Gary Merkey

To: Jennifer Ferrigan
Cc: Steve Jackson
Subject: Conformance bond

Hi Jennifer,

Thank you for helping me through the conformance bond issue. Attached is the application for permit to engage in sand dune mining within Great Lakes sand dune area "amended", reducing the mining area to only cell unit #1. Other items of interest are Environmental Impact Statement 2019, an Emailed letter of 09/12/2024 and a copy of the Bond for Conformance.

This entire package of information and the original bond will be sent VIA USPS.

Thank you,

Gary L Merkey
Jackson-Merkey Contractors, Inc.
3430 Lund Ave
Muskegon, Michigan 49442
p. (231) 728-9344
f. (231) 726-2060
c. (231) 578-7098

JACKSON-MERKEY CONTRACTORS, INC.
www.jackson-merkey.com

From: Gary Merkey
To: Ferrigan, Jennifer (EGLE)
Cc: Steve Jackson; Snow, Mark (EGLE); Melchiori, Jolene (EGLE); Karsten, James (EGLE)
Subject: RE: Conformance bond
Date: Wednesday, November 20, 2024 2:13:14 PM

Jennifer,

Thank you for pointing out the my obvious omission the whole reason for the permit amendment. **Jackson-Merkey Contractors Inc. formally requests the release Cell Unit 2 and Cell Unit 3 from bonding requirements.**

Thank you,

Gary L Merkey
Jackson-Merkey Contractors, Inc.
3430 Lund Ave
Muskegon, Michigan 49442
p. (231) 728-9344
f. (231) 726-2060
c. (231) 578-7098

JACKSON-MERKEY CONTRACTORS, INC.
www.jackson-merkey.com

From: Ferrigan, Jennifer (EGLE) <FerriganJ2@michigan.gov>
Sent: Tuesday, November 19, 2024 1:43 PM
To: Gary Merkey <gmerkey@jackson-merkey.com>
Cc: Steve Jackson <sjackson@jackson-merkey.com>; Snow, Mark (EGLE) <SNOWM@michigan.gov>; Melchiori, Jolene (EGLE) <MelchioriJ@michigan.gov>; Karsten, James (EGLE) <KarstenJ2@michigan.gov>
Subject: RE: Conformance bond

Gary-

After reviewing the submitted documents, one thing we still need is a written request from Jackson-Markey Contractors Inc to release Cell Unit 2 and Cell Unit 3 from bonding requirements. This will not reduce the size of the area covered by the permit, it will only

reduce the number of acres being actively mined.

Does Jackson Merkey request that Cell Units 2 and 3 be released? Please confirm.

Thank you,

Jennifer A. Ferrigan
Geologist – Bond Specialist
Geologic Resources Management Division
Michigan Department of Environment, Great Lakes, and Energy
Mobile: 517-290-6982 | FerriganJ2@michigan.gov
Follow Us | Michigan.gov/EGLE

From: Gary Merkey <gmerkey@jackson-merkey.com>
Sent: Monday, October 14, 2024 2:53 PM
To: Ferrigan, Jennifer (EGLE) <FerriganJ2@michigan.gov>
Cc: Steve Jackson <sjackson@jackson-merkey.com>
Subject: Conformance bond

Hi Jennifer,

Thank you for helping me through the conformance bond issue. Attached is the application for permit to engage in sand dune mining within Great Lakes sand dune area "amended", reducing the mining area to only cell unit #1. Other items of interest are Environmental Impact Statement 2019, an Emailed letter of 09/12/2024 and a copy of the Bond for Conformance.

This entire package of information and the original bond will be sent VIA USPS.

Thank you,

Gary L Merkey
Jackson-Merkey Contractors, Inc.
3430 Lund Ave
Muskegon, Michigan 49442
p. (231) 728-9344
f. (231) 726-2060
c. (231) 578-7098

www.jackson-merkey.com

EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY –OIL, GAS, AND MINERALS DIVISION

BOND FOR CONFORMANCE

By authority of Part 637, Sand Dune Mining, Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

SAND DUNE MINING RECLAMATION BOND

Bond number 013131987

Site Name	Cell Unit(s)
Sherman Boulevard Site	#1

Jackson-Merkey Contractors, Inc., 3430 Lund Avenue, Muskegon, MI 49442

(name and address of Principal)

in the State of Michigan as Principal and

The Ohio Casualty Insurance Company, 175 Berkeley Street, Boston, MA 02116

(name and address of Surety)

a corporation organized and existing under the laws of the State of Massachusetts and duly authorized to transact business in the State of Michigan, as Surety, are held and firmly bound unto the State of Michigan in the penal sum of

$53,040 (Fifty-Three Thousand Forty Dollars) Dollars.

The Principal named is about to engage in sand dune mining under a State of Michigan permit within a Great Lakes designated Sand Dune Area. In particular, the principal proposes to mine and reclaim the mine cell unit(s) on the following described lands:

Section 3, T9N, R17W, City of Norton Shores

Surety's liability is conditioned upon the principal faithfully performing the requirements set forth in the principal's approved reclamation plan for the property described above filed in accordance with Part 637, Sand Dune Mining, Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.63701 to 324.63714. Surety's liability under this bond shall be maintained as long as the reclamation is not completed in compliance with the approved plan.

Surety may, however, cancel this bond at any time upon giving thirty days notice by certified mail to the Director of the Department of Environment, Great Lakes, and Energy. Surety shall not be discharged from any liability already accrued under this bond or which shall accrue hereunder before the expiration of the thirty day notice period. All mining on the property described above by the principal shall then terminate, unless the principal shall secure and file with the Department of Environment, Great Lakes, and Energy an acceptable replacement conformance bond.

Signed, sealed and dated the 14th day of October, 20 24

Jackson-Merkey Contractors, Inc.	The Ohio Casualty Insurance Company
(Principal)	(Surety)
By _____ (Signature)	By _____ (Signature)
Stephen J. Jackson, President	Michael W. Johnson, Attorney in Fact
(Name and title)	(Name and title)

When the Principal or Surety executes this bond by an agent, power of attorney or other evidence of authority must accompany the bond.

MAIL TO:

OIL, GAS, AND MINERALS DIVISION
DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
PO BOX 30256
LANSING MI 48909-7756

EQP 7200-3 SDM (Rev 05/2019)

POWER OF ATTORNEY

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: **8212573-974994**

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Michael W. Johnson; Michelle L. Sorn; Patricia A. O'Connor

all of the city of Muskegon state of MI each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 11th day of October, 2024.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
Nathan J. Zangerle, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 11th day of October, 2024 before me personally appeared Nathan J. Zangerle, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes Nathan J. Zangerle, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 14th day of October, 2024.

By: _____
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

EGLE

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Geologic Resources Management Division

Instructions for Preparing Application for Permit for Sand Dune Mining

Part 637, Sand Dune Mining, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); MCL 324.63701 - 324.63714

Instructions

*1. Complete and submit Form EQP7527.

*2. Environmental Impact Statement. (See instructions included with forms.)

*3. Progressive Cell Unit Mining and Reclamation Plan. (See instruction included with forms.)

*4. 15-YEAR MINING PLAN. (See instructions included with forms.)

**5. CONFORMANCE BOND. Proper bond coverage must be submitted prior to the initiation of a disturbance of land or must have been filed previously. The conformance bond can be in the form of a surety bond, cash, certificate of deposit, or letter of credit. (Conformance Bond Information included.)

* Must be submitted as part of application.
** Must be submitted before permit is issued.

Send Application To:

Department of Environment, Great Lakes, and Energy
Geologic Resources Management Division
Permitting and Technical Services Section
P.O. Box 30256
Lansing, Michigan 48909-7756

EGLE-GRMD-permitapplications@michigan.gov for electronic submittal.

EGLE

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Geologic Resources Management Division

Application for Permit to Engage in Sand Dune Mining Within Great Lakes Sand Dune Areas

Under authority of Part 637, Sand Dune Mining, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA)

1. Date of Application: 10-14-2024

2a. Purpose of Application: ☐ [Original] ☐ [Renewed] ■ [Amended]

2b. Operation is: ■ [Existing] ☐ [New]

3. Legal Description of property requested for permit (may attach extra pages for description):
Operating under Permit No. JMC-SBS-112 Legal Description is included on Figure 1 - Site Map (Only Cell Unit #1 is active)

4. Township: Norton Shores

5. County: Muskegon

6. Number of acres requested for permit: Cell Unit #1, 26.52 Acres

7. Name of Applicant (operator): Jackson-Merkey Contractors, Inc.

Address: 3430 Lund Ave. Muskegon, MI 49442 Telephone No.: (231) 728-9344

8. Owner of Surface Rights: Jackson-Merkey Contractors, Inc.

Address: 3430 Lund Ave. Muskegon, MI 49442 Telephone No.: (231) 728-9344

9. Send correspondence and permit to: Jackson-Merkey Contractors, Inc.

Address: 3430 Lund Ave. Muskegon, MI 49442 Telephone No.: (231) 728-9344

10. THE APPLICANT AGREES TO COMPLY WITH THE PROVISIONS AND REQUIREMENTS OF Part 637, Sand Dune Mining, Of The Natural Resources And Environmental Protection Act, 1994 PA 451, As Amended (NREPA) AND ASSERTS THAT THE INFORMATION ON THIS APPLICATION AND ATTACHED THERETO IS TRUE AND CORRECT.

Gary L Merkey Digitally signed by Gary L Merkey Date: 2024.10.14 11:51:41 -04'00'	Gary L Merkey	Secr./Treas	10/14/2
Signature (Applicant/Authorized Rep.)	Print Name	Title	Date

Send Completed Application To: Department of Environment, Great Lakes, and Energy
Geologic Resources Management Division
Permitting and Technical Services Section
P.O. Box 30256
Lansing, Michigan 48909-7756

EGLE-GRMD-permitapplications@michigan.gov for electronic submittal. Bonds must be mailed to EGLE-GRMD, however.

For Department Use Only

Date received: _____

Application by: _____

Comments: _____

Lansing: _____ Field: _____ Applicant:_____

If you need this information in an alternate format, contact EGLE-Accessibility@Michigan.gov or call 800-662-9278.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations.

This form and its contents are subject to the Freedom of Information Act and may be released to the public.

TO: Sand Dune Mining Operators – Permitted under Part 637, Sand Dune Mining, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA)

FROM: Permits and Technical Services Section, Geologic Resources Management Division

SUBJECT: Preparation of the Environmental Impact Statement

Please find attached "Instructions" for completing the Environmental Impact Statement.

An Environmental Impact Statement (EIS) is a written analysis of a proposed project (in your case, a sand mining operation) that by virtue of its scope or complexity could cause a sizeable harm or serious impact or alteration of the human and natural environment or could cause a significant alteration of the quality of human life. The real objective of an EIS is to prevent deleterious actions before they occur by:

1. Causing you as an operator to consider the effect of the action, and to examine alternatives for accomplishing the same objective (including no action at all);

2. Presenting the advantages and disadvantages involved in such a way that they can be weighed against each other;

3. Pointing out possible mitigation in the action plan to eliminate or ameliorate adverse effects;

4. Outlining probable adverse effects that cannot be avoided;

5. Bringing all the facts to the attention of the public in such a way as to ensure their understanding of the issues involved; and

6. To give the public an opportunity to provide important information concerning the project and to have a voice in the decision-making process.

It is important to note that the required cell unit mining and reclamation plan should be prepared before the environmental impact statement is initiated. A poor plan could result in irreparable harmful effect on the environment while a good plan might cause minimal impacts.

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

PHILLIP D. ROOS
DIRECTOR

September 12, 2024

VIA EMAIL

Jackson-Merkey Contractors Inc.
3430 Lund Ave.
Muskegon, Michigan 49442

Dear Steven Jackson and Gary Merkey:

Our records show the sand dune mining permit for the site listed below issued under Part 637, Sand Dune Mining, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), will expire on December 31, 2024.

Site	Permit Number
Sherman Blvd. Site	JMC-SBS-112

As you are aware, there is no longer a conformance bond in place for the Part 637 Permit referenced above. A bond must be submitted for this permit to be in compliance with Part 637 and renewed. The amount required for the bond is $20,000.00 per cell unit or $2,000 per acre within the cell – whichever is greater. Based upon site inspection September 25, 2023, it has been determined that mining, reclamation, and revegetation have been completed in Cell Units 2 and 3. You may submit a written request to release these two cell units from bonding obligations. At this time, Cell Unit 1 is 26.52 acres in size, which would put the bonding requirement for the cell unit at $53,040.00. If Jackson-Merkey wishes to reduce the size of Cell Unit 1 to eliminate any reclaimed or undisturbed areas to the north, downsizing Cell Unit 1 would further reduce the conformance bonding obligation. For your reference, I have included as an attachment within the email, the previous correspondence from last year that discussed this matter.

Enclosed is a copy of Form EQP-7527 to apply for a renewal of your permit. Please complete this form and return to this office by **Tuesday, October 15, 2024**. Please also submit a conformance bond, a request to release Cell Units 2 and 3 and, if desired, a request to reduce Cell Unit 1 to only include active areas, with updated site map showing the reduced size of Cell Unit 1.

If you have any questions in this matter, please contact me at 517-290-6982 or FerriganJ2@Michigan.gov.

Sincerely,

Jennifer A. Ferrigan
Bonding Specialist
Permits and Bonding Unit
Geologic Resources Management Division
517-290-6982

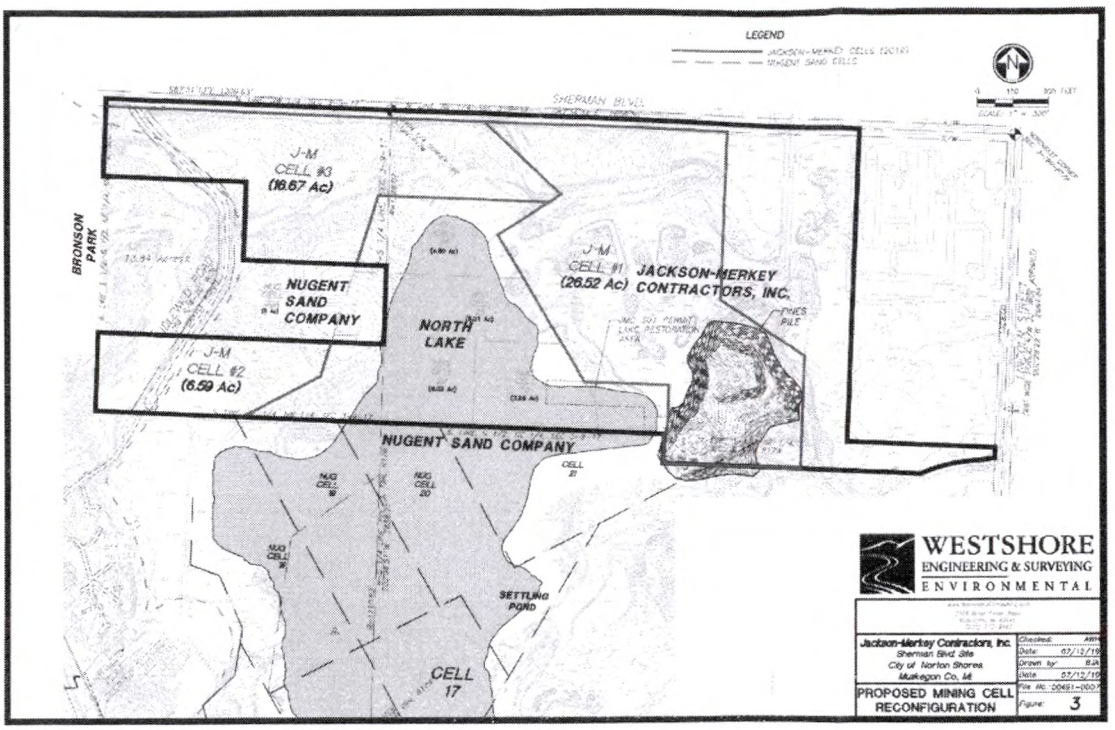
Enclosures
cc/encs: Adam Wygant, EGLE
Mark Snow, EGLE
Jolene Melchiori, EGLE
Jim Karsten, EGLE
Permit file

From: Snow, Mark (EGLE)
To: sjackson@jackson-merkey.com; gmerkey@jackson-merkey.com
Cc: Melchiori, Jolene (EGLE); Ferrigan, Jennifer (EGLE); Karsten, James (EGLE)
Subject: Jackson-Merkey, Sherman Boulevard Site, Permit Number 112
Date: Thursday, September 21, 2023 8:57:58 AM
Attachments: 112-Permit Application-Jackson-Merkey Contractors-Sherman Blvd Site 2019-09-03.PDF
image001.png
image002.png

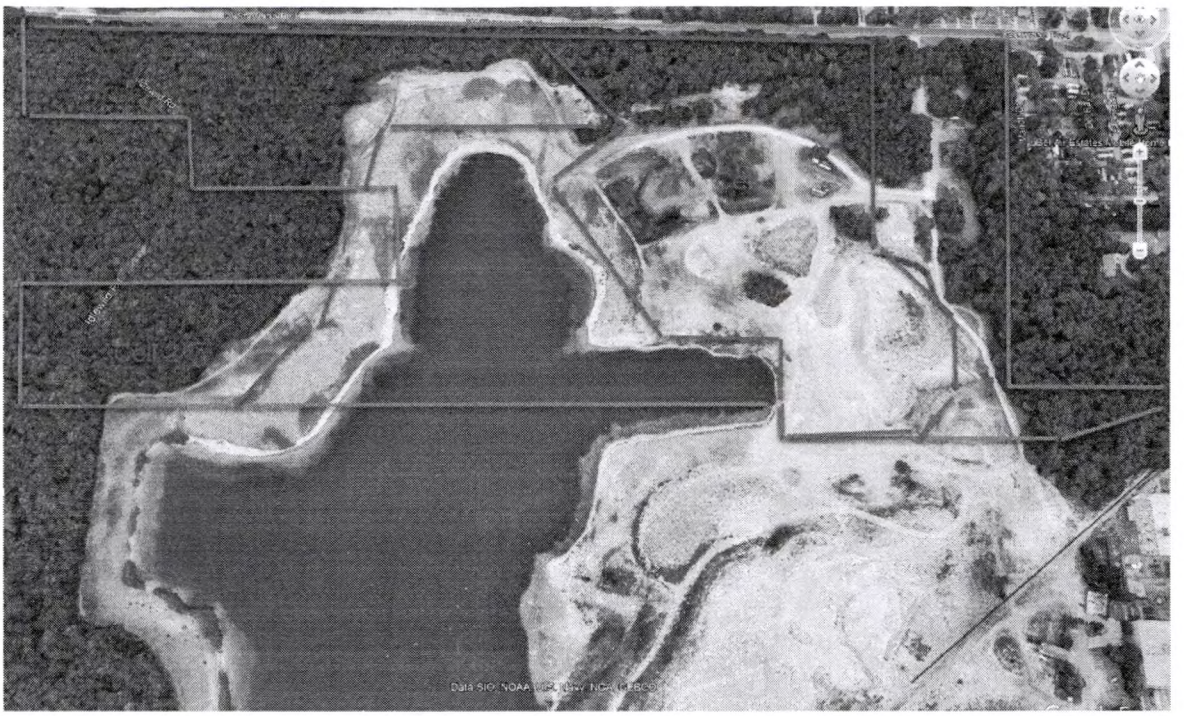
Good Morning Steven

As we recently discussed, it has come to our attention that OGMD no longer has a conformance bond for the Part 637 Sand Dune Mining permit referenced above. This is something that we will need to have remedied in order for this permit to be in compliance. In looking through the most recent renewal for this permit (which was approved 1/1/2020 and expires 12/31/2024 - See renewal application attached). The cover letter for this renewal makes mention that the intent is to mine surface sand above the water table only, that all mining operations will occur in areas already disturbed, and that there will be no mining in previously undisturbed areas. There is also mention that the only active mining is associated with the fines pile within cell 1 and that any activity in cells 2 and 3 will involve reclamation, contouring, and final grading for future development.

The map below was included in the renewal application and it shows the current cell configuration.



My suggestion is that we close out cells 2 and 3 from the active mining areas. This is something that we can do based upon site inspection that these areas have been properly reclaimed. Doing so, would allow the replacement conformance bonding to be reduced, since it will only be part of addressing the fines pile and any reclamation that is needed in cell 1. The Part 637 bonding we need is $20K per cell unit or $2K per acre within the cell – which ever is greater. Based upon the aerial image below with the cells roughly overlain, some of the current cell 1 could likely be reduced in size based upon the undisturbed (and reclaimed areas to the north). Downsizing cell 1 would further reduce the conformance bonding obligation.



OGMD staff will be touring all the Sand Dune permitted sites next Monday (9/25) and in doing so we can make the final determination regarding the reclamation of cells 2 and 3. It would be great if we could meet with you or someone from Jackson Merkey during this visit. I suspect that we will be in this area sometime between 11:30 and 1pm, but can give more of a definitive arrival as the morning progresses.

Thanks.

Mark Snow
Manager, Permitting and Technical Services Section
Oil, Gas, and Minerals Division
Michigan Department of Environment, Great Lakes, and Energy
517-230-8233 | SnowM@Michigan.gov
Follow Us | Michigan.gov/EGLE

WESTSHORE
ENGINEERING & SURVEYING
ENVIRONMENTAL

Environmental Impact Statement
Modification of Act 637 Sand Mining Permit
Jackson-Merkey Contractors, Inc.
Sherman Boulevard Site
Norton Shores, Michigan

Permit No.: JMC-SBS-112

DRAFT for Review – 07-22-2019

Prepared for:

Jackson-Merkey Contractors, Inc.
3430 Lund Avenue • Muskegon, MI 49442

Prepared by:

Westshore Consulting
2534 Black Creek Road • Muskegon, MI 49444
Phone: (231) 777-3447 • Fax: (231) 773-3453
Service@WestshoreConsulting.com
WestshoreConsulting.com

00491-0007

July 22, 2019

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Appendices

1.0 Introduction

Jackson-Merkey Contractors, Inc. (JMC) wishes to renew their existing Act 637 sand mining permit, Permit No. JMC-SBS-112 that would include modification of the location and size of their mining cells at their site. The property is located on Sherman Boulevard in Section 3 of the City of Norton Shores, Michigan (Figure 1). The site is an active surface sand mine, and has been historically operated by CWC Castings. The property is presently owned by JMC and has been referred to as the "Sherman Boulevard Site" by the Michigan Department of Environment, Great Lakes and Energy (EGLE). A Sand Dune Mining Permit was issued to JMC on November 10, 1992 and was last renewed in 2014. Between 2011 and 2016 portions of the JMC property were leased to Nugent Sand Company, Inc. (Nugent) for expansion of the existing lake (North Lake) onto the JMC property. Nugent has ceased mining activities and the lease agreement is no longer in place. Proposed future mining will include the reconfiguration of the mining cells, and consequently JMC is requesting an amendment to the existing permit to allow this modification.

CWC Castings had owned the site for many years prior to this and had extracted sand from the property for most of that time (i.e., prior to 1977). JMC continued to mine sand after they purchased the property, and surface mining is being conducted at the site to the present time. Three mining cells currently exist at the site, and much of the site has been previously mined. Only a small portion on the southern edge of the property (Cell 1) and the western end of the site (Cells 2 and 3) have not been surface mined (Figure 2). With this document, JMC requests a modification to their existing permit to reconfigure the shape and size of their three mining cells (Figure 3).

Sand dune mining is regulated by Part 637, Sand Dune Mining, of the Natural Resources and Environmental Protection Act, 1994 P.A. 451, as amended. Section 63705 of Part 637 requires that an Environmental Impact Statement be prepared as part of the mining application process. The Environmental Impact Statement follows in Section 3.0.

2.0 Proposed Action

JMC wishes to continue sand mining operations on their property. The majority of sand that will be mined during the new permit interval will be a large stockpile of material situated on the southern portion of Cell 1. The stockpile is referred to as the "Fines Pile" by Nugent and JMC, and was derived during the expansion of North Lake. The Fines Pile is sand that had been processed through the Nugent Wash Plant, and the grain size of the sand particles was too small for their intended use by Nugent. JMC will first excavate and sell sand from the Fines Pile, and once that material is no longer available, will start mining in other portions of the JMC site. The proposed JMC sand mining activities will be accomplished and the site restored as discussed in the *Progressive Cell Unit Mining and Reclamation Plan* (Appendix A).

3.0 Environmental Impact

3.1 Existing Environment

The western edge of the JMC property is situated about 300 feet east of Lake Michigan, and the area nearest to Lake Michigan that will be disturbed by the mining process will be approximately 500 feet from Lake Michigan. The western portion of the JMC site is comprised of sand dunes, and a barrier dune system is present adjacent to the Lake Michigan shoreline. The barrier dune is the first landward and dune formation along the shoreline of a Great Lake. The inland boundary of the barrier dune is that landward boundary line at the base of the first dune assemblage which displays the greatest relative relief within two miles of the shoreline. The JMC property lies within the barrier dune designated area, and a permit that allows the mining of sand from the property has been formerly issued by the State of Michigan. The topography at the JMC property varies from very hilly terrain situated in the southern and western portion of the site where surface mining has not occurred to flat sections in the eastern section where surface mining has been completed. Mining of surface sand has been occurring at the site for many years, and material in all three cells have been excavated and removed from the site.

3.2 Physical

According to the Muskegon County Soil Survey (1968) the majority of soils covering the property consist of Grayling-Rubicon sands with 25 to 45 percent slopes. Generally, these soils are found on short, steep slopes of sandy uplands of Muskegon County. The surface soil layer is thin and less distinct than typical Grayling and Rubicon soils found in areas with less steep slopes. Both the Grayling and Rubicon series consist of well-drained sandy soils that exhibit very rapid permeability. The natural fertility and available moisture capacity are low. The upper soil profile for both of these series is similar, but the Rubicon has redder subsoil than the Grayling. The Rubicon soils range from very strongly acidic to moderately acidic (pH values of 4.5 to 7.0 in the upper 28 inches of the soil horizon, and pH values of 6.0 to 6.5 below 28 inches to a depth of 66 inches). These soils are subject to water and wind erosion.

Soils discovered during drilling and mining activities are similar across most of the site. Generally, in areas where trees and vegetation exist and no sand mining has occurred, a thin layer (approximately 1 to 3 inches thick) of sandy topsoil is present. The topsoil ranges from dark brown to black, and contains some organic material. Below the surficial topsoil, reddish-brown, fine-grained sand that is characteristic of the Rubicon series exists to a depth of approximately three feet below ground surface (bgs). A tan fine to very fine-grained sand exists below the subsoil horizon.

Topographic elevations in the excavated areas range from approximately 605 to 625 feet USGS, and the top of the water table is located between 20 to 30 feet bgs at an elevation of 590-595 feet USGS. The dune areas that have not been mined have surface elevations ranging from 640 to 670 feet USGS.

Land use adjacent to the mining area is as follows:

- **North:** The entire north side of the site is bounded by Sherman Boulevard and north of Sherman Boulevard is the Muskegon Country Club. Residential homes are present to the west and east of the Muskegon Country Club property.
- **West:** The west side of the site includes a 15-acre parcel owned by Nugent. The other areas adjacent to the west are the eastern portion of Bronson Park, property owned by the

City of Muskegon. Traversing in a general north-south direction is Idlewild Road that connects Sherman Boulevard to the Idlewild Subdivision. Idlewild Subdivision is located southwest of the JMC property and includes 13 residences. Further west from the Idlewild Subdivision and Bronson Park is Lake Michigan.

- **South:** Nugent is situated along the southern boundary of the JMC property. A surface water body, named North Lake, is present that extends onto the JMC property.
- **East:** The east side is bordered by a trailer park, a private residence, and a property used for industrial purposes.

The mining activity is not within 500 feet of a commercial development or 2,000 feet of a school. Residences that are within 1,000 feet of the area that will be part of the mining operation include: the Idlewild Subdivision; the residential homes that are located to the west and east of the Muskegon Country Club; the Bel Air Park trailer park; and the Workman residence on Lincoln Street.

3.3 Groundwater

Groundwater at the property is present in an unconfined aquifer. Dependent upon the elevation of the ground surface, the top of the aquifer was located at 21 to 52 feet bgs (an elevation of 590 to 595 feet USGS). Groundwater migrates in a westerly direction, towards Lake Michigan. Groundwater sampling and analyses have been completed at the JMC property to determine background data, prior to development of North Lake onto the JMC site. The samples were analyzed for a variety of constituents including volatile organic compounds (VOCs), metals, polynuclear aromatic hydrocarbons (PNAs), fatty acids, and other general chemistry parameters. The analytical results showed that both manganese and iron are present in the aquifer in concentrations that exceed the Michigan Part 201 Generic Residential Cleanup Criteria (GRCC) for drinking water uses. None of the remaining constituents existed in concentrations above any Michigan Part 201 GRCC or action levels.

Potable water well records available within a one-quarter mile radius of the property show that shallow irrigation wells exist at residential properties to the north and east of the site. Figure 4 shows the location of those wells. No irrigation or potable wells were discovered to the south of the property. Southwest of the site is the Idlewild Subdivision in which approximately 13 homes presently obtain water from the Norton Shores municipal water supply system.

3.4 Terrestrial

The soil of the dunes is chiefly quartz which has characteristics that strongly effect vegetation. As a rule, sandy soils are poor in plant nutrients and do not develop a rich humus soil because of the rapid oxidation of organic matter. Topography accounts for many differences in rates of organic matter deposition, and subsequently the distribution of plant and animal species. Two distinctly diverse topographic features exist at the site. First is the hilly, unmined area where topsoil still exists and trees have not been removed. The second area is defined by surface mining, with much of the topsoil and vegetation removed. In the wooded area, a one to three-inch layer of organic material has developed, providing for a wider variety of plant species.

The wooded dunes contain large trees such as Red and Black Oak, Maple, and White Pine with understory plants such as sassafras and groundcovers like ferns. A transition area exists between the open dune and the wooded dune areas. This area is characterized by small plants such as wild mint and understory trees and shrubs. The open dune area consists mainly of dune grasses,

scrub oak and sand cherry. Several large areas and slopes are void of vegetation. Tables A, B and C provide a comprehensive list of the plants present at the property.

Animals and signs of animals include opossum, skunk, raccoon, both black and fox squirrels, chipmunks, red fox, and cottontail rabbit. There are signs of a fairly large population of whitetail deer in the area, evidenced by tracks, trails through the woods, bedding areas, and rubs off the bark of the trees. Among birds sighted in the area are turkeys, red-tailed hawk, robin, blue jay, killdeer, great horned owl, woodpecker, chickadee, white-breasted nuthatch, cardinal, and blackbirds. Numerous small holes in the side of one sand dune indicated the possible presence of bank swallows. No amphibians or reptiles were observed at the site, but likely include the American toad, tree frog, box turtle, garter snake, eastern hognose snake, black rat snake, salamander, and newt.

There is no natural surface water present at the site, hence, no aquatic communities exist.

3.5 Social

The population of Muskegon County has experienced growth, which is expected to continue into the future. Muskegon County is one of the most populated counties along Lake Michigan. The JMC property is undeveloped, has no residential use, and is fenced as private land. The existing use of the site is solely for surface sand mining. Aesthetically, the site has a combination of dune land that has not been developed adjacent to areas that have been mined and display little topographic relief. Economically, the site provides some employment opportunity for individuals who mine and transport the mined sand material.

4.0 Potential Impacts

4.1 Physical

In assessing any project proposing land change, it is necessary to consider the potential impact the project will have to the existing environment. In order to remove the sand from the site, the vegetation and topsoil will be stripped with the use of scrapers or bulldozers. The topsoil will be stockpiled as berms along the outside edge of the disturbed area. Trees that are of sufficient size and quality will be harvested and sold for lumber or pulp. Some of the smaller stock or brush material would provide an excellent source of organic material for use as mulch during the revegetation phase of the reclamation plan. The soil and vegetation stockpiles would be located as close as possible to the areas that would require restoration to facilitate the re-spreading of topsoil during the reclamation process.

4.2 Groundwater

As no mining beneath the water table will occur, there is no potential for impact to the groundwater in the vicinity of the project.

4.3 Terrestrial

Most of the biotic communities within the area to be mined will be eliminated during the mining process. The vegetation and soil layer will be removed to accommodate mining. The animal life that is dependent upon the vegetation will move to nearby undisturbed areas. No aquatic life exists in North Lake and the feeding and roosting activities of migrating birds will not be impacted. Mitigation measures will greatly influence the extent of impact as well as the time required to return the area to conditions similar to pre-mining operations.

4.4 Social

No social impacts will occur during the mining operation. The present number of employees used to mine the sand will not change. No changes in health, income, safety, housing, education, recreation, or other quality of life dimensions will be affected during the period that mining will take place. Land use will continue to be surface mining, and since the site is privately owned and access is limited, this use will not become a potential impact. The operation of soil moving equipment will occur, but these equipment noises have been ongoing at the JMC property for many years, and the nearest residential properties are not located near the operation.

5.0 Mitigation

Reclamation is the key to mitigating many aspects of mining. Angle of slope and stabilization of the dune are key elements in restoring the landform. Specific details regarding reclamation are contained in the *Progressive Cell Unit Mining and Reclamation Plan* (Appendix A).

5.1 Physical

Upon the completion of excavated soil materials, reclamation will begin immediately. Stabilization will be accomplished through grading, planting and mulching. If necessary, snow-fencing will temporarily be placed leeward of disturbed areas. Dune grass and trees will be planted once an area has been final graded, and eventually, a new soil horizon will be formed.

5.2 Groundwater

The surface sand mining operation by JMC will not impact or alter the groundwater aquifer since the depth of mining will not be advanced to the depth of the groundwater aquifer or water bearing zone.

5.3 Terrestrial

JMC will complete stabilization to reduce the disturbances caused by the removal of vegetation during the mining operation. Effective stabilization will include the planting of dune grasses and trees. Once reclamation efforts have commenced, many of the animal species will immediately move back to the previously disturbed area. In a few years, the site will return to its former land use. The impact to flora, fauna and wildlife will be negligible once restoration has been accomplished.

5.4 Social

Surface sand mining has occurred at the site for many years. The removal of sand has been accomplished with the use of front-end loaders and dump trucks to obtain the sand that is transported offsite. The noise associated with this type of operation has not disturbed neighboring properties.

Nugent formed two lakes south of the JMC site by the extraction of sand from beneath the water table, North Lake and South Lake. North Lake, a body of water located partially on JMC property, has been mined and is being restored following Michigan EGLE guidance. South Lake, a body of water located south of Winnetaska Drive, has been mined and fully restored following Michigan EGLE guidance. The area surrounding North Lake and South Lake will most likely be developed as a residential community.

No alternatives to the location of the proposed mining activity exist.

Sand dune mining will provide a positive economic impact for various construction projects (i.e., roads, site work for residential, commercial and industrial projects). Allowing mining to continue will provide local employment for workers at JMC. Following restoration of the site, future development will likely include the use of the property for residential purposes. Construction of housing and infrastructure will increase employment in the area. The increase in municipal taxes for residential land use will be a great benefit to the community.

Figures

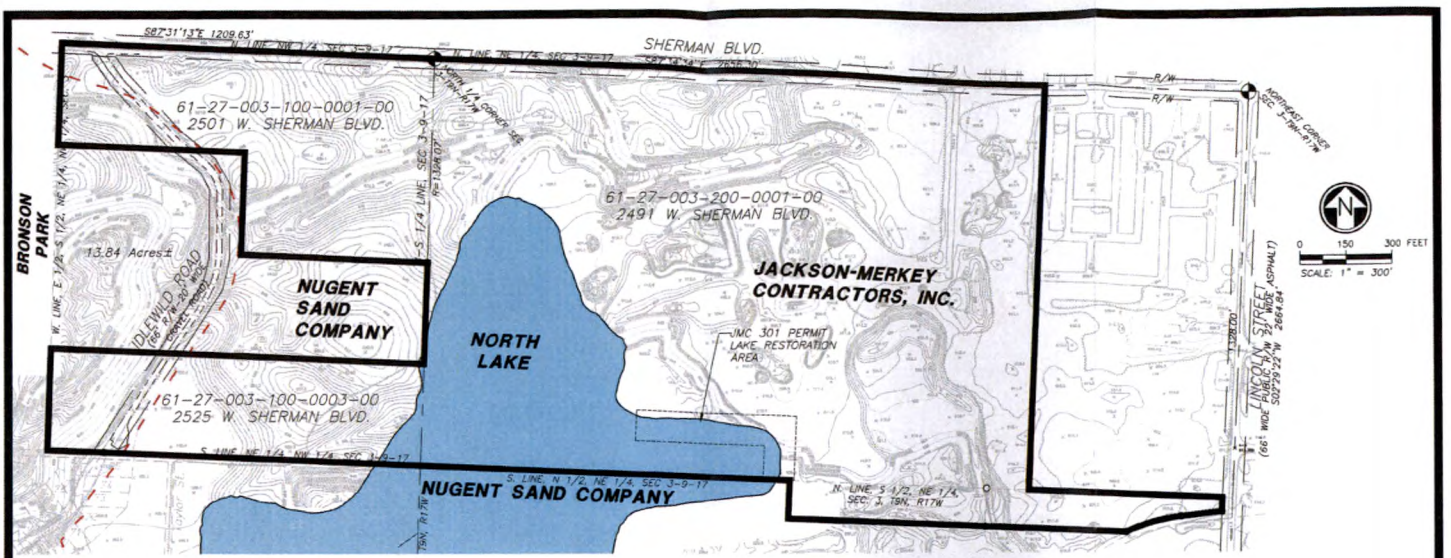
Jackson-Merkey Contractors, Inc.
Potable Water Wells in Section 3, T09N, R17W, City of Norton Shores, Muskegon County

Search Results - 24 Records Returned

	Type	Well ID	County	Well Address	WSSN	Source ID / Well No.	Township	Section	Well Depth	Static Water Level	Date Constructed	Entered By
☐	WW	61000000850	Muskegon	2875 LINCOLN			Norton	3	63.00	10.00	4/15/1986	Local Health Department
☐	WW	61000000954	Muskegon	2875 LINCOLN			Norton	3	28.00	9.00	10/2/1968	Local Health Department
☐	WW	61000000955	Muskegon	2875 LINCOLN ST			Norton	3	36.00	12.00	10/4/1967	Local Health Department
☐	WW	61000000956	Muskegon	2925 LINCOLN			Norton	3	52.00	12.00	4/14/1987	Local Health Department
☐	WW	61000000957	Muskegon	2925 LINCOLN			Norton	3	59.00	11.00	8/22/1986	Local Health Department
☐	WW	61000000958	Muskegon	2925 LINCOLN			Norton	3	56.00	8.00	7/31/1986	Local Health Department
☐	WW	61000000959	Muskegon	2965 LINCOLN			Norton	3	42.00	6.00	3/20/1985	Local Health Department
☐	WW	61000000960	Muskegon	3223 WINNITASKA			Norton	3	63.00	43.00	6/4/1987	Local Health Department
☐	WW	61000000961	Muskegon	3245 WINNETASKA RD			Norton	3	72.00	54.00	7/9/1986	Local Health Department
☐	WW	61000007135	Muskegon	2875 LINCOLN			Norton	3	45.00	16.00	5/28/2002	Contractor
☐	WW	61000008955	Muskegon	2925 Lincoln			Norton	3	35.00	18.00	8/20/2003	Contractor
☐	WW	61000008985	Muskegon	3455 WINNETASKA			Norton	3	47.00	25.00	10/2/2003	State of Michigan
☐	WW	61000010698	Muskegon	3467 WINNETASKA RD			Norton	3	75.00	49.00	10/8/2001	State of Michigan
☐	WW	61000011653	Muskegon	3367 WINETASKA			Norton	3	40.00	28.00	5/24/2006	Contractor
☐	WW	61000012003	Muskegon	3340 Winnetaska			Norton	3	93.00	19.60	9/23/2006	Contractor
☐	WW	61000012043	Muskegon	3340 Winnetaska			Norton	3	268.00	26.00	11/20/2006	Contractor
☐	WW	61000012133	Muskegon	3340 Winnetaska			Norton	3	70.50	18.50	12/28/2006	Contractor
☐	WW	61000013685	Muskegon	3253 WINNETASKA			Norton	3	56.00	47.00	4/29/2008	Contractor
☐	WW	61000013597	Muskegon	3501 Winnetaska			Norton	3	45.00	25.00	8/27/2010	Contractor
☐	WW	61000013654	Muskegon	3503 Winnetaska			Norton	3	37.00	16.80	9/11/2010	Contractor
☐	WW	61000014647	Muskegon	3245 Winnetaska			Norton	3	73.00	54.00	6/25/2014	Contractor
☐	WW	61000014984	Muskegon	3229 WINNETASKA			Norton	3	62.00	47.00	10/29/2014	Contractor
☐	WW	61000015597	Muskegon	3411 Winnetaska			Norton	3	79.00	54.00	10/5/2016	Contractor
☐	WW	61000015109	Muskegon	3312 Winnetaska			Norton	3	45.00	18.50	12/6/2017	Contractor

Potable Water Well Records
Figure 4, page 2 of 2

Wednesday, July 10, 2019



PART OF THE NORTHEAST QUARTER AND ALSO PART OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION3, TOWN 9 NORTH, RANGE 17 WEST, CITY OF NORTON SHORES, MUSKEGON COUNTY MICHIGAN, DESCRIBED AS FOLLOWS;

COMMENCE AT THE EAST QUARTER CORNER OF SAID SECTION 3; THENCE NORTH 02 DEGREES 29 MINUTES 22 SECONDS EAST ALONG THE EAST LINE OF SAID SECTION, A DISTANCE OF 1,336.84 FEET; THENCE NORTH 87 DEGREES 34 MINUTES 33 SECONDS WEST ALONG THE NORTH LINE OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION, A DISTANCE OF 33.00 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF LINCOLN STREET AND THE POINT OF BEGINNING;

THENCE SOUTH 02 DEGREES 29 MINUTES 15 SECONDS WEST ALONG SAID RIGHT OF WAY LINE, A DISTANCE OF 45.02 FEET; THENCE SOUTH 83 DEGREES 20 MINUTES 53 SECONDS WEST, A DISTANCE OF 132.20 FEET; THENCE WESTERLY, A DISTANCE OF 186.44 FEET ALONG A CURVE TO THE LEFT CURVE DATA BEING (RADIUS = 586.19 FEET, DELTA = 18 DEGREES 13 MINUTES 24 SECONDS, LONG CHORD = 185.66 FEET, LONG CHORD BEARING = SOUTH 74 DEGREES 14 MINUTES 11 SECONDS WEST); THENCE NORTH 87 DEGREES 34 MINUTES 33 SECONDS WEST PARALLEL WITH SAID NORTH LINE OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION, A DISTANCE OF 1,108.82 FEET; THENCE NORTH 02 DEGREES 25 MINUTES 27 SECONDS EAST, A DISTANCE OF 123.83 FEET; THENCE NORTH 87 DEGREES 34 MINUTES 33 SECONDS WEST ALONG THE NORTH LINE OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION, A DISTANCE OF 1,199.57 FEET TO A POINT ON THE NORTH – SOUTH QUARTER LINE OF SAID SECTION; THENCE NORTH 87 DEGREES 31 MINUTES 14 SECONDS WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER, A DISTANCE OF 1,209.58 FEET; THENCE NORTH 02 DEGREES 08 MINUTES 19 SECONDS EAST ALONG THE WEST LINE OF THE EAST HALF OF THE NORTHWEST QUARTER OF SAID SECTION 3, A DISTANCE OF 332.20 FEET; THENCE SOUTH 87 DEGREES 30 MINUTES 40 SECONDS EAST, A DISTANCE OF 1,209.63 FEET; THENCE NORTH 02 DEGREES 08 MINUTES 50 SECONDS EAST ALONG SAID NORTH – SOUTH QUARTER LINE, A DISTANCE OF 332.00 FEET; THENCE NORTH 87 DEGREES 31 MINUTES 14 SECONDS WEST, A DISTANCE OF 604.82 FEET; THENCE NORTH 02 DEGREES 08 MINUTES 50 SECONDS EAST, A DISTANCE OF 332.00 FEET; THENCE NORTH 87 DEGREES 31 MINUTES 14 SECONDS WEST, A DISTANCE OF 604.81 FEET; THENCE NORTH 02 DEGREES 08 MINUTES 50 SECONDS EAST ALONG SAID WEST LINE OF THE WEST HALF OF THE NORTHWEST QUARTER, A DISTANCE OF 332.01 FEET; THENCE SOUTH 87 DEGREES 31 MINUTES 14 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 3, A DISTANCE OF 1,209.63 FEET TO A NORTH QUARTER CORNER OF SAID SECTION; THENCE SOUTH 87 DEGREES 34 MINUTES 34 SECONDS EAST CONTINUING ALONG SAID NORTH LINE OF SECTION, A DISTANCE OF 1,994.26 FEET; THENCE SOUTH 02 DEGREES 29 MINUTES 22 SECONDS WEST, A DISTANCE OF 1,327.99 FEET; THENCE SOUTH 87 DEGREES 34 MINUTES 33 SECONDS EAST ALONG SAID NORTH LINE OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION, A DISTANCE OF 629.04 FEET TO THE POINT OF BEGINNING.

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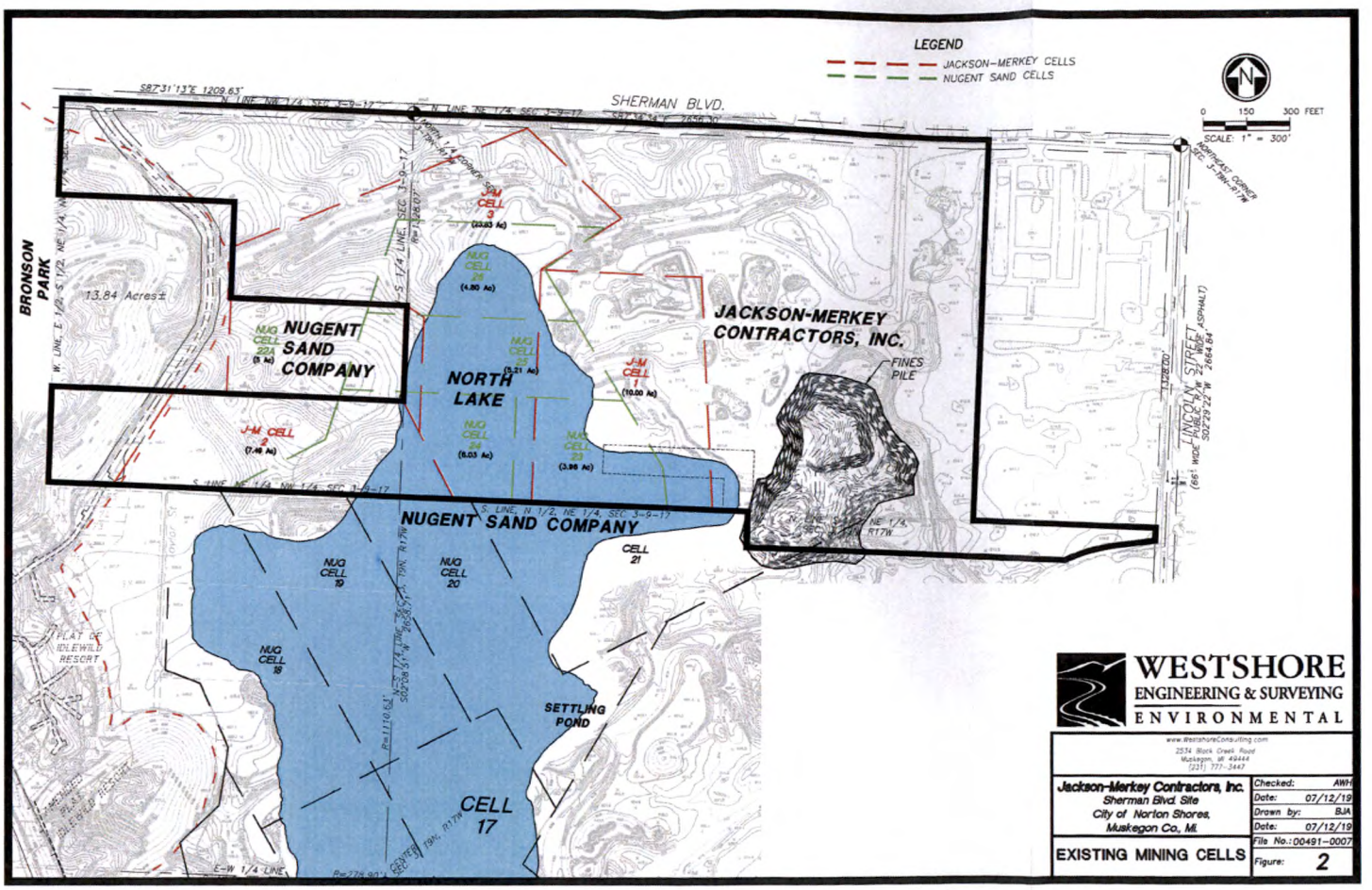
Jackson-Merkey Contractors, Inc. Sherman Blvd. Site City of Norton Shores, Muskegon Co., MI.	Checked: AWH Date: 07/12/19 Drawn by: BJA Date: 07/12/19 File No.: 00491-0007
SITE MAP	Figure: 1



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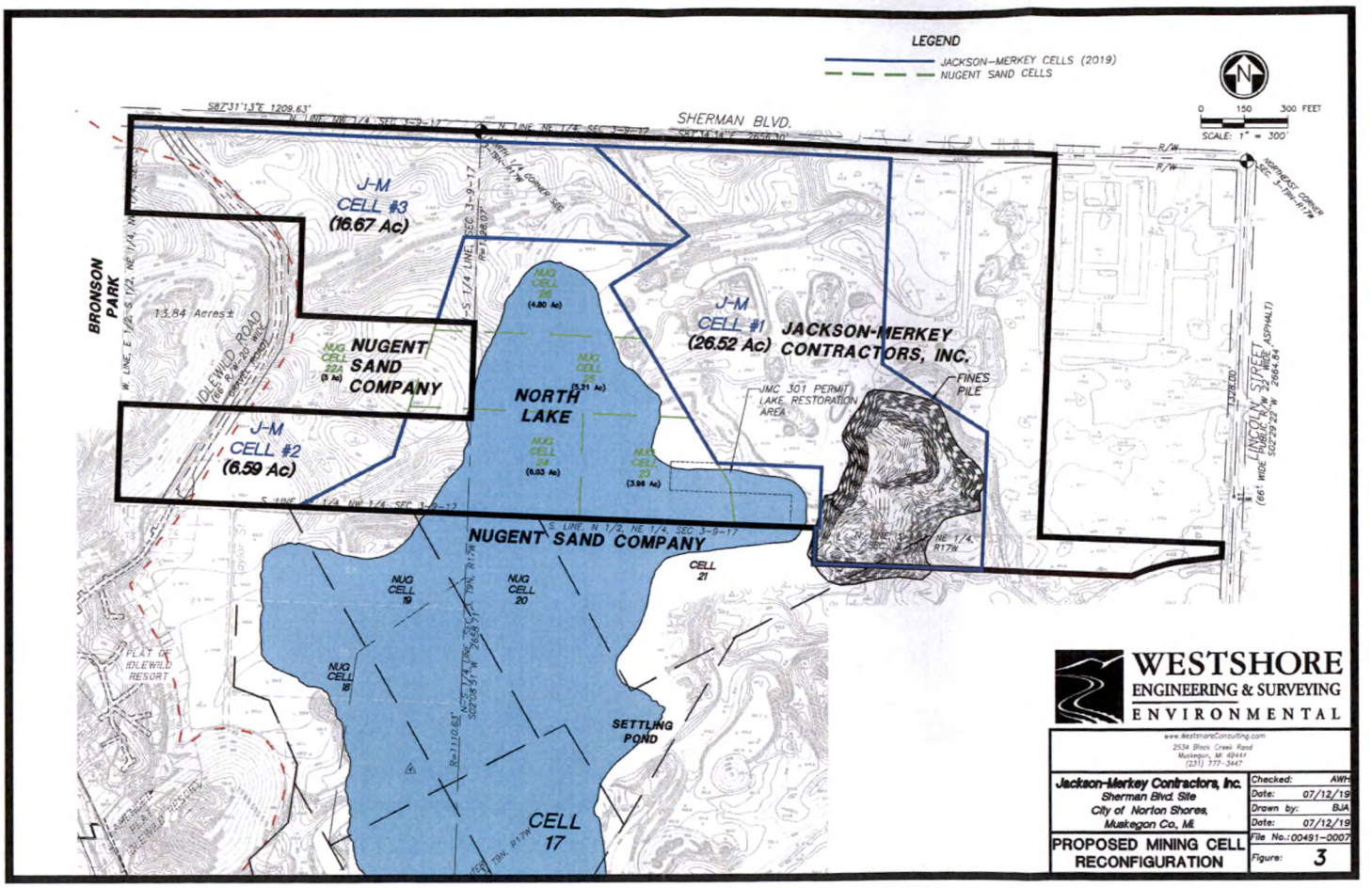
Sherman Blvd. Site	Date: 07/12/19
City of Norton Shores,	Drawn by: BJA
Muskegon Co., MI.	Date: 07/12/19
EXISTING MINING CELLS	File No.: 00491-0007
	Figure: 2



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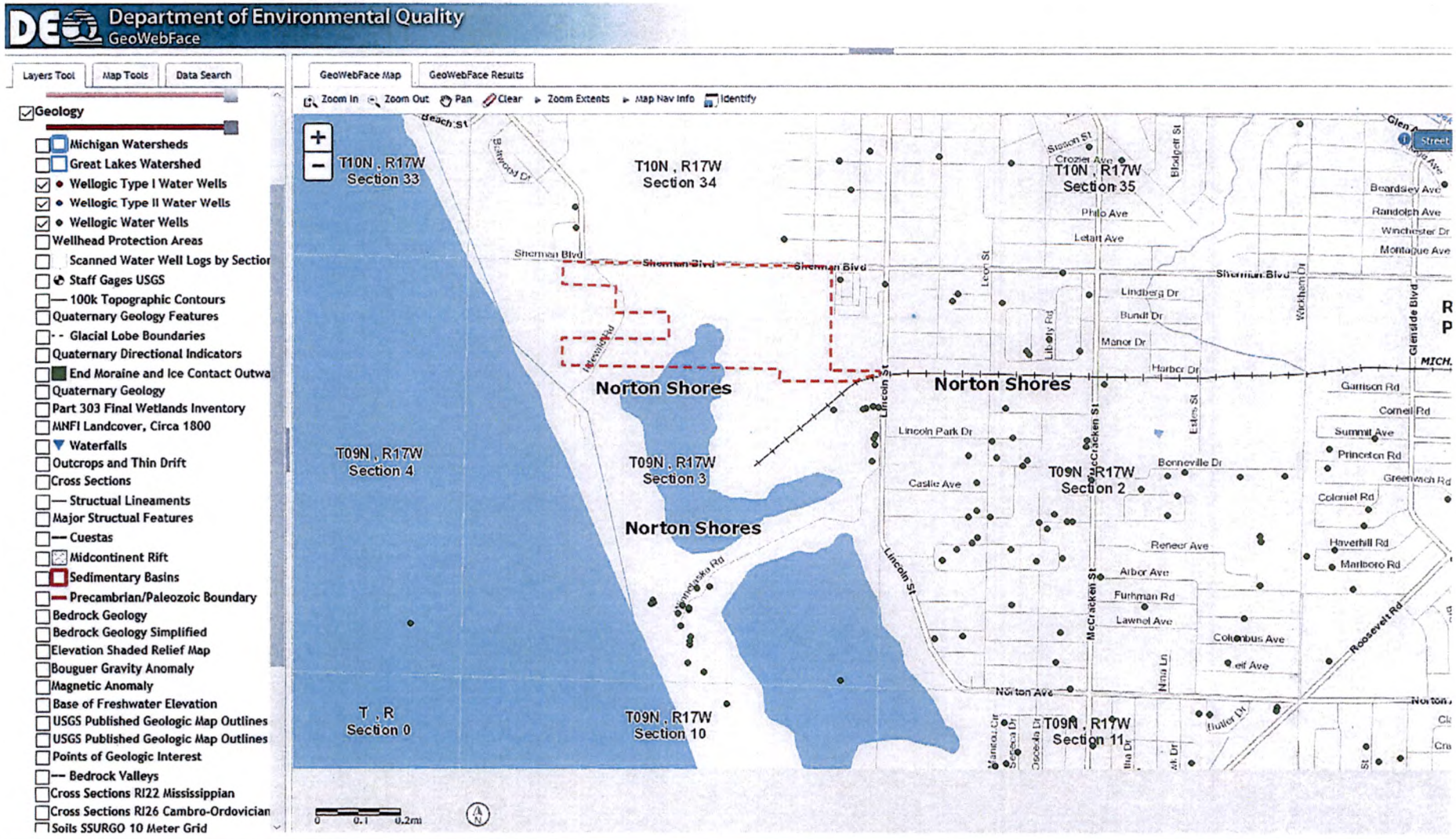
City of Norton Shores,	Drawn by: BJA
Muskegon Co., MI.	Date: 07/12/19
	File No.: 00491-0007
PROPOSED MINING CELL RECONFIGURATION	Figure: 3

Jackson-Merkey Contractors, Inc. – N 1/2, Section 3, T09N, R17W, City of Norton Shores, Muskegon County



Obtained online on 07/10/2019 at http://www.deq.state.mi.us/GeoWebFace/#

Potable Water Well Map – Figure 4, page 1 of 2

Tables

Table A – Open Dune Vegetation	
Common Name	**Botanical Name**
Raspberry and bramble vine	Rubus spp.
Sumac	Rhus spp.
Choke Cherry	Prunus spp.
False heather	Hudsonia tomentosa
Mugwort, Wormwood	Artemisia spp.
Fescue grass	Festuca spp.
Goldenrod	Solidago
Roughstalk bluegrass	Poa trivialis
Perennial Ryegrass	Lolium perenne
Beach (Dune) grass, Marram grass	Ammophila breviligulata
Little Blue Stem	Schizachyrium scoparium
Poison Ivy	Toxicodendron radicans
Spotted knapweed	Centaurea maculosa
Mullein	Verbascum thapsus
Milkweed	Asclepias syriaca
Red Sorrel	Rumex acetosella

Table B – Transitioning from the Sand Dunes to the Wooded Dunes	
Common Name	**Botanical Name**
Indian grass	Sorghastrum nutans
Dandelion	Taraxacum officinale
Sassafras	Sassafras spp.
Witch hazel	Hamamelis spp.
Sweet gale	Myrica gale
Common Juniper	Juniperus communis
Wild Mint	Mentha arvensis
Bull Thistle	Cirsium vulgare

Table C – Wooded Dune Vegetation	
Common Name	**Botanical Name**
Barberry, 1 crimson and 1 green	Berberis spp.
Coralberry	Symphoricarpos orbiculatus
Smooth Rose	Rosa blanda
Wild Grapes	Vitis spp.
Bearberry	Arctostaphylos uva-ursi
Wintergreen	Gaultheria procumbens
Wild Blueberry	Vaccinium angustifolium
Red Maple	Acer rubrum
White Pine	Pinus strobus
European Beech	Fagus sylvatica
Oak	Quercus
Pin (Bird) Cherry	Prunus pensylvanica
Poplar	Populus spp.
Serviceberry	Amelanchier
Fern	
Pearly Everlasting	Anaphalis margaritacea
Canada Mayflower	Maianthemum canadensis

Appendix A

Progressive Cell Unit Mining and Reclamation Plan

Progressive Cell Unit Mining and Reclamation Plan

Historically, surface sand mining has occurred at the Jackson-Merkey Contractors, Inc. (JMC) site, commonly known as the Sherman Boulevard Site in Norton Shores, Michigan. The adjacent property owner to the south of the JMC site is Nugent Sand Company, Inc. (Nugent). Nugent also owns the parcel of land between the two western parcels (Figure 1). Nugent has recently ceased mining operations which previously included a sand mining processing plant, and a barge-mounted hydraulic dredge to remove sand from beneath the water table. The mining was accomplished by Nugent and the site is being restored in accordance with Nugent's Permit No. NUS-LAS-109. No beneficiation or treatment of the sand will occur at the JMC site.

The surface sand mining operation consists of three components: stripping and stockpiling of overburden material and removal of trees and stumps; surface mining of sand; and reclamation of the mined area. The removal of sand will occur on a cell-by-cell basis, beginning with the reconfigured Cell 1 and then proceeding to one of the two remaining mining cells (Figure 3). The sequence of opening new cells has been chosen to minimize the amount of site disruption. Once the trees and stumps have been removed from the area that is intended to be mined, the surface overburden material (topsoil) will be removed by a bulldozer scraper or front-end loader. This material will be placed outside the edge of the disturbed area perimeter, and will assist in creating a berm to provide a visual and physical barrier in hampering access to the site. No trees will be removed outside the disturbed area, and the existing trees will provide a visual screen. An active area within a cell will then be decided upon, based on anticipated demand. The sand removed from the site will be used as a fill source for various construction projects (i.e., roads, site work for residential, commercial and industrial projects). The development of successive cells will require that gravel access roads be constructed that may be removed and reused.

Access to the site will be limited by utilizing fencing along the eastern, western and northern portions of the property. Access to the JMC site will be limited to employees; no public access will occur. Access will be allowed through a gate that exists on Sherman Boulevard. The gate will only be unlocked when JMC is in operation.

No endangered species were identified during the inspection of the site. If any endangered species are discovered during the mining of the property, plans to protect those species will be formed and enacted, as necessary.

Cells will be reclaimed once all sand has been removed from an area. Based upon the location of the mined sand, reclamation of areas will occur prior to the cessation of the entire mining activity at the JMC site. Reclamation goals include protection of adjacent properties from blowing sand, the reestablishment of permanent vegetation, and restoration of affected areas to an acceptable aesthetic level. The mined property will be reclaimed through final grading, vegetation planting or other steps necessary to leave the area compatible with the existing and proposed future development, so as to protect the natural environment and minimize negative impacts on surrounding land and development.

The final grade of the reclamation area will be sloped to prevent accelerated erosion, and to a degree sufficient to maintain vegetation. When mining is completed in an area, the final grading will immediately be completed, and vegetation will follow. Vegetation will consist of dune grass, hydro-seeded MDOT road grass mix, and/or trees to stabilize the sloped areas. There will be no impact to adjacent properties from the mining operations.

Reclamation will be completed in three phases:

1. All slopes will be graded and sloped not greater than 1 foot vertically over 3 feet horizontally. Topsoil that is stockpiled during the mining operation will be spread over the graded surface.
2. Initial revegetation will include the planting of dune grass and trees to stabilize the sloped areas.
3. If necessary, a secondary revegetation will occur after the dune grass is established and surface sand movement is reduced. Additional trees and grasses may be planted in areas where the initial revegetation was not successful.

Appendix B

Fifteen-Year Mining Plan

Fifteen-Year Mining Plan

Surface sand mining has occurred at the property for many years, and has operated under Permit No. JMC-SBS-112 that was issued to Jackson-Merkey Contractors, Inc. (JMC). The site is located in the North Half of Section 3 in the City of Norton Shores (T09N, R17W), Muskegon County, Michigan. Three active mining cells totaling 35.6-acres currently exist at the site (Figure 2), and the proposed future mining requests modification of the shape and size of the three mining cells (Figure 3).

Between 2011 and 2016 portions of the JMC property were leased to Nugent Sand Company, Inc. (Nugent) for expansion of the existing lake (North Lake) onto the JMC property. Nugent has ceased mining activities and the lease agreement is no longer in place. The areas mined by Nugent are being restored in accordance with Nugent's Permit No. NUS-LAS-109.

This present application requests permission to remove surface sand from above the water table only. JMC requests under this permit application for mining 49.78-acres in the three reconfigured mining cells (Figure 3).

The majority of sand that will be mined during the new permit interval will be a large stockpile of material situated on the southern portion of Cell 1, referred to as the "Fines Pile." JMC will first excavate and sell sand from the Fines Pile, and once that material is no longer available, will start mining in other portions of the JMC site.

The removal of surface sand will occur on a cell-by-cell basis, beginning with the reconfigured Cell 1 and then proceeding to one of the two remaining mining cells (Figure 3). The sand removed from the site will be used as a fill source for various construction projects (i.e., roads, site work for residential, commercial and industrial projects).

Volume of Sand to be Mined

Historically, JMC has removed surface sand from all three existing cells, although the majority of sand has been excavated from Cells 1 and 3 (Figure 2).

Sand mined from the site has averaged about 43,923 tons per year over the last five years (2014 to 2018). During the last permit interval, JMC has mined a total of 165,864 tons of sand. It is anticipated that on average, 44,000 tons per year will be surface mined from the JMC over the next 15 years for a total of 660,000 tons of sand, but the actual final tonnage will be based upon market demand and sales.

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