Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 | 88.8 97.0 99.0 on Sample (IPS eness Factor: ability Factor: Cumulative % Passing 100.0 100.0 99.3 89.0 70.3 59.9 41.9 35.9 27.8 | *% Retained I a 1.5" max. siz 63 63 63 63 86 % Retained 0.0 0.0 0.0 0.7 10.3 18.7 10.4 18.0 6.0 8.2 | Cumulative % Retained 0.0 0.7 11.0 29.7 40.1 58.1 64.1 72.2 | for the 3/4" sieve when aggregate is used. |
| | epresents: Pit # 71-47 71-47 63-115 | epresents: 9/5/2023 Pit # Source 71-47 Presque Isle 71-47 Presque Isle 63-115 Ray Rd Total Wt 6AA 100.0 100.0 96.6 75.0 30.8 14.8 3.8 2.2 1.8 | epresents: 9/5/2023 through Pit # Source Weight (ssp) 71-47 Presque Isle 1450 71-47 Presque Isle 305 63-115 Ray Rd 1150 Fotal Wt 2905 6AA 26 100.0 100 100 100.0 100 100 100.0 100 100 96.6 100 100 30.8 96 14.8 3.8 25 2.2 6. 1.8 2. | epresents: 9/5/2023 through 9/11/2023 Pit # Source Weight (ssp) ft ³ 71-47 Presque Isle 1450 8.87 71-47 Presque Isle 305 1.87 63-115 Ray Rd 1150 6.95 Total Wt 2905 17.69 6AA 26A 100.0 100.0 100.0 100.0 96.6 100.0 30.8 96.5 14.8 87.2 3.8 25.7 2.2 6.3 1.8 2.8 | epresents: $9/5/2023$ through $9/11/2023$ Pit # Source Weight (ssp) ft^3 Specific Gravity 71-47 Presque Isle 1450 8.87 2.62 71-47 Presque Isle 305 1.87 2.62 63-115 Ray Rd 1150 6.95 2.65 Total Wt 2905 17.69 2000 6AA 26A 2NS 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 30.8 96.5 100.0 30.8 25.7 96.5 2.2 6.3 82.8 1.8 2.8 68.0 | epresents: $9/5/2023$ through $9/11/2023$ Pit # Source Weight (ssp) ft ³ Specific Gravity $\%$ 71-47 Presque Isle 1450 8.87 2.62 49.9 71-47 Presque Isle 305 1.87 2.62 10.5 63-115 Ray Rd 1150 6.95 2.65 39.6 Total Wt 2905 17.69 100.0 6AA 26A 2NS Cumulative % Passing 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 96.6 100.0 100.0 87.5 30.8 96.5 100.0 65.1 14.8 87.2 100.0 56.1 34.5 34.5 34.5 1.8 2.8 68.0 28.1 34.5 | epresents: $9/5/2023$ through $9/11/2023$ MDOT No.: Pit # Source Weight (ssp) ft ³ Specific Gravity % Contribution 71-47 Presque Isle 1450 8.87 2.62 49.9 71-47 Presque Isle 305 1.87 2.62 10.5 63-115 Ray Rd 1150 6.95 2.65 39.6 Total Wt 2905 17.69 100.0 Weight (structure) % Retained 100.0 100.0 100.0 100.0 0. | epresents: 9/5/2023 through 9/11/2023 MDOT No.: Pit # Source Weight (ssb) ft ³ Specific Gravity Contribution 71-47 Presque Isle 1450 8.87 2.62 49.9 71-47 Presque Isle 305 1.87 2.62 10.5 63-115 Ray Rd 1150 6.95 2.65 39.6 Total Wt 2905 17.69 100.0 < Verify this number is 100% 6AA 26A 2NS Cumulative % Passing % Retained Cumulative % Retained 100.0 100.0 100.0 100.0 0.0 0.0 0.0 96.6 100.0 100.0 100.0 87.5 10.8 12.5 30.8 96.5 100.0 65.1 22.4 34.9 14.8 87.2 100.0 56.1 9.0 43.9 3.8 25.7 96.5 42.8 13.3 57.2 2.2 6.3 82.8 | epresents: 9/5/2023 through 9/11/2023 MDOT No.: Pit # Source Weight (sso) ft ³ Specific Gravity % Contribution 71-47 Presque Isle 1450 8.87 2.62 49.9 71-47 Presque Isle 305 1.87 2.62 10.5 63-115 Ray Rd 1150 6.95 2.65 39.6 Total Wt 2905 17.69 100.0 < Verify this number is 100% 6AA 26A 2NS Cumulative % Passing % Retained Cumulative % Retained 100.0 100.0 100.0 100.0 0.0 0.0 96.6 100.0 100.0 100.0 0.0 0.0 96.6 100.0 100.0 87.5 10.8 12.5 30.8 96.5 100.0 65.1 22.4 34.9 14.8 87.2 100.0 56.1 9.0 43.9 *Any two adja 2.2 6.3 82.8 34.5< | epresents: 9/5/2023 through 9/11/2023 MDOT No.: Pit # Source Weight (sso) ft ³ Specific Gravity % Contribution 71-47 Presque Isle 1450 8.87 2.62 49.9 71-47 Presque Isle 305 1.87 2.62 10.5 63-115 Ray Rd 1150 6.95 2.65 39.6 Total Wt 2905 17.69 100.0 Cumulative % Passing % Retained Superior N 30701 W. 1 100.0 100.0 100.0 100.0 0.0 0.0 100.0 100.0 100.0 100.0 100.0 0.0 0.0 100.0 100.0 100.0 100.0 100.0 0.0 0.0 10.0 96.6 100.0 100.0 87.5 10.8 12.5 30.8 96.5 100.0 65.1 22.4 34.9 'Maximum % Retained must be a 'Any two adjacent sieves must e'Any two adjace |

PREPARED BY: SM, LLC Technical Service

ActionLimits Boundary = - - - - -

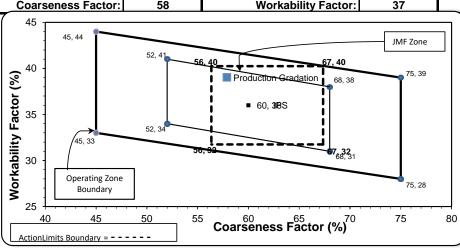
Approved By:

| PLANT : | #: | p11 | | | | | Contractor: | | | |
|--------------------|-------------|------------------|---------------|---------------------|---------------------|-------------------------|-------------------|--------------------------|-----------------|----------------------------------|
| Sample Date |): | 9/4/23 | | | Concrete Grade: | DM, 4500HP | _ | | | |
| Dates Test R | epresents: | 9/5/2023 | through | 9/11/2023 | | | MDOT No.: | | | |
| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution | | | | |
| 6AA | 71-47 | Presque Isle | 1455 | 8.90 | 2.62 | 50.1 | | | | |
| 26A | 71-47 | Presque Isle | 300 | 1.83 | 2.62 | 10.3 | | | | |
| 2NS | 95-013 | Smelter Bay | 1150 | 6.95 | 2.65 | 39.6 | | | | SUPE |
| | | Total Wt | 2905 | 17.69 | | 100.0 | < Verify this n | umber is 100% | | MATE |
| Sieve | (| 6AA | 26 | 6A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | | <u>Superior N</u> 30701 W. 10 |
| 2" | 1 | 00.0 | 10 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | | Suite 500 |
| 1.5" | 1 | 00.0 | 10 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | | Farmington |
| 1" | | 97.0 | - | 0.0 | 100.0 | 98.5 | 1.5 | 1.5 | | |
| 3/4" | | 85.9 | | 0.0 | 100.0 | 92.9 | 5.6 | 7.1 | | |
| 1/2" | | 46.5 | | 6.5 | 100.0 | 72.8 | 20.1 | 27.2 | | |
| 3/8" | | 29.3 | | 7.2 | 100.0 | 63.3 | 9.6 | 36.7 | | Retained must be at |
| #4 | | 6.8 | 25 | | 96.9 | 44.4 | 18.8 | 55.6 | | cent sieves must equ |
| #8 | | 3.5 | - | .3 | 86.2 | 36.5 | 7.9 | 63.5 | | 00 and #200 sieves. |
| #16 | | 3.0 | | .8 | 71.4 | 30.1 | 6.5 | 69.9 | | must be at least 4% f |
| #30 | | 2.7 | 2 | | 51.2 | 21.8 | 8.2 | 78.2 | | 00 and #200 sieves. |
| #50 | | 2.6 | | .9 | 24.3 | 11.1 | 10.7 | 88.9 | | must be at least 4% f |
| #100 LBW | | 2.4 1.8 | | .8 .6 | 7.5 1.5 | 4.4 | 6.8 2.7 | 95.6 98.3 | a 1.5" max. sız | e (nom. Max. 1.0") ag |
| Production G | | Batch Plant Gra | dations 💿 Agg | regate Supplier Gra | | | Intial Production | on Sample (IPS | 3) | |
| | ess Factor: | 58 | Worl | ability Factor | 37 | 39.0 | | eness Factor: | 62 | |
| 45 | | | | - | | | Work | ability Factor: | 36 | |
| 1 1 | 45, 44 | | | | 18.45 7 | | | Cumulative | % | Cumulative |
| | | 52, 41 | | | JMF Zone | | Sieve | % Passing | Retained | % Retained |
| 40 | | ^{52, 4} | <u>i.40</u> | 67, 40 | _ | | 2" | 100.0 | 0.0 | 0.0 |
| (%) [™] [| | | Production | Gradation 68, 38 | 75, 39 | | 1.5" | 100.0 | 0.0 | 0.0 |
| | | | 1 | | | | 1" | 100.0 | 0.0 | 0.0 |



laterials, LLC Mile Rd. Hills, MI 48336

pove the 3/8" sieve. ual 10% except max., or each sieve except max., or the 3/4" sieve when ggregate is used.



| Coars | eness Factor: | 62 | |
|-------|-----------------|----------|------------|
| Work | ability Factor: | 36 | |
| Sieve | Cumulative | % | Cumulative |
| Sieve | % Passing | Retained | % Retained |
| 2" | 100.0 | 0.0 | 0.0 |
| 1.5" | 100.0 | 0.0 | 0.0 |
| 1" | 100.0 | 0.0 | 0.0 |
| 3/4" | 95.0 | 5.0 | 5.0 |
| 1/2" | 72.3 | 22.8 | 27.7 |
| 3/8" | 60.4 | 11.8 | 39.6 |
| #4 | 42.6 | 17.8 | 57.4 |
| #8 | 36.0 | 6.6 | 64.0 |
| #16 | 29.5 | 6.5 | 70.5 |
| #30 | 20.3 | 9.2 | 79.7 |
| #50 | 9.5 | 10.8 | 90.5 |
| #100 | 3.4 | 6.1 | 96.6 |
| LBW | 1.3 | 2.1 | 98.7 |

Approved By: Mart P. Ball

| PLANT : | #: | P-32 | _ | | | | Contractor: | | | | |
|--------------------|----------------|-----------------|--------------|----------------------|---------------------|-------------------------|-------------------|-----------------------|----------------|---------------------|---|
| Sample Date |): | 9/4/23 | - | | Concrete Grade: | DM, 4500HP | | | | | |
| Dates Test R | Represents: | 9/5/2023 | through | 9/11/2023 | | | MDOT No.: | | | | |
| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution | | | | | |
| 6AA | 71-47 | Presque Isle | 1455 | 8.90 | 2.62 | 50.1 | | | | | |
| 26A | 71-47 | Presque Isle | 300 | 1.83 | 2.62 | 10.3 | | | | | |
| 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% | | | ERIALS |
| Sieve | | 6AA | 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" | | 97.0 | 10 | 0.0 | 100.0 | 98.5 | 1.5 | 1.5 | | | |
| 3/4" | | 85.9 | 100 | | 100.0 | 92.9 | 5.6 | 7.1 | | | |
| 1/2" | | 46.5 | 96 | | 100.0 | 72.8 | 20.1 | 27.2 | | | |
| 3/8" | | 29.3 | 87 | | 100.0 | 63.3 | 9.6 | 36.7 | *Maximum % | Retained must be | above the 3/8" sieve. |
| #4 | | 6.8 | 25 | | 96.9 | 44.4 | 18.8 | 55.6 | *Any two adja | icent sieves must e | equal 10% except max., |
| #8 | | 3.5 | 6. | - | 86.2 | 36.5 | 7.9 | 63.5 | , | 00 and #200 sieves | |
| #16 | | 3.0 | 2. | - | 71.4 | 30.1 | 6.5 | 69.9 | | | 6 for each sieve except i |
| #30 #50 | | 2.7 2.6 | 2. | | 51.2 24.3 | 21.8 11.1 | 8.2 10.7 | 78.2 88.9 | | 00 and #200 sieves | |
| #30 #100 | | 2.4 | 1. | | 7.5 | 4.4 | 6.8 | 00.9 95.6 | | | 6 for the 3/4" sieve wher aggregate is used. |
| LBW | | 1.8 | 1. | | 1.5 | 1.7 | 2.7 | 98.3 | a 1.5 max. siz | e (nom. max. 1.0) | aggregate is used. |
| Production G | Gradation | Batch Plant Gra | - | regate Supplier G | | Adjusted WF | Intial Production | on Sample (IPS | 5) | | |
| Coarsene | ess Factor: | 58 | Work | ability Factor | r: 37 | 39.0 | Coars | eness Factor: | 62 | | |
| | | | 2 | • | • | | Work | ability Factor: | 36 | | |
| 45 | | | | | JMF Zone | | 0.1 | Cumulative | % | Cumulative | |
| | 45, 44 | | | | JIVIF Zone | | Sieve | % Passing | Retained | % Retained | |
| | | 52, 41 | 6.40 | 67.40 | | | 2" | 100.0 | 0.0 | 0.0 | |
| ्र ⁴⁰] | | | Production (| | 75, 39 | | 1.5" | 100.0 | 0.0 | 0.0 | |
| گ (| | | | 5Hauation 68, 3 | 8 | | 1" | 100.0 | 0.0 | 0.0 | |
| Į | | | 60.3 | s i | | | 3/4" | 95.0 | 5.0 | 5.0 | |
| Factor (%) | | | 1 | : | | | 1/2" | 72.3 | 22.8 | 27.7 | |
| | | 52, 34 | + | i | | | 3/8" | 60.4 | 11.8 | 39.6 | |
| i lit | 45, 33 | 51 | | | | | #4 #8 | 42.6 36.0 | 17.8 | 57.4 64.0 | |
| Workability | | | , - | 67 _{68,} 32 | 31 | | #8 #16 | 36.0 29.5 | 6.6 6.5 | 64.0 70.5 | |
| ž | Operating Zone | | | | | | #16 #30 | 29.5 | 9.2 | 70.5 | |
| \$ ∣L | Boundary | | | | 75, 28 | | #30 | 9.5 | 9.2 | 90.5 | |
| > ₂₅ | | | | | | | #100 | 3.4 | 6.1 | 96.6 | |
| | 45 | 50 55 | 5 60 | <u> </u> | 0 75 | 80 | | | - | | |
| 40 | 45 | | Coordenaar | Factor (%) | 0 75 | 00 | LBW | 1.3 | 2.1 | 98.7 | |

Approved By:

| PLANT # | #: | P-35 | | | | | Contractor: | | | | |
|------------------------|----------------|-------------------|-------------------|---------------------|---------------------|-------------------------|-------------------|--------------------------|-----------------|---------------------|--------------------------------------|
| Sample Date | : | 9/4/23 | - | C | Concrete Grade | : DM, 4500HP | | | | - | |
| Dates Test R | epresents: | 9/5/2023 | through | 9/11/2023 | | | MDOT No.: | | | | |
| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution | | | | | |
| 6AA | 58-003 | Stoneco | 1525 | 9.09 | 2.69 | 51.7 | | | | | |
| 26A | 58-003 | Stoneco | 275 | 1.64 | 2.69 | 9.3 | | | | | |
| 2NS | 81-019 | Pleasant Lake | 1150 | 6.95 | 2.65 | 39.0 | | | | SUD | EBLOB |
| | | Total Wt | 2950 | 17.68 | | 100.0 | < Verify this n | umber is 100% | _ | | ERIOR |
| Sieve | | 6AA | 26 | A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | | | <u>Materials, LLC</u> 10 Mile Rd. |
| 2" | | 100.0 | 100 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | 1 | Suite 500 | |
| 1.5" | | 100.0 | 100 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 |] | Farmingto | n Hills, MI 48336 |
| 1" | | 100.0 | 100 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 | | | |
| 3/4" | | 86.8 | 100 | 0.0 | 100.0 | 93.2 | 6.8 | 6.8 | | | |
| 1/2" | | 43.5 | 99 | | 100.0 | 70.8 | 22.4 | 29.2 | | | |
| 3/8" | | 22.3 | 89 | | 100.0 | 58.9 | 11.9 | 41.1 | *Maximum % | Retained must be | above the 3/8" sieve. |
| #4 | | 4.9 | 23 | - | 97.9 | 42.9 | 16.0 | 57.1 | *Any two adja | cent sieves must e | qual 10% except max. |
| #8 | | 2.9 | 5. | - | 83.0 | 34.4 | 8.5 | 65.6 | nom. max., #1 | 00 and #200 sieves | 5. |
| #16 | | 2.5 | 3. | | 66.4 | 27.5 | 6.9 | 72.5 | *% Retained | must be at least 4% | 6 for each sieve except |
| #30 | | 2.3 | 2. | | 47.2 | 19.9 | 7.6 | 80.2 | nom. max., #10 | 00 and #200 sieves | 5. |
| #50 | | 2.2 | 2. | | 23.2 | 10.4 | 9.4 | 89.6 | | | 6 for the 3/4" sieve whe |
| #100 | | 2.0 | 2. | | 4.4 | 3.0 | 7.5 | 97.0 | a 1.5" max. siz | e (nom. Max. 1.0") | aggregate is used. |
| LBW | | 1.6 | 2. | | 0.4 | 1.2 | 1.8 | 98.8 | J | | |
| Production G | Fradation | O Batch Plant Gra | dations 💿 Aggi | regate Supplier Gra | idations | Adjusted WF | Intial Production | on Sample (IPS | 5) | - | |
| Coarsene | ess Factor: | 63 | Work | ability Factor: | 34 | 36.9 | Coars | eness Factor: | 61 | | |
| 45 | | | | | | | Work | ability Factor: | | | |
| | 45, 44 | | | | JMF Zone | | Sieve | Cumulative | % | Cumulative | |
| 1 | 10, 11 | | | | 5111 20110 | | Sieve | % Passing | Retained | % Retained | |
| 40 | | 52, 41 | 40 | | | | 2" | 100.0 | 0.0 | 0.0 | |
| २ ⁴⁰ | | 50, | 1 | 68, 38 | 75, 39 | | 1.5" | 100.0 | 0.0 | 0.0 | |
| <u>ව</u> | | | - | | Í | | 1" | 99.3 | 0.7 | 0.7 | |
| ţ | | | ■ 60.1 3 6 | Production Gradati | on | | 3/4" | 89.1 | 10.2 | 10.9 | |
| Factor (%) | | Ţ | | · • | | | 1/2" | 70.5 | 18.6 | 29.5 | |
| | | 52, 34 | i | | | | 3/8" | 60.5 | 10.0 | 39.5 | |
| lif. | 45, 33 | | Le | i | | | #4 | 44.1 | 16.4 | 55.9 | |
| | ļ | 56, | 31 | 67, 88 , 31 | | | #8 | 35.6 | 8.5 | 64.4 | |
| Workability | Operating Zone | 2 | | | | | #16 | 27.7 | 7.9 | 72.3 | |
| ŝ L | Boundary | | | | 75, 28 | | #30 | 20.6 | 7.1 | 79.4 | |
| S | | | | | | | #50 | 8.7 | 11.8 | 91.3 | |

80

75

 $\operatorname{Coarseness}^{60}\operatorname{Factor}^{65}(\%)^{70}$



1.6

1.1

#100

LBW

7.1

0.6

98.4

98.9

PREPARED BY: SM, LLC Technical Service

50

45

ActionLimits Boundary = - - - - -

25

40

55

| PLANT # | #: | P-36 | _ | | | | Contractor: | | | | |
|----------------------------|----------------|-----------------|---------------------|--------------------------|---------------------|-------------------------|-----------------|--------------------------|---|--------------------|-------------------------------|
| Sample Date | : | 9/4/23 | _ | (| Concrete Grade: | DM, 4500HP | | | | | |
| Dates Test R | epresents: | 9/5/2023 | through | 9/11/2023 | | | 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 | | | | SUP | ERIOR |
| | | Total Wt | 2905 | 17.69 | _ | 100.0 | < Verify this n | umber is 100% | 1 | | RIALS |
| Sieve | (| 6AA | 26 | A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | | | 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 | Farmington Hills, MI 48336 | | |
| 1" | | 96.6 | 100 | | 100.0 | 98.3 | 1.7 | 1.7 | | | |
| 3/4" | | 75.0 | 100.0 | | 100.0 | 87.5 | 10.8 | 12.5 | 1 | | |
| 1/2" | | 30.8 | 96 | .5 | 100.0 | 65.1 | 22.4 | 34.9 | I | | |
| 3/8" | | 14.8 | 87.2 | | 100.0 | 56.1 | 9.0 | 43.9 | *Maximum % Retained must be above the 3/8" sieve. | | |
| #4 | 3.8 | | 25.7 | | 97.1 | 43.0 | 13.1 | 57.0 | *Any two adjacent sieves must equal 10% except max | | |
| #8 | 2.2 | | 6.3 | | 83.3 | 34.7 | 8.3 | 65.3 | nom. max., #100 and #200 sieves. | | |
| #16 | | 1.8 | 2.8 | | 69.2 | 28.6 | 6.1 | 71.4 | *% Retained must be at least 4% for each sieve excep | | |
| #30 | | 1.6 | 2.1 | | 50.3 | 20.9 | 7.7 | 79.1 | nom. max., #100 and #200 sieves. | | |
| #50 | | 1.6 | 1.9 1.8 | | 20.0 | 8.9 | 12.0 | 91.1 | *% Retained must be at least 4% for the 3/4" sieve when a 1.5" max. size (nom. Max. 1.0") aggregate is used. | | |
| #100 LBW | | 1.4 1.2 | 1. | | 2.8 0.3 | 2.0 0.9 | 6.9 1.1 | 98.0 99.1 | a 1.5" max. siz | e (nom. Max. 1.0") | aggregate is used. |
| Production G | | Batch Plant Gra | | regate Supplier Gra | | | | on Sample (IPS | 5) | | |
| | ess Factor: | 67 | Work | ability Factor: | : 35 | 37.2 | | eness Factor: | 63 | | |
| | | •• | | | | | | ability Factor: | 35 | | |
| ⁴⁵ T | | | | | | | | Cumulative | % | Cumulative | |
| 4 | 45, 44 | | | | JMF Zone | | Sieve | % Passing | Retained | % Retained | |
| 1 | | 52, 41 | $ \longrightarrow $ | | | | 2" | 100.0 | 0.0 | 0.0 | |
| 2 ⁴⁰ | | | 58, 39 | 6 8, 39 | 75, 39 | | 1.5" | 100.0 | 0.0 | 0.0 | |
| Factor (%) | | | | 68, 38 | | | 1" | 99.1 | 0.9 | 0.9 | |
| 5 | | | ■ 60, 36 | | ction Gradation | | 3/4" | 90.3 | 8.8 | 9.7 | |
| 2 35 - | | | - 00, 30 | IPS | | | 1/2" | 69.2 | 21.1 | 30.8 | |
| Щ į | | 52, 34 | | i | | | 3/8" | 59.1 | 10.1 | 40.9 | |
| Workability | 45, 33 | | | | | | #4 | 41.8 | 17.3 | 58.2 | |
| | | _ | 58, 31 | 68,3 | 1 | | #8 | 35.1 | 6.6 | 64.9 | |
| х II | Operating Zone | | | | | | #16 #30 | 28.5 21.2 | 6.6 7.3 | 71.5 78.8 | |
| <u>s</u> L | Boundary | | | | 75, 28 | | #30 #50 | 8.7 | 12.5 | 91.3 | |
| > 25 | | | | | | | #50 | 0.7 1.8 | 7.0 | 91.3 | |
| 40 | 45 | 50 55 | 5 60 | Factor (%) ⁷⁰ |) 75 | 80 | LBW | 0.7 | 1.0 | 99.3 | |
| | | | Conreanace | | | | | 0.1 | 1.5 | 00.0 | |

Approved By:

| PLANT : | #: | P-38 | | | | | Contractor: | | | | |
|---|--------------------------|-----------------|------------------------|-------------------------------|-------------------------|-------------------|--|---|---|--|--------------------|
| Sample Date | e: | 9/4/23 | • | С | oncrete Grade | DM, 4500HP | | | | • | |
| Dates Test R | Represents: | 9/5/2023 | through | 9/11/2023 | | | MDOT No.: | | | | |
| Agg. Class | Pit # | Source | Weight (SSD) | ft ³ | Specific Gravity | % Contribution | | | | | |
| 6AA | 58-003 | Stoneco | 1525 | 9.09 | 2.69 | 51.7 | | | | | |
| 26A | 58-003 | Stoneco | 275 | 1.64 | 2.69 | 9.3 | | | | | |
| 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% | | MATE | RIALS |
| Sieve 6AA | | 26A | | 2NS | Cumulative % Passing | % Retained | % Retained 30701 W. 10 Mile Rd. | | | | |
| 2" | | 00.0 | 100.0 | | 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 | Farmington Hills, MI 48336 | | |
| 1" | | 00.0 | 100 | | 100.0 | 100.0 | 0.0 | 0.0 | 1 | | |
| 3/4" | | 86.8 | 100 | - | 100.0 | 93.2 | 6.8 | 6.8 | | | |
| 1/2" | | 43.5 | 99 | | 100.0 | 70.8 | 22.4 | 29.2 | | | |
| 3/8" | | 22.3 | 89.7 | | 100.0 | 58.9 | 11.9 | 41.1 | *Maximum % Retained must be above the 3/8" sieve. | | |
| #4 | 4.9 | | 23.6 | | 97.9 | 42.9 | 16.0 | 57.1 | *Any two adjacent sieves must equal 10% except max | | |
| #8 | | 2.9 | 5.8 | | 83.0 | 34.4 | 8.5 | 65.6 | nom. max., #100 and #200 sieves. | | |
| #16 | | 2.5 | 3.4 2.8 | | 66.4 | 27.5 | 6.9 | 72.5 | *% Retained must be at least 4% for each sieve exception max. #100 and #200 sieves | | |
| #30 #50 | | 2.3 2.2 | 2.6 | | 47.2 23.2 | 19.9 10.4 | 7.6 9.4 | 80.2 89.6 | nom. max., #100 and #200 sieves. *% Retained must be at least 4% for the 3/4" sieve who | | |
| #30 | | 2.0 | 2.4 | | 4.4 | 3.0 | 9.4 7.5 | 97.0 | a 1.5" max. size (nom. Max. 1.0") aggregate is used. | | |
| LBW | | 1.6 | 2. | | 0.4 | 1.2 | 1.8 | 98.8 | a 1.5 max. siz | | ayyreyale is used. |
| Production G | Gradation | Batch Plant Gra | | regate Supplier Gra | dations | | - | on Sample (IPS | 5) | | |
| Coarsene | ess Factor: | 63 | Work | ability Factor: | 34 | 36.9 | | eness Factor: | 61 | | |
| | | | | , | | | | | | | |
| 45 | | | | | | | Work | ability Factor: | 36 | | |
| 1. | 45, 44 | | | | JMF Zone | | Work Sieve | ability Factor: Cumulative | 36 % | | |
| | 45, 44 | 52, 41 | | | JMF Zone | | Sieve | Cumulative % Passing | % Retained | % Retained | |
| 40 | 45, 44 | 52, 41 56, | | 67,40 | | | Sieve 2" | Cumulative % Passing 100.0 | % Retained 0.0 | % Retained 0.0 | |
| 40 | 45, 44 | | ****** | 68, 38 | JMF Zone | | Sieve 2" 1.5" | Cumulative % Passing 100.0 100.0 | % Retained 0.0 0.0 | % Retained 0.0 0.0 | |
| 40 | 45, 44 | | | 68, 38 Production Gradatio | 75, 39 | | Sieve 2" 1.5" 1" | Cumulative % Passing 100.0 100.0 99.3 | % Retained 0.0 0.0 0.7 | % Retained 0.0 0.0 0.7 | |
| 40 | 45, 44 | | 10 | | 75, 39 | | Sieve 2" 1.5" | Cumulative % Passing 100.0 100.0 | % Retained 0.0 0.0 | % Retained 0.0 0.0 | |
| 40 | 45, 44 | | 10- 60,186 | | 75, 39 | | Sieve 2" 1.5" 1" 3/4" | Cumulative % Passing 100.0 100.0 99.3 89.1 | % Retained 0.0 0.0 0.7 10.2 | % Retained 0.0 0.0 0.7 10.9 | |
| 40 | 45, 44 | 56; | 10- 60, 36 | | 75, 39 | | Sieve 2" 1.5" 1" 3/4" 1/2" | Cumulative % Passing 100.0 99.3 89.1 70.5 60.5 44.1 | % Retained 0.0 0.0 0.7 10.2 18.6 | % Retained 0.0 0.0 0.7 10.9 29.5 | |
| 40 | \rightarrow | 56; | ■ 60, 36 | | 75, 39 | | Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 | Cumulative % Passing 100.0 99.3 89.1 70.5 60.5 44.1 35.6 | % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4 8.5 | % Retained 0.0 0.0 0.7 10.9 29.5 39.5 55.9 64.4 | |
| 40 | \rightarrow | 52, 34 | ■ 60, 36 | Production Gradatic | 75, 39 | | Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 | Cumulative % Passing 100.0 99.3 89.1 70.5 60.5 44.1 35.6 27.7 | % Retained 0.0 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9 | % Retained 0.0 0.0 0.7 10.9 29.5 39.5 55.9 64.4 72.3 | |
| 40 | 45, 33 | 52, 34 | ■ 60, 36 | Production Gradatic | 75, 39 | | Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30 | Cumulative % Passing 100.0 99.3 89.1 70.5 60.5 44.1 35.6 27.7 20.6 | % Retained 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9 7.1 | % Retained 0.0 0.0 0.7 10.9 29.5 39.5 55.9 64.4 72.3 79.4 | |
| Workability Factor (%) 06 07 07 08 07 07 07 07 07 07 07 07 07 07 07 07 07 | 45, 33 Operating Zone | 52, 34 | ■ 60, 36 | Production Gradatic | 75, 39 | | Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 | Cumulative % Passing 100.0 99.3 89.1 70.5 60.5 44.1 35.6 27.7 20.6 8.7 | % Retained 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9 7.1 11.8 | % Retained 0.0 0.7 10.9 29.5 39.5 55.9 64.4 72.3 79.4 91.3 | |
| 40 | 45, 33 Operating Zone | 52, 34 | ● 60 ₁ ₿6 | Production Gradatic | 75, 39 | | Sieve 2" 1.5" 1" 3/4" 1/2" 3/8" #4 #8 #16 #30 | Cumulative % Passing 100.0 99.3 89.1 70.5 60.5 44.1 35.6 27.7 20.6 | % Retained 0.0 0.7 10.2 18.6 10.0 16.4 8.5 7.9 7.1 | % Retained 0.0 0.0 0.7 10.9 29.5 39.5 55.9 64.4 72.3 79.4 | |

Approved By:

| PLANT # | #: | P-39 | | | | | Contractor: | | | | |
|----------------|--------------------------------------|-----------------|--------------------|--------------------------------|---------------------|-------------------------|--------------------|--------------------------|--|-------------------------------|--------------------------------------|
| Sample Date: | | 9/4/23 | | C | | | | | | | |
| Dates Test R | epresents: | 9/5/2023 | through | 9/11/2023 | | | 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 | 200 | 1.22 | 2.62 | 6.9 | | | | | |
| 2NS | 44-051 | Krake Willis Rd | 1100 | 6.65 | 2.65 | 37.9 | | | | SUP | ERIOR |
| | | Total Wt | 2905 | 17.69 | | 100.0 | < Verify this n | umber is 100% | | | RIALS |
| Sieve | | 6AA | 26 | A | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | | <u>Superior</u> 30701 W. 3 | Materials, LLC 10 Mile Rd. |
| 2" | | 100.0 | 10 | 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 | | Farmingto | n Hills, MI 48336 |
| 1" | | 96.8 | 10 | 0.0 | 100.0 | 98.2 | 1.8 | 1.8 | | | |
| 3/4" | | 80.0 | 10 | | 100.0 | 89.0 | 9.3 | 11.0 | | | |
| 1/2" | | 40.3 | 96 | .3 | 100.0 | 66.8 | 22.2 | 33.2 | | | |
| 3/8" | 3" 24.8 | | 85.2 | | 100.0 | 57.4 | 9.3 | 42.6 | *Maximum % Retained must be above the 3/8" sieve | | |
| #4 | | | 22.1 | | 99.0 | 41.5 | 15.9 | 58.5 | *Any two adjacent sieves must equal 10% except ma | | |
| #8 | | | 5.2 | | 85.0 | 33.8 | 7.7 | 66.2 | nom. max., #100 and #200 sieves. | | |
| #16 | | | 2.5 | | 67.9 | 27.0 | 6.8 | 73.0 | *% Retained must be at least 4% for each sieve exce | | |
| #30 | | | 2.0 | | 50.6 | 20.3 | 6.6 | 79.7 | nom. max., #100 and #200 sieves. | | |
| #50 | | | 1.8 | | 23.1 | 9.9 | 10.5 | 90.1 | *% Retained must be at least 4% for the 3/4" sieve who | | |
| #100 LBW | #100 1.8 | | 1.7 1.5 | | 5.8 1.0 | 3.3 | 6.6 2.0 | 96.7 98.7 | a 1.5" max. size (nom. Max. 1.0") aggregate is used. | | |
| | | 1.5 | | | _ | | | | | | |
| roduction G | Fradation | Batch Plant Gra | | regate Supplier Gra | uauons | Adjusted WF | Intial Production | on Sample (IPS | 5) | | |
| Coarsene | ess Factor: | 64 | Work | ability Factor: | 34 | 36.3 | Coarseness Factor: | | 63 | | |
| 45 | | | | | | | Work | ability Factor: | 36 | | |
| _ | 15, 44 | | JMF Zone | | | | Sieve | Cumulative | % | Cumulative | |
| 1 | ~ | 50.44 | | | | | | % Passing | Retained | % Retained | |
| 40 | | 52, 41 | - F9 40 | | | | 2" | 100.0 | 0.0 | 0.0 | |
| ົຂີ ໄ | | | JU, The second | 68, 38 | 75, 39 | | 1.5" | 100.0 | 0.0 | 0.0 | |
| | | | ł | | | | 1" | 100.0 89.7 | 0.0 | 0.0 | |
| 9 35 | | | ■ 60, 36 | Production Gra | dation | | 3/4 | 70.3 | 10.3 | 29.7 | |
| | | | | ; | | | 3/8" | 59.1 | 19.4 | 40.9 | |
| | | 52, 34 | | l. | | | 3/8 #4 | 42.8 | 16.3 | 57.2 | |
| | 45. 33 | | | | | | #8 | 35.5 | 7.3 | 64.5 | |
| oility Fa | 45, 33 | | 56, 32 | 68,32 | 2 | | | | | | |
| ability Fa | [| | 5 8, 32 | 68,832 | 2 | | | 29.0 | 6.5 | 71.0 | |
| orkability Fa | 45, 33 Operating Zone Boundary | 2 | 1 50, 22 | 688832 | | | #16 #30 | | 6.5 7.7 | | |
| Workability Fa | Operating Zone | 2 | 5 0, 22 | 688,832 | 2 75, 28 | | #16 | 29.0 | | 71.0 | |
| Norkability Fa | Operating Zone | 50 55 | 58, 22 | 65 Factor (%) ⁷⁰ | | 80 | #16 #30 | 29.0 21.2 | 7.7 | 71.0 78.8 | |

Approved By:

| PLANT #: | | P-O2 9/4/23 | | | | | Contractor: | | | | |
|-----------------------------|----------------|-----------------------|---------------|--------------------|-------------------------|-------------------|--------------------------|-------------------------|---|--------------------------|--|
| Sample Date Dates Test R | | 9/4/23 | through | 9/11/2023 | Concrete Grade | DIVI, 4500HP | 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 6AA | | 26A | | 2NS | Cumulative % Passing | % Retained | Cumulative % Retained | ned 30701 | | | |
| 2" | 1 | 100.0 | 100.0 | | 100.0 | 100.0 | 0.0 | 0.0 | - | Suite 500 | |
| 1.5" | 1 | 100.0 | 100 | 0.0 | 100.0 | 100.0 | 0.0 | 0.0 |] | Farmingtor | |
| 1" | | 96.6 | 10 | 0.0 | 100.0 | 98.3 | 1.7 | 1.7 | | | |
| 3/4" | | 75.0 | 100 | | 100.0 | 87.5 | 10.8 | 12.5 | | | |
| 1/2" | | 30.8 | 96 | | 100.0 | 65.1 | 22.4 | 34.9 | | | |
| 3/8" | | 14.8 | 87 | | 100.0 | 56.1 | 9.0 | 43.9 | *Maximum % Retained must b | | |
| #4 | | 3.8 | 25 | | 96.5 | 42.8 | 13.3 8.3 | 57.2 | *Any two adjacent sieves must eq nom. max., #100 and #200 sieves. | | |
| #8 | | 2.2 | 6. | | 82.8 | 34.5 | | 65.5 | | | |
| #16 | | 1.8 | 2. | | 68.0 | 28.1 | 6.4 | 71.9 | *% Retained r | must be at least 4% | |
| #30 | | 1.6 | 2. | | 50.8 | 21.1 | 7.0 | 78.9 | nom. max., #100 and #200 sieves | | |
| #50 | | 1.6 | 1. | | 25.7 | 11.2 | 10.0 | 88.8 | *% Retained must be at least 4 | | |
| #100 LBW | | 1.4 | <u> </u> | | 5.3 | 3.0 | 8.2 | 97.0 | a 1.5" max. size (nom. Max. 1.0") | | |
| LBW | | 1.2 | | - | 0.6 | 1.0 | 2.0 | 99.0 | l | | |
| Production G | | O Batch Plant Gra | dations 💿 Agg | regate SupplierGra | 1 | Adjusted WF | | on Sample (IPS | S) | | |
| Coarsene | ess Factor: | 67 | Work | ability Factor | : 35 | 37.0 | Coarseness Factor: | | 63 | | |
| 45 | | | | | | | Work | ability Factor: | 35 | | |
| | 45, 44 | | | | JMF Zone | | Sieve | Cumulative % Passing | % Retained | Cumulative % Retained | |
| 40 | | 52, 41 | \checkmark | | | | 2" | 100.0 | 0.0 | 0.0 | |
| २ ⁴⁰ | | | 58, 39 | 68, 39 | 75, 39 | | 1.5" | 100.0 | 0.0 | 0.0 | |
| <u>ی</u> | | | i | | | | 1" | 100.0 | 0.0 | 0.0 | |
| Į Į | | | ■ 60, 36 | roduc | ction Gradation | | 3/4" | 95.1 | 4.9 | 4.9 | |
| e 35 | | | i | IPS | | | 1/2" | 74.6 | 20.5 | 25.4 | |
| Workability Factor (%) | | 52, 34 | | ! | | | 3/8" | 59.3 | 15.3 | 40.7 | |
| ii ii | 45, 33 | | | | | | #4 | 42.1 | 17.2 | 57.9 | |
| ig 30 - | | _ | 58, 31 | 6 8 8,33 | n | | #8 | 35.1 | 7.1 | 64.9 | |
| ž | Operating Zone | 2 | | | | | #16 | 29.2 | 5.9 | 70.8 78.1 | |
| ♀ ┤ ∟ | Boundary | | | | 75, 28 | | #30 #50 | 21.9 9.6 | 7.3 12.4 | 78.1 90.4 | |
| > ₂₅ | | | | | | | #50 #100 | 9.6 2.4 | 7.2 | 90.4 97.6 | |
| 40 | 45 | 50 59 | 5 60 | 65 70 |) 75 | 80 | #100 | 2.4 | 1.2 | 91.0 | |

75

80

LBW

0.9



rials, LLC e Rd. MI 48336

he 3/8" sieve. % except max., ch sieve except max., e 3/4" sieve when ate is used.

99.1

1.5

PREPARED BY: SM, LLC Technical Service

50

45

ActionLimits Boundary = - - - -

40

55

Coarseness Factor (%)⁷⁰

