LEGEND

RIPRAP BELOW SURVEYED ELEV 603.2

RIPRAP

FILE NUMBER: LRE-2007-00503-38-N20
Marquette Board of Light & Power – Riprap & Removal
Lake Superior
Marquette, Marquette County, Michigan
SHEET 8 OF 9

LAKE SUPERIOR
SURVEYED ELEV. 603.2 ' (IGLD 85)
USACE OHWM ELEV. 603.1' (IGLD 85)
EGLE OHWM ELEV. 602.6' (IGLD 85)

PROPERTY LINE (TYP)

EXISTING DOCK WALL TO REMAIN AFTER PUMP HOUSE REMOVAL

SHEET PILE WALL TO REMAIN IN PLACE CUT LEVEL WITH GRADE ON NORTH SIDE

EGLE OHWM ELEV. 602.6' (IGLD 8D)

USACE OHWM ELEV. 603.1' (IGLD 85)

SURVEYED ELEV. 603.2' (IGLD 85)

ORIANNA CREEK OUTFALL

RIPRAP

EX. RIPRAP TO REMAIN

A C-5.0

291'

20'

AFTER ABANDONMENT, PLACE TOPSOIL, SEED, FERTILIZER, AND MULCH OVER DISTURBED AREAS

64-14

80-11

80-8

80-7

Not for Construction

SCALE: 1" = 20'

GEI Consultants
GEI CONSULTANTS OF MICHIGAN, P.C.
109 W. BARAGA AVENUE
MARQUETTE, MI 49855
(906)451-4021

Marquette Board of Light and Power
2200 Wright Street
Marquette, Michigan 49855

Ash Pond Clean Closure and Stormwater Management Project
Shiras Steam Plant
Marquette, Michigan

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION		
C	4/13/2020	REVISED PERMIT DRAWINGS	MDC	MDC
B	2/14/2020	REVISED PERMIT DRAWINGS	MDC	MDC
A	12/13/2019	PERMIT DRAWINGS	MDC	APP

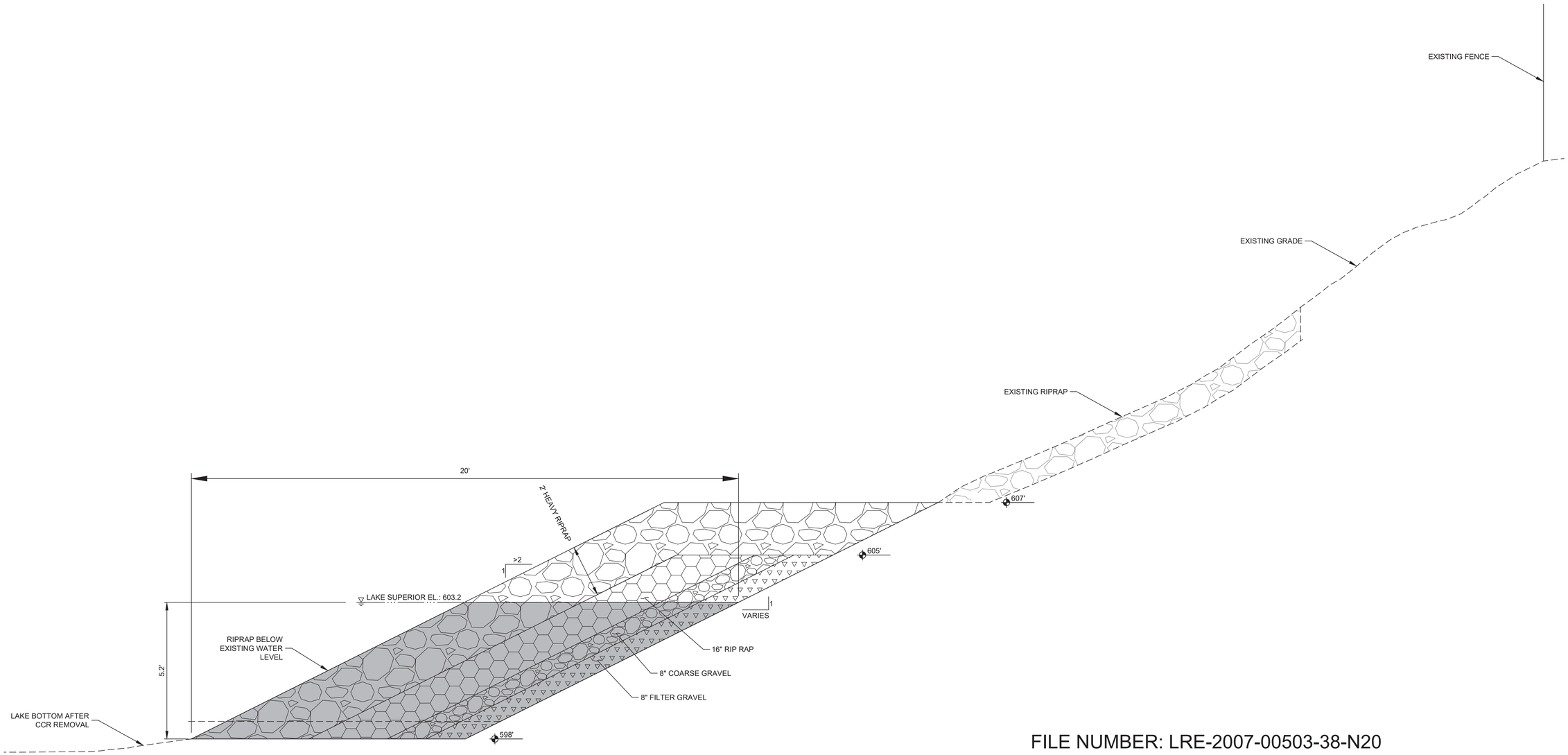
Designed:	M. Carpenter
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

ASH POND AREA SITE PLAN

GEI Project 1903625

DWG. NO.
C-6.0

SHEET NO.
8



NOTE:
1. ACTUAL BOTTOM ELEVATION OF RIPRAP SLOPE PROTECTION WILL BE DETERMINED IN THE FIELD BASED ON ACTUAL CONDITIONS.

A / C-12 SECTION
RIPRAP SHORELINE PROTECTION

SCALE: N.T.S.

FILE NUMBER: LRE-2007-00503-38-N20
Marquette Board of Light & Power – Riprap & Removal
Lake Superior
Marquette, Marquette County, Michigan
SHEET 9 OF 9

Not for Construction

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Attention:
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NO.	DATE	ISSUE/REVISION	MDC	MDC	APP
B	2/12/2020	REVISED PERMIT DRAWINGS			
A	12/13/2019	PERMIT DRAWINGS			

Designed:	M. Carpenter
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

RIPRAP DETAILS

GEI Project 1903625
DWG. NO.
C-7.0
SHEET NO.
9

A. Nationwide Permit General Conditions:

To qualify for NWP authorization, the permittee must comply with the following general conditions, as appropriate. These conditions are selected from those published in the Federal Register that are particularly relevant to the construction and/or operation of this particular authorized activity. The complete text is available at our website http://www.lre.usace.army.mil/Missions/RegulatoryProgramandPermits.aspx under "Detroit Regulatory Quick" select "Detroit District General Permit Types" and then choose "Nationwide Permits with Michigan Regional Conditions" OR "Nationwide Permits with Indiana Regional Conditions"; or, you may contact the Detroit District directly for the information. We have done our best to verify that your project complies with the others, where applicable.

1. Navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre- construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which ''may affect'' a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(e) Authorization of an activity by an NWP does not authorize the ''take'' of a threatened or endangered species as defined under the ESA. In the absence of

separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with ‘‘incidental take’’ provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where ‘‘take’’ means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word ‘‘harm’’ in the definition of ‘‘take’’ means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether ‘‘incidental take’’ permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/ THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____

(Transferee) (Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of

credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

B. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

B. Regional Permit General Conditions:

REGIONAL PERMIT GENERAL CONDITIONS

1. You must maintain any structures or work authorized by the Regional Permit in good condition and in conformance with the terms and conditions of the Regional Permit. You are not relieved of this requirement if you abandon any permitted structures/work, although you may make a good faith transfer to a third party. You are required to contact us should you wish to cease to maintain any authorized structures/work or should you desire to abandon it without a good faith transfer. We will most likely instruct you to remove the structures/work from the waterway and provide you with written authorization to conduct the removal work. We may add special conditions to the removal work with respect to equipment and techniques, work sequence, and disposal.

2. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by the Regional Permit, you must immediately stop work in that area and notify this office of what you have found. We will initiate the Federal, Tribal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

3. If a conditioned water quality certification and/or coastal zone management consistency concurrence has been issued for your project, you must comply with the conditions specified in the certification as special conditions to insure compliance with the Regional Permit. For your convenience, a copy of the certification is attached if it contains such conditions.

4. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of the Regional Permit.

5. The permittee understands and agrees that activities affecting structures or works built by the United States require permission from the Corps pursuant to 33 U.S.C. 408 (Section 408). If Section 408 Permission has been issued for your project, you must comply with the conditions specified in the permission document as special conditions to ensure compliance with the Regional Permit. For your convenience, a copy of the Section 408 Permission is attached if it contains such conditions.

6. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal of alteration.

7. If you sell the property associated with this Regional Permit verification, you must obtain the signature of the new owner in the space provided and forward a copy of the Regional Permit to this office to validate the transfer of this authorization.

"When the structures or work authorized by this Regional Permit are still in existence at the time the property is transferred, the terms and conditions of this Regional Permit, including any

special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this Regional Permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee) (Date)

SPECIAL CONDITIONS:

Further Information:

1. Congressional Authorities: You have been so authorized to undertake the activity described above pursuant to:

_**X**_ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

_**X**_ Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this authorization.

a. The Regional Permit does not obviate the need to obtain Federal, state, or local authorizations required by law.

b. The Regional Permit does not grant any property rights or exclusive privileges.

c. The Regional Permit does not authorize any injury to the property or rights of others.

d. The Regional Permit does not authorize interference with any existing or proposed Federal project.

e. The Regional Permit authorizing the activity expires on **June 30, 2022** unless it is reissued without modification or the activity complies with any subsequent modification of the Regional Permit. If the Regional Permit is not reissued for the activity in question, activities which have commenced construction or are under contract to commence in reliance upon the Regional Permit will remain authorized provided the activity is completed by June 30, 2023.

3. Limits of Federal Liability. In issuing the Regional Permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by the Regional Permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modifications, suspension, or revocation of the Regional Permit.

4. Reliance on Applicant's Data: The verification by this office that the project conforms with the Regional Permit was made in reliance of the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this project at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of the Regional Permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision and/or our verification that the activity complies with the Regional Permit.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of the Regional Permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

COMPLETION REPORT

CELRE-ERW

Chief, Compliance and Enforcement Branch
Regulatory Office
U.S. Army Corps of Engineers
477 Michigan Avenue
Detroit, MI 48226-2550

Dear Sir:

You are hereby notified that work verified as qualifying under Nationwide and Regional Permit under File No. LRE-2007-00503-38-N20 to remove the coal combustion residual (CCR) holding pond structure at the northwest corner of the site and restore the area to shoreline at 400 East Hampton, in Marquette, Marquette County, Michigan, issued to John Schultz; Marquette Board of Light & Power was completed in accordance with the permit on:

_____.
(Date work completed)

_____
(Permittee's Signature)

I M P O R T A N T

1. This COMPLETION REPORT MUST BE MAILED to the above addressee within 10 days after completion of work covered by the NATIONWIDE/REGIONAL PERMIT to insure an accurate Government record of data affecting navigation.

2. Where dredging soundings are made of projects which include dredging, a copy of the soundings should accompany this report. If the soundings are measured from the water surface and have not been corrected to International Great Lakes Datum plane, the hour and date soundings were made should be noted on sounding reports.

NOTICE OF AUTHORIZATION

Permit Number: WRP022615 v. 1 **Date Issued: May 14, 2020**
Site Name: 52-MBLP Shiras Steam Plant-City of Marquette **Expiration Date: May 14, 2025**

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, P.O. Box 30458, Lansing, Michigan 48909-7958, under provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; specifically:

- ☐ Part 31, Floodplain Regulatory Authority of the Water Resources Protection.
- ☐ Part 301, Inland Lakes and Streams.
- ☐ Part 303, Wetlands Protection.
- ☐ Part 315, Dam Safety.
- ☐ Part 323, Shorelands Protection and Management.
- ☒ Part 325, Great Lakes Submerged Lands.
- ☐ Part 353, Sand Dunes Protection and Management.

Authorized activity:

Remove riprap along sheet pile walls; remove interior sheet pile walls by pulling straight out or cutting off at approximately 598.5 feet IGLD 85; remove three (3) concrete ramps; cap ash sluice and stormwater outfall pipes and remove excess concrete; remove exterior sheet pile walls by pulling straight out or cutting off at approximately 598.5 feet IGLD 85; remove concrete bulkheads; remove monitoring wells and casing.
Old Cell 4's outermost northern steel wall from shoreline riprap to bend in the wall shall remain in place, but will be cut to match the existing ground elevation to avoid impacts to Orianna Creek streambanks and bottom.
Following demolition of the structures, place riprap in a maximum area 291 feet long by 20 feet wide by 5 feet high for shoreline and streambank erosion protection.

To be conducted at property located in Marquette County, City of Marquette, TRS 48N 25W Sec 26
Waterbody: Lake Superior

Permittee:
Marquette Board of Light and Power
Attn: John Schultz
2200 Wright Street
Marquette, MI 49855

Sean Soucy
Marquette District Office
Water Resources Division
906-250-0588

This notice must be displayed at the site of work.
Laminating this notice or utilizing sheet protectors is recommended.
Please refer to the above permit number with any questions or concerns.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION
PERMIT

Issued To:

Marquette Board of Light and Power
Attn: John Schultz
2200 Wright Street
Marquette, MI 49855

Permit No:	**WRP022615 v.1**
Submission No.:	**HNV-FCWG-QQZ1P**
Site Name:	**52-MBLP Shiras Steam Plant-City of Marquette**
Issued:	**May 14, 2020**
Expires:	**May 14, 2025**

This permit is being issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); specifically:

- ☐ **Part 301, Inland Lakes and Streams**
- ☐ **Part 303, Wetlands Protection**
- ☐ **Part 315, Dam Safety**
- ☐ **Part 31, Water Resources Protection (Floodplain Regulatory Authority)**
- ☐ **Part 323, Shorelands Protection and Management**
- ☒ **Part 325, Great Lakes Submerged Lands**
- ☐ **Part 353, Sand Dunes Protection and Management**

Permission is hereby granted, based on permittee assurance of adherence to State of Michigan requirements and permit conditions, to:

Authorized Activity:

Remove riprap along sheet pile walls; remove interior sheet pile walls by pulling straight out or cutting off at approximately 598.5 feet IGLD 85; remove three (3) concrete ramps; cap ash sluice and stormwater outfall pipes and remove excess concrete; remove exterior sheet pile walls by pulling straight out or cutting off at approximately 598.5 feet IGLD 85; remove concrete bulkheads; remove monitoring wells and casing.

Old Cell 4's outermost northern steel wall from shoreline riprap to bend in the wall shall remain in place, but will be cut to match the existing ground elevation to avoid impacts to Orianna Creek streambanks and bottom.

Following demolition of the structures, place riprap in a maximum area 291 feet long by 20 feet wide by 5 feet high for shoreline and streambank erosion protection.

All work shall be completed in accordance with the attached plans and the terms and conditions of this permit. Authority granted by this permit does not waive any jurisdiction of the United States Army

Corps of Engineers or the need for a federal permit.

Waterbody Affected: Lake Superior
Property Location: Marquette County, City of Marquette, TRS 48N R25W Sec 26

Authority granted by this permit is subject to the following limitations:

A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.
C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
I. This permit shall not be assigned or transferred without the written approval of EGLE.
J. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
K. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
L. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
M. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
N. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
O. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to being implemented.
P. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also

submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.

Q. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.

R. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.

S. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).

T. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.

U. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.

V. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.

W. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.

X. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

1. Authority granted by this permit does not waive permit or program requirements under Part 91 of the NREPA or the need to acquire applicable permits from the CEA. To locate the Soil Erosion Program Administrator for your county, visit www.mi.gov/eglestormwater and select "Soil Erosion and Sedimentation Control Program" under "Related Links."
2. Prior to commencement of any dredging or installation of riprap shore protection that is authorized by this permit, the entire area shall be enclosed with a turbidity curtain to prevent off-site siltation. The turbidity curtain shall be installed to extend from the bed of the waterbody to a point above the existing water's surface. The turbidity curtain shall be maintained for the duration of the project and shall be left in place after completion of dredging until all disturbed sediments have settled.
3. All raw areas in uplands resulting from the permitted construction activity shall be effectively stabilized with sod and/or seed and mulch (or other technology specified by this permit or project plans) in a sufficient quantity and manner to prevent erosion and any potential siltation to surface waters or wetlands. Temporary stabilization measures shall be installed before or upon commencement of the permitted activity and shall be maintained until permanent measures are in place. Permanent measures shall be in place within five (5) days of achieving final grade.
4. All riprap shall be properly sized based on wave action and velocity and shall consist of natural field stone or rock (free of paint, soil or other fines, asphalt, soluble chemicals, or organic material). Broken concrete is not allowed.
5. The placement of riprap as proposed does not establish a new shoreline nor shall it be construed to do so. The riprap is authorized as a protective structure placed for the explicit purpose of protecting the shoreline at the landward side of the riprap. Consideration of any future construction shall be based on the shoreline existing prior to riprap placement as authorized by this permit.
6. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's

obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct the activity.

7. No fill, excess soil, or other material shall be placed in any wetland, floodplain, or surface water area not specifically authorized by this permit, its plans, and specifications.
8. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
9. The permit placard shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.
10. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.

Issued By: 

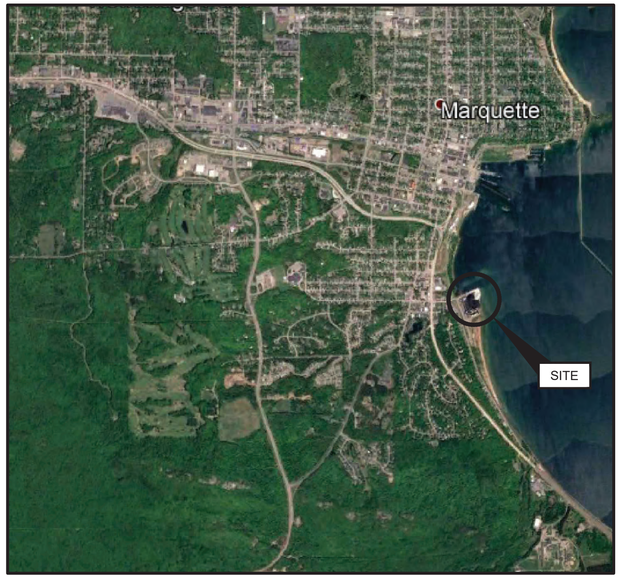
Sean Soucy
Marquette District Office
Water Resources Division
906-250-0588

cc: Brittnee Shows, USACE, Detroit District
Tom Graf, EGLE
Marquette CEA
City of Marquette Clerk
Steffanie Pepin, GEI Consultants
Mike Carpenter, GEI Consultants

ASH POND CLEAN CLOSURE AND STORMWATER MANAGEMENT PROJECT

PERMIT DRAWINGS
SHIRAS STEAM PLANT
MARQUETTE, MICHIGAN

STATE or COUNTY MAP
(NOT TO SCALE)



SOURCE:
GOOGLE EARTH IMAGE FROM 10/10/2013

SITE LOCATION MAP
(NOT TO SCALE)

SHEET INDEX

SHEET NO.	DRAWING NO.	TITLE
1	G-1.0	COVER SHEET
2	G-2.0	GENERAL NOTES AND LEGEND
3	C-1.0	EXISTING CONDITIONS - OVERALL SITE
4	C-2.0	EXISTING CONDITIONS - ASH POND AREA
5	C-3.0	EXISTING CONDITIONS - SECTION VIEW
6	C-4.0	ASH POND AREA SITE PLAN
7	C-5.0	ASH POND DETAILS
8	C-6.0	ASH POND AREA RESTORATION PLAN
9	C-7.0	RIPRAP DETAILS

PREPARED FOR:

MARQUETTE BOARD OF LIGHT
AND POWER
2200 WRIGHT STREET
MARQUETTE, MICHIGAN 49855
(906)228-0311

PREPARED BY:

GEI CONSULTANTS OF MICHIGAN, P.C.
109 W. BARAGA AVENUE
MARQUETTE, MI 49855
(906)451-4021

NOT FOR CONSTRUCTION

GEI PROJECT NO. 1903625

NO.	DATE	ISSUE/REVISION	APP
C	4/13/2020	REVISED PERMIT DRAWINGS	MDC
B	2/12/2020	REVISED PERMIT DRAWINGS	MDC
A	12/13/2019	PERMIT DRAWINGS	MDC

DWG. NO.
G-1.0

SHEET NO.
1

SYMBOLS

WATER SUPPLY SYSTEM

EXISTING	PROPOSED	DESCRIPTION
		FIRE HYDRANT
W	W	MANHOLE WATER
		U.G. WATER VALVE
CS&B	CS&B	CURB STOP & BOX
		MONITORING WELL
W	W	PRIVATE WELL
MP	MP	METER PIT
		WATER PLUG

MISCELLANEOUS

EXISTING	PROPOSED	DESCRIPTION
MB	MB	MAIL BOX
		GUARD POST/BOLLARD
F	F	FLAG POLE
		SIGN POST
		EROSION BALES
		HANDICAP
		PK NAIL

SANITARY SEWER SYSTEM

EXISTING	PROPOSED	DESCRIPTION
CO	CO	MANHOLE CLEANOUT
S	S	MANHOLE SANITARY
		TELEVISED LATERAL TAP LOCATION
		TELEVISED CAPPED LATERAL
		SEWER BULKHEAD

COMMUNICATION

EXISTING	PROPOSED	DESCRIPTION
C	C	CABLE PEDESTAL
F	F	FIBER PEDESTAL
T	T	TELEPHONE PEDESTAL
F	F	MANHOLE FIBER
T	T	MANHOLE TELEPHONE
		TELEPHONE POLE

DRAINAGE UTILITIES

EXISTING	PROPOSED	DESCRIPTION
		CATCH BASIN (BEEHIVE)
CB	CB	CATCH BASIN (ROUND)
CB	CB	CATCH BASIN (CURB INLET)
D	D	MANHOLE STORM
		END SECTION
IE	IE	INVERT ELEVATION

NATURAL GAS

EXISTING	PROPOSED	DESCRIPTION
		NATURAL GAS METER
		UG NATURAL GAS VALVE
G	G	NATURAL GAS MANHOLE

ELECTRICAL POWER

EXISTING	PROPOSED	DESCRIPTION
E	E	ELECTICAL PEDESTAL
		GUY POLE
		GUY ANCHOR
		LIGHT POLE
E	E	MANHOLE ELECTRIC
		POWER-LIGHT POLE
		POWER POLE
		LIGHT
		POWER TRANSFORMER
		POWER PULLBOX
		SIGNAL LIGHTPOLE
SB	SB	SIGNALBOX PEDESTAL
		TRAFFIC SIGNAL POLE

GEOTECHNICAL

EXISTING	PROPOSED	DESCRIPTION
		SOIL BORING

HATCH LEGEND

MATERIAL DESCRIPTION	EXISTING (DEMOLITION) PATTERN	NEW PROPOSED PATTERN
HMA PAVEMENT		

LINE TYPES

WATER SUPPLY SYSTEM

EXISTING	PROPOSED	DESCRIPTION
WS	WS	UG WATER SERVICE
WM	WM	UG WATERMAIN

SANITARY SEWER SYSTEM

EXISTING	PROPOSED	DESCRIPTION
SAN	SAN	UG SANITARY SEWER MAIN

DRAINAGE UTILITIES

EXISTING	PROPOSED	DESCRIPTION
STM	STM	UG STORM MAIN
		DRAINAGE AREA BOUNDARY

EROSION CONTROL

EXISTING	PROPOSED	DESCRIPTION
SF	SF	SILT FENCE

ELECTRICAL POWER

EXISTING	PROPOSED	DESCRIPTION
U/E	U/E	UG ELECTRICAL
O/E	O/E	OVERHEAD ELECTRICAL

NATURAL GAS

EXISTING	PROPOSED	DESCRIPTION
UG	UG	UG NATURAL GAS

COMMUNICATION

EXISTING	PROPOSED	DESCRIPTION
COMM	COMM	UG PHONE
	OHL	OVERHEAD PHONE
CATV	CATV	UG CABLE TV
CATV	OHL	OVERHEAD CABLE TV
FIBR	FIBR	UG FIBER OPTIC

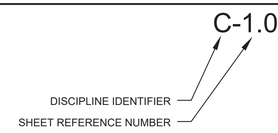
TOPOGRAPHY

EXISTING	PROPOSED	DESCRIPTION
		MAJOR CONTOUR
		MINOR CONTOUR

MISCELLANEOUS

EXISTING	PROPOSED	DESCRIPTION
		UNDERGROUND STRUCTURE
		FENCE LINE
		TREE LINE
		EDGE OF WATER
ROW	ROW	RIGHT-OF-WAY
		PARCEL LINE
		SETBACK
		UTILITY/CURB DEMOLITION
LOC	LOC	LIMITS OF CONSTRUCTION

DRAWING NUMBER DESIGNATION

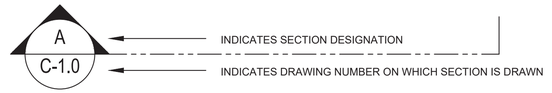


DISCIPLINE	DISCIPLINE IDENTIFIER
GENERAL	G
KEY PLAN	K
INSTRUMENTATION	I
REMOVAL	R
CIVIL	C
STRUCTURAL	S
ARCHITECTURAL	A
MECHANICAL/PROCESS	M
ELECTRICAL	E
PLUMBING	P
DETAILS	D

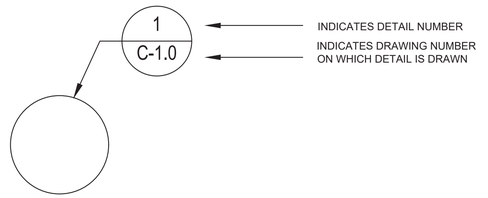
NOTES:

1. STRUCTURE IDENTIFIER SHALL BE 01 FOR GENERAL PLAN SHEETS.
2. STRUCTURE IDENTIFIER SHALL BE 02 FOR CIVIL UNDERGROUND UTILITY WORK.
3. STRUCTURE IDENTIFIER SHALL BE 99 FOR STANDARD DETAILS.

SECTION LEGEND



DETAIL



Not for Construction

GEI Consultants
GEI CONSULTANTS OF MICHIGAN, P.C.
109 W. BARAGA AVENUE
MARQUETTE, MI 49855
(906)451-4021

Marquette Board of Light and Power
2200 Wright Street
Marquette, Michigan 49855

Ash Pond Clean Closure and Stormwater Management Project
Shiras Steam Plant
Marquette, Michigan

Attention:
0 1"
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NO.	DATE	ISSUE/REVISION	MD'C	APP
A	12/13/2019	PERMIT DRAWINGS		

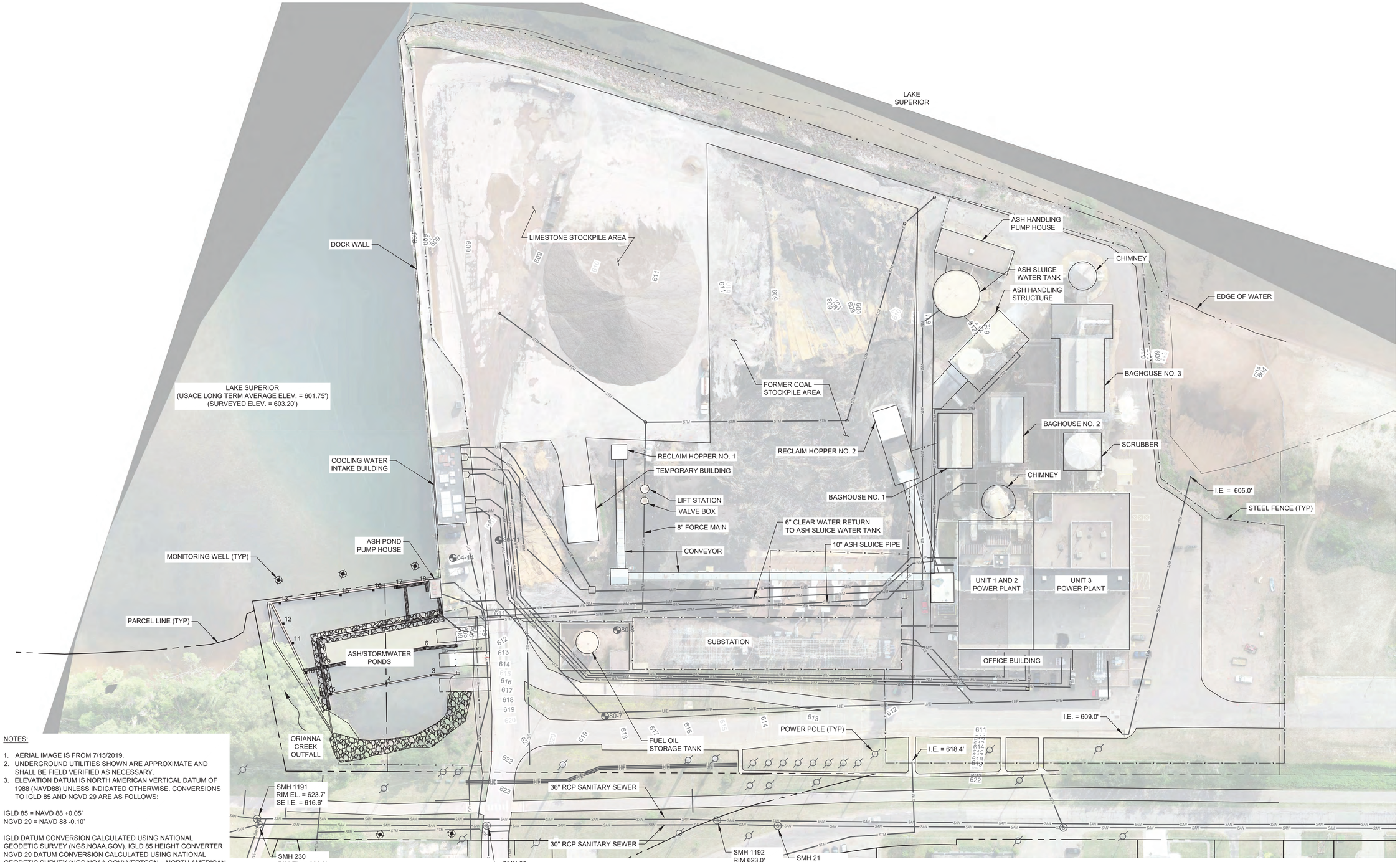
Designed:	M. Carpenter
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

GENERAL NOTES AND LEGEND

GEI Project 1903625

DWG. NO.
G-2.0

SHEET NO.
2



NOTES:

1. AERIAL IMAGE IS FROM 7/15/2019.
2. UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED AS NECESSARY.
3. ELEVATION DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) UNLESS INDICATED OTHERWISE. CONVERSIONS TO IGLD 85 AND NGVD 29 ARE AS FOLLOWS:

IGLD 85 = NAVD 88 +0.05'
NGVD 29 = NAVD 88 -0.10'

IGLD DATUM CONVERSION CALCULATED USING NATIONAL GEODETIC SURVEY (NGS.NOAA.GOV). IGLD 85 HEIGHT CONVERTER NGVD 29 DATUM CONVERSION CALCULATED USING NATIONAL GEODETIC SURVEY (NGS.NOAA.GOV) VERTCON – NORTH AMERICAN VERTICAL DATUM CONVERSION.

CONVERSIONS PERFORMED USING THE FOLLOWING INPUT PARAMETERS:

LATITUDE: 46.530893
LONGITUDE: -87.393074
NAVD 88 ELEVATION: 612.00'

NAVD 88 ELEVATION OF 612.00' (186.5376 M)
= IGLD 85 ELEVATION OF 612.05' (186.5540 M)
= NGVD 29 ELEVATION OF 611.90' (186.506 M)

0 50 100
SCALE: 1" = 50'

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Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

EXISTING CONDITIONS - OVERALL SITE

GEI Project 1903625

DWG. NO.
C-1.0

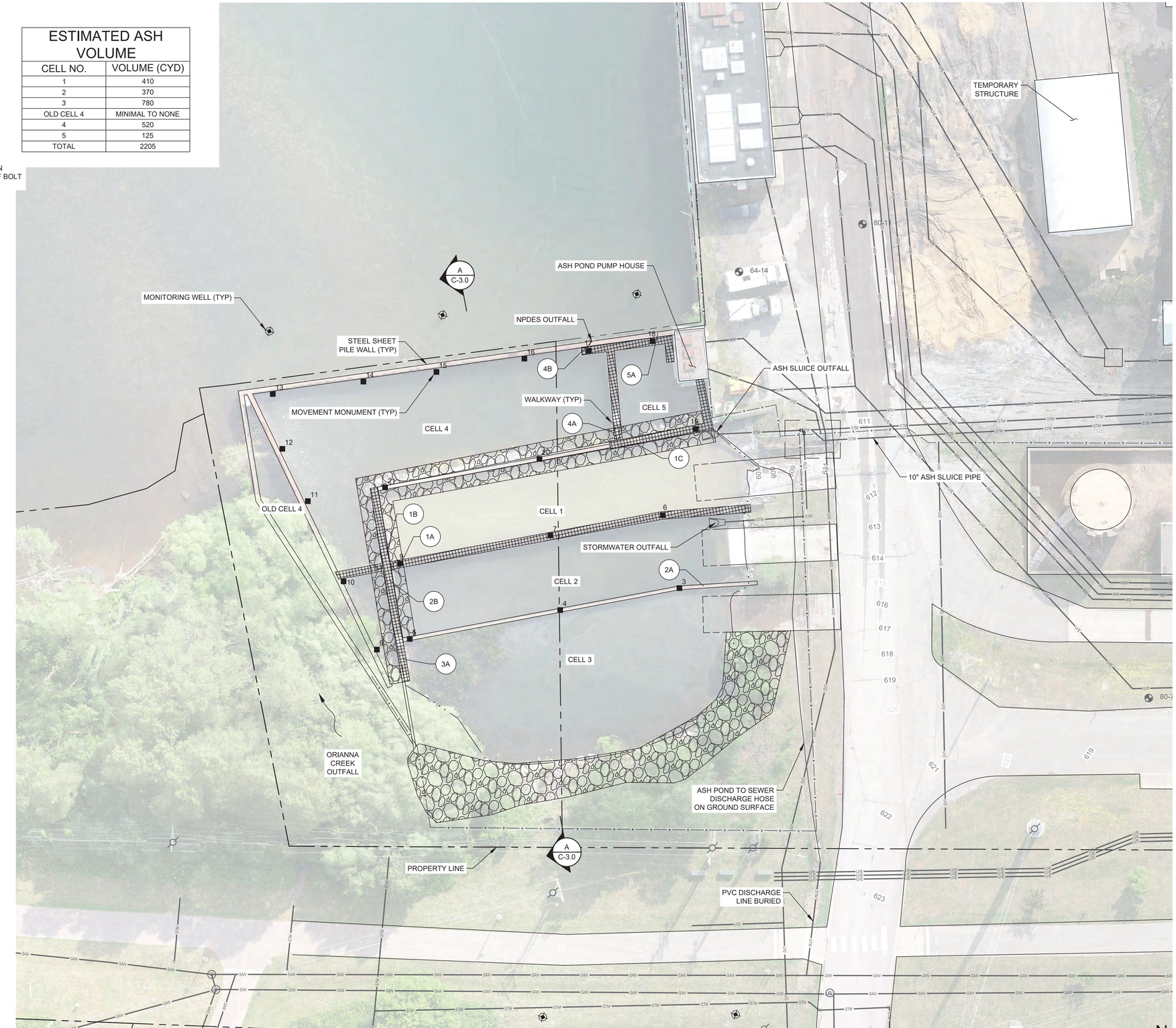
SHEET NO.
3

\\mqt1s-fs01\ w:\marquette_boardoflight&power\1903625_shiras ccr clean closure design\CAD\Design\Working\C-1.0 C-2.0 C-3.0 Existing Conditions - PERMIT.dwg - 12/10/2019

WEIR ID	ELEVATION (FT)*
1A	606.58
1B	606.58
1C	606.58
2A	606.42
2B	606.42
3A	606.25
4A	606.25
4B	606.58
5A	607.40

* ELEVATION REFERENCED TO IGLD BENCHMARK IS LOCATED AT EASTERN INTAKE BUILDING DOOR SLAB. TOP OF BOLT EL. = 609.82' IGLD

ESTIMATED ASH VOLUME	
CELL NO.	VOLUME (CYD)
1	410
2	370
3	780
OLD CELL 4	MINIMAL TO NONE
4	520
5	125
TOTAL	2205



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NO.	DATE	ISSUE/REVISION	APP
A	12/13/2019	PERMIT DRAWINGS	MDC

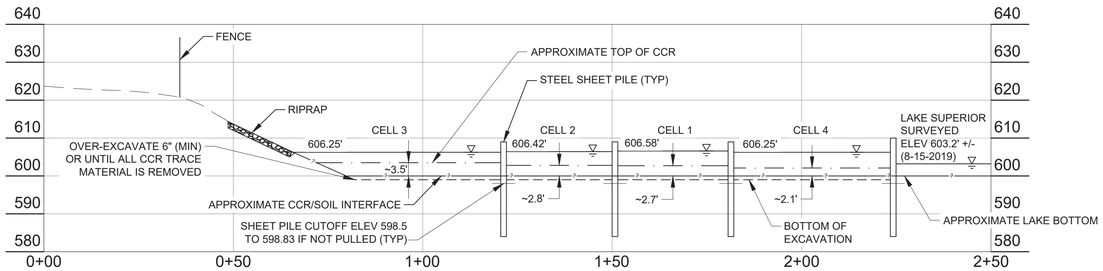
Designed:	M. Carpenter
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

EXISTING CONDITIONS - ASH POND AREA

GEI Project 1903625

DWG. NO.
C-2.0

SHEET NO.
4



A C-2.0 SECTION
CELLS 1, 2, 3 AND 4

0 20 40
SCALE: 1" = 20'

NOTE:
1. ELEVATIONS REFERENCED TO IGLD.
2. APPROXIMATE CCR DEPTH IN CELL 5 IS ~3.2 FEET.

Not for Construction

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A	12/13/2019	PERMIT DRAWINGS			

Designed:	M. Carpenter
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

EXISTING CONDITIONS - SECTION VIEW

GEI Project 1903625

DWG. NO.
C-3.0

SHEET NO.
5

KEY NOTES

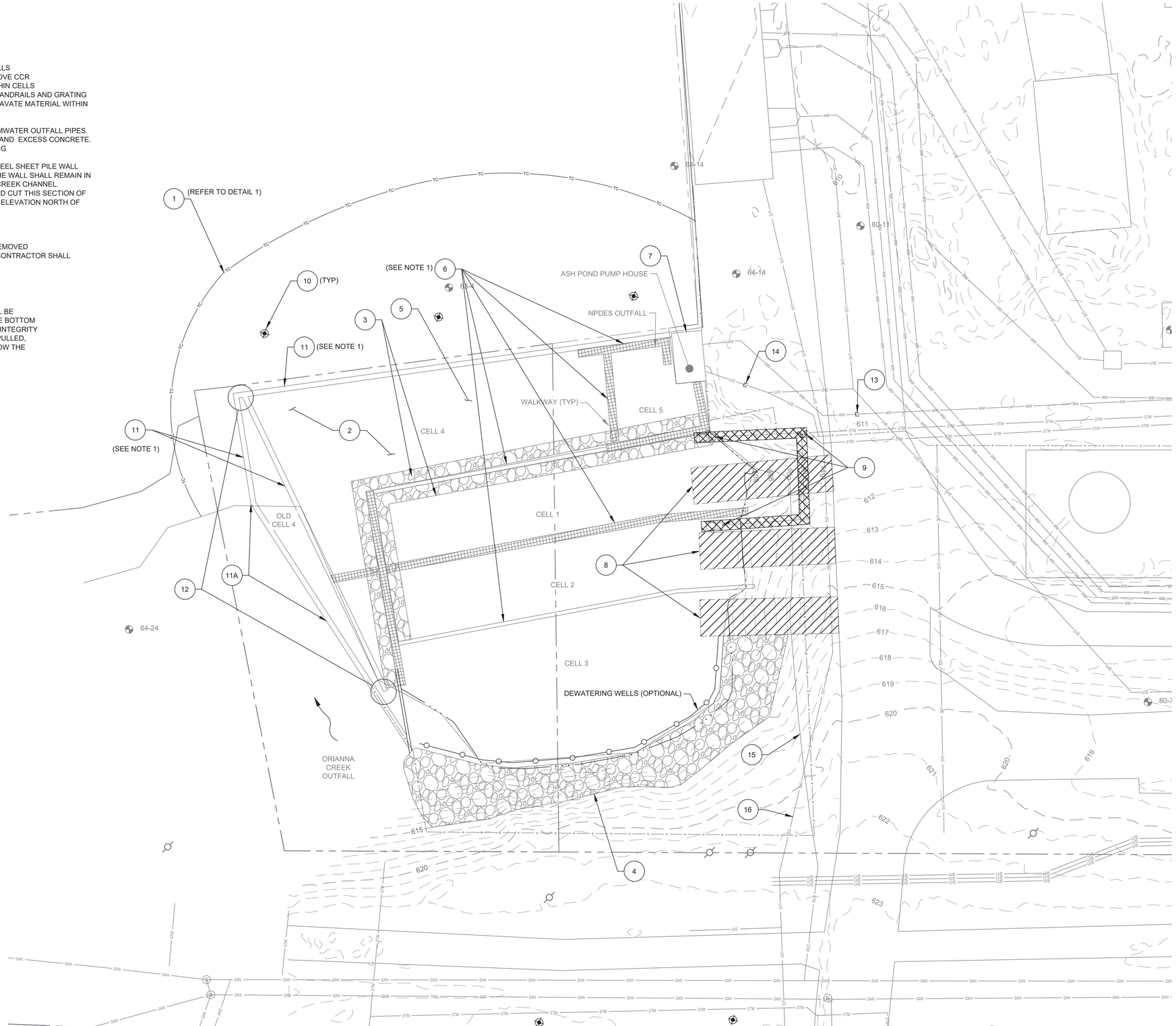
1. PLACE TURBIDITY CURTAIN
2. DEWATER CELLS
3. REMOVE RIPRAP ALONG SHEET PILE WALLS
4. POWER WASH RIPRAP ON BANK TO REMOVE CCR
5. EXCAVATE AND REMOVE CCR FROM WITHIN CELLS
6. REMOVE INTERIOR SHEETS, WALKWAY HANDRAILS AND GRATING
7. DEMOLISH ASH POND PUMP HOUSE. EXCAVATE MATERIAL WITHIN SHEET PILE WALLS. REMOVE SHEETING
8. REMOVE CONCRETE RAMPS
9. CUT AND BULKHEAD ASH SLUICE / STORMWATER OUTFALL PIPES. REMOVE PIPES, OUTFALL STRUCTURES, AND EXCESS CONCRETE.
10. REMOVE MONITORING WELLS AND CASING
11. REMOVE EXTERIOR SHEETS

11A. OLD CELL 4 OUTERMOST NORTHERN STEEL SHEET PILE WALL FROM SHORELINE RIPRAP TO BEND IN THE WALL SHALL REMAIN IN PLACE TO AVOID IMPACTS TO ORIANNA CREEK CHANNEL. CONTRACTOR SHALL REMOVE FENCE AND CUT THIS SECTION OF WALL TO MATCH THE EXISTING GROUND ELEVATION NORTH OF THE WALL.

12. REMOVE CONCRETE BULKHEADS
13. CAP AND SEAL 6" STEEL PIPE
14. CAP ELECTRIC TO PUMP HOUSE
15. TEMPORARY DISCHARGE HOSE TO BE REMOVED
16. ABANDONED GAS LINE TO BE CAPPED. CONTRACTOR SHALL COORDINATE WITH MBLP AND SEMCO.

SHEET NOTES:

1. WHEREVER POSSIBLE, SHEET PILES WILL BE PULLED OUT AND SHEETING BELOW LAKE BOTTOM WILL BE REMOVED. IF THE STRUCTURAL INTEGRITY IS SUCH THAT THE SHEETS CANNOT BE PULLED, THE SHEETS WILL BE CUT OFF 8-12" BELOW THE LAKEBED.



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0 20 40
SCALE: 1" = 20'

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Designed:	M. Carpenter
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

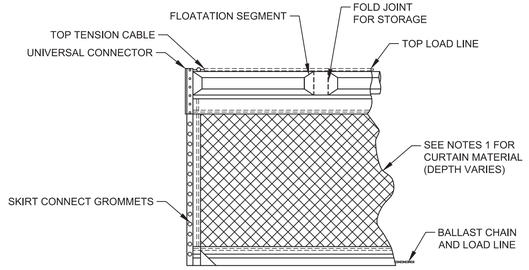
ASH POND AREA
SITE PLAN

GEI Project 1903625

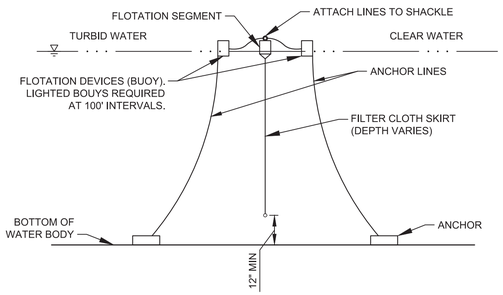
DWG. NO.
C-4.0

SHEET NO.
6

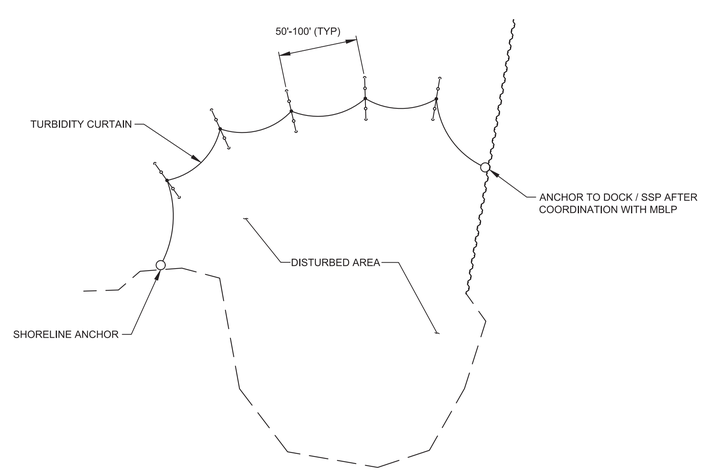
\\mqt1v-fs01\ W:\Marquette_Boardof\Light&Power\1903625_Shiras CCR Clean Closure Design\CAD\Design\Working\C-9.0 C-10.0 ASH POND.dwg 2/5/2020



PROFILE



SECTION



INSTALLATION PLAN

DETAIL 1: TURBIDITY CURTAIN

SCALE: NTS

NOTES:
1. FOR UPPER (TB-P) TURBIDITY CURTAIN PLACED AROUND WATER INTAKE, MATERIAL SHALL CONTAIN A PERMEABLE FILTER FABRIC. FOR STANDARD TURBIDITY CURTAINS (TB-1) CONTAINING WORK AREAS WITH PLACEMENT OF ROCK ON THE DAM EMBANKMENT, THE MATERIAL SHALL BE IMPERMEABLE. FOR BOTTOM (TB-SM) TURBIDITY CURTAIN PLACED AROUND WATER INTAKES, FABRIC SHALL BE SAME AS STANDARD TURBIDITY CURTAIN.
2. MAINTAIN AT LEAST 12" OF CLEARANCE BETWEEN BOTTOM OF CURTAIN AND SEDIMENT.
3. REEFING LINES ARE REQUIRED TO BE INSTALLED AND USED TO SHORTEN CURTAIN DURING PERIODS OF LOW WATER LEVELS.

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Designed:	M. Carpenter
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

ASH POND DETAILS

GEI Project 1903625

DWG. NO.
C-5.0

SHEET NO.
7

Not for Construction

LEGEND

RIPRAP BELOW SURVEYED ELEV 603.2

RIPRAP

LAKE SUPERIOR
SURVEYED ELEV. 603.2 ' (IGLD 85)
USACE OHWM ELEV. 603.1' (IGLD 85)
EGLE OHWM ELEV. 602.6' (IGLD 85)

PROPERTY LINE (TYP)

EXISTING DOCK WALL TO REMAIN AFTER PUMP HOUSE REMOVAL

SHEET PILE WALL TO REMAIN IN PLACE CUT LEVEL WITH GRADE ON NORTH SIDE

EGLE OHWM ELEV. 602.6' (IGLD 8D)

USACE OHWM ELEV. 603.1' (IGLD 85)

SURVEYED ELEV. 603.2' (IGLD 85)

ORIANNA CREEK OUTFALL

A C-5.0

291'

20'

RIPRAP

EX. RIPRAP TO REMAIN

AFTER ABANDONMENT, PLACE TOPSOIL, SEED, FERTILIZER, AND MULCH OVER DISTURBED AREAS

80-11

64-14

80-8

80-7

610 611 612 613 614 615 616 617 618 619 620 621 622 623

609

SITE NORTH

0 20 40

SCALE: 1" = 20'

Not for Construction

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A	12/13/2019	PERMIT DRAWINGS	MDC	APP

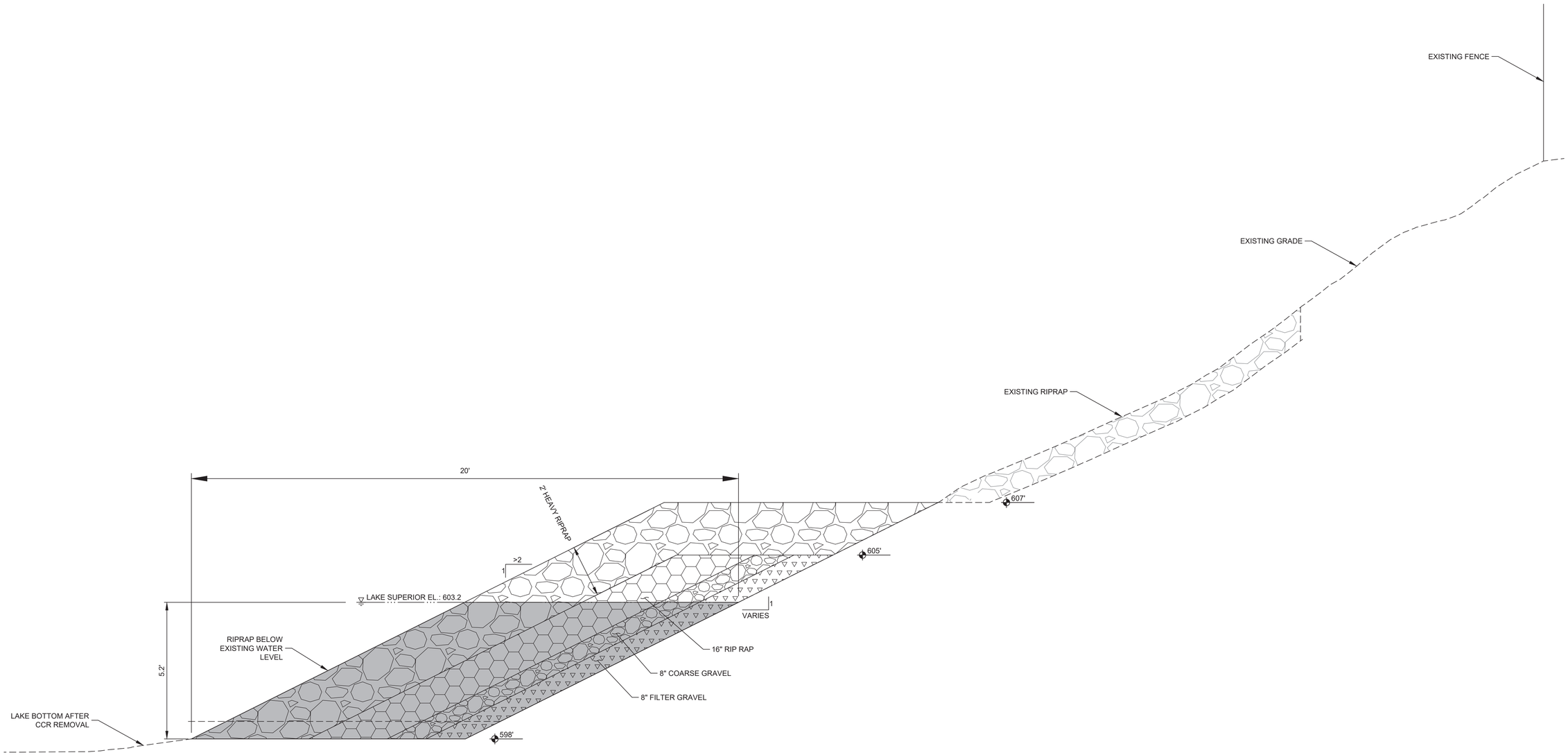
Designed:	M. Carpenter
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

ASH POND AREA SITE PLAN

GEI Project 1903625

DWG. NO.
C-6.0

SHEET NO.
8



NOTE:
1. ACTUAL BOTTOM ELEVATION OF RIPRAP SLOPE PROTECTION WILL BE DETERMINED IN THE FIELD BASED ON ACTUAL CONDITIONS.

A / C-12 SECTION
RIPRAP SHORELINE PROTECTION

SCALE: N.T.S.

Not for Construction

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Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

RIPRAP DETAILS

GEI Project 1903625

DWG. NO.
C-7.0

SHEET NO.
9

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
MARQUETTE DISTRICT OFFICE

LIESL EICHLER CLARK
DIRECTOR

August 3, 2020

VIA E-MAIL

Mr. John Schultz
Marquette Board of Light and Power
2200 Wright Street
Marquette, Michigan 49855

Dear Mr. Schultz:

SUBJECT: Michigan Department of Environment, Great Lakes, and Energy (EGLE)
Permit Number WRP022615 v. 2
T48N, R25W, Section 26, Marquette County

We received your letter dated July 7, 2020, requesting a minor revision for work authorized by EGLE Permit Number WRP022615. This letter authorizes revision of your EGLE Permit Number WRP022615 to place sand fill within the existing ash pond area to act as a buttress to prevent sheet pile from collapse during clean-up and demolition. The newly placed clean sand fill will be 50 feet long by 12 feet wide by 6 feet high along the northern wall, and 175 feet long by 12 feet wide by 6 feet high on the eastern wall. Following demolition of ash pond sheet pile walls, clean sand will remain in place.

You are reminded that all conditions as set forth in the original permit remain in full force. This letter must be attached to your permit and kept at the site of the work, available for inspection at all times for the duration of the project or until the date of expiration. This revision does not obviate the need for other federal, state, and/or local permits as may be required by law.

If you have any questions regarding this letter, please contact me at 906-250-0588; soucys@michigan.gov; or EGLE, Water Resources Division, Marquette District Office, 1504 West Washington Street, Marquette, Michigan 49855. Please include your permit number, WRP022615, in your response.

Sincerely,

Sean Soucy
Water Resources Division
Marquette District Office

SS:SLS
Enclosure: Updated Site Plan Drawing
cc: Ms. Brittnee Shows, U.S. Army Corps of Engineers
Marquette CEA
City of Marquette Clerk
Ms. Steffanie Pepin, Agent

LEGEND

RIPRAP BELOW SURVEYED ELEV 603.2

RIPRAP

LAKE SUPERIOR
SURVEYED ELEV. 603.2 ' (IGLD 85)
USACE OHWM ELEV. 603.1' (IGLD 85)
EGLE OHWM ELEV. 602.6' (IGLD 85)

Location of 6 inch movement at top of wall

PROPERTY LINE (TYP)

Location of exterior sheet pile wall structural failure

EXISTING DOCK WALL TO REMAIN AFTER PUMP HOUSE REMOVAL

Location of 5-ft additional excavation depth and sand buttress

See Section

SHEET PILE WALL TO REMAIN IN PLACE CUT LEVEL WITH GRADE ON NORTH SIDE

EGLE OHWM ELEV. 602.6' (IGLD 8D)

USACE OHWM ELEV. 603.1' (IGLD 85)

SURVEYED ELEV. 603.2' (IGLD 85)

ORIANNA CREEK OUTFALL

A C-5.0

291'

20'

RIPRAP

EX. RIPRAP TO REMAIN

AFTER ABANDONMENT, PLACE TOPSOIL, SEED, FERTILIZER, AND MULCH OVER DISTURBED AREAS

64-14

80-8

80-7

Approx. Lake Superior water level

Approx. lake bottom

6' tall

Sand buttress to remain after exterior sheet pile removal

Exterior sheet pile wall to be removed after all interior work is complete

12' wide

Excavation EL 595

Section

Not for Construction

SCALE: 1" = 20'

GEI Consultants
GEI CONSULTANTS OF MICHIGAN, P.C.
109 W. BARAGA AVENUE
MARQUETTE, MI 49855
(906)451-4021

Marquette Board of Light and Power
2200 Wright Street
Marquette, Michigan 49855

Ash Pond Clean Closure and Stormwater Management Project
Shiras Steam Plant
Marquette, Michigan

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION		
A	12/13/2019	PERMIT DRAWINGS	MDC	MDC
B	2/14/2020	REVISED PERMIT DRAWINGS	MDC	
C	4/13/2020	REVISED PERMIT DRAWINGS	MDC	APP

Designed:	M. Carpenter
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

ASH POND AREA SITE PLAN

GEI Project 1903625

DWG. NO.
C-6.0

SHEET NO.
8

\\mqt1v-fs01\ W:\Marquette_Boards\Light&Power\1903625_Shiras CCR Clean Closure Design\CAD\Design\Working\C-11.0 ASH POND.dwg - 4/13/2020

EGLE-WRD
WRP027615 v2.0
Approved
Issued On:08/03/2020
Expires On:05/14/2025

Appendix F

Contractor RFI's

MBLP Ash Pond Clean Closure and Storwmater Management Project
Contractor RFI (Request for Information) Log

RFI #	RFI Description	Date Submitted	Resolution	Date of Resolution
1	Coal Beneath Fence	5/1/2020	Per on site meeting, leave road in place, MJVD track time/materials for fence removal, replace berm 1.5ft high with geotextile under riprap	5/4/2020
2	Diesel Contaminated Soil	5/8/2020 & 5/13/2020	The contractor should mobilize their hazmat consultant (TriMedia) to support the excavation efforts to make sure they've removed the contaminated soil using an FID/PID. Stock pile the contaminated soil in its own pile adjacent the coal/sand pile on the dock slab. Have the pile characterized for waste disposal again by TriMedia with the goal of removing the pile from the site ASAP (probably dump at the Marquette landfill).	5/8/2020
3	Ash Removal in Cell 3 Riprap	6-17-20 Meeting	via email	6/19/2020
4	Orianna Creek Sheet Pile Cutoff Elevations	6-17-20 Meeting	via email	6/19/2020
5	Waterline at Southwest Corner of Basin 1	On Site 7-1-2020	MJVD requested information for how to proceed with grading of the southwest corner of Drainage Basin 1. There is an existing waterline in this area that needs to remain in place through demolition of the plant. - Per discussions with John S. and Mike W. on site the morning of 7-2-2020, this is no longer an issue because the water line is part of the force main and will be removed by MJVD as part of this project.	7/2/2020 on site
6	Ash in South Bank	8-5-20 via phone and 8-6-20 on site	MJVD found ash in the south bank of the ash pond / underneath the concrete ramps (which have been removed), and it appears to go under the fence north of the access road. MJVD wants to know how far they should chase the ash here because they are concerned it will impact the stability of the access road. See field report from 8-7-2020	8-7-2020 On site

From:	Mike Nowaczyk
To:	Carpenter, Michael; John E. Schultz (jschultz@mblp.org)
Cc:	Peterson, Bruce; Jim Delmont; Mike Wills; Pepin, Steffanie; Mike Nowaczyk
Subject:	[EXT] Shiras Request for Information
Date:	Friday, May 1, 2020 3:53:42 PM
Attachments:	IMG_6668.jpg

Mike/John,

Today as we were preparing the subgrade in anticipation of the concrete block placement, we encountered a fair amount of coal (see attached picture). We are pretty confident that the coal has migrated East outside of the perimeter fence towards the lake, and are unsure the of exact coal footprint in this area.

In order to fully clean up these areas it would make sense to remove the perimeter fencing and continue the cleanup heading East. We feel this may be a change to our original scope of work, with regards to the coal footprint and fencing removal.

Would you guys be available to meet onsite Monday morning to evaluate this area? We would also like to review with you the cleanup and excavation along the East coal yard shoreline as well. Let me know your thoughts.

Thank you,

-Mike

Mike Nowaczyk
Project Manager
M.J. VanDamme Inc.
mike.nowaczyk@mjvandammeinc.com
906-869-0889

MJ VanDamme Logo


PLANT GATE
#5
CASE
76

From: Mike Nowaczyk
To: Carpenter, Michael
Cc: Pepin, Steffanie; Peterson, Bruce; Mike Wills
Subject: [EXT] Shiras Ash Pond Clean Closure - RFI No. 2
Date: Friday, May 8, 2020 4:03:52 PM

Mike,

As noted during our site walk-around this past Wednesday, we believe we have encountered some material that is possibly contaminated with diesel/fuel oil. The area in question is located just West of Reclaim Hopper No. 2. We have excavated some of that material and stockpiled it on the blacktop dock, and it is covered with a plastic liner.

Our question to you is how would you like to proceed with identifying and characterizing this contamination, and delineating the impacted area?

Thank you,

-Mike

Mike Nowaczyk
Project Manager
M.J. VanDamme Inc.
mike.nowaczyk@mjvandammeinc.com
906-869-0889

MJ VanDamme Logo

From: Mike Nowaczyk
To: Carpenter, Michael; John E. Schultz
Cc: Peterson, Bruce; Pepin, Steffanie; Mike Wills; Joshua W. Hendrickson
Subject: [EXT] Shiras Contaminated Soil
Date: Wednesday, May 13, 2020 5:29:24 PM

John/Mike C,

Just a short time ago as we were cleaning up CCR surface deposits, we came across soil that is likely to be contaminated. The area of concern is south/southwest of the SW corner of the temporary building pad.

We excavated a couple buckets worth of material down to the water table, noticed a strong odor of fuel and the sheen on the water was very visible.

Being late in the day, the area was marked and the excavated material was put back in place. Bruce P was notified immediately.

Bruce mentioned he will be onsite tomorrow morning to conduct density testing so he may be able to observe said material. Please advise on how you would like us to proceed.

Thanks for your help.

-Mike

[MJ VanDamme Logo]

Pepin, Steffanie

From: Mike Nowaczyk <mike.nowaczyk@mjvandammeinc.com>
Sent: Wednesday, May 20, 2020 9:42 AM
To: John E. Schultz; Carpenter, Michael
Cc: Joshua W. Hendrickson; Pepin, Steffanie; Peterson, Bruce; Thomas J. Skewis
Subject: [EXT] RE: Fuel Contamination Reporting
Attachments: 200519 BLP Summary Report.pdf

John/Mike C,

Attached is a summary report from TriMedia of their field activities with regards to the contaminated soils. It sounds like they are awaiting the characterizations from the soils that were sampled.

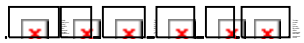
We can discuss during this mornings meeting.

-Mike

From: Peterson, Bruce <bpeterson@geiconsultants.com>
Sent: Monday, May 18, 2020 7:51 AM
To: John E. Schultz <jschultz@mblp.org>; Thomas J. Skewis <tskewis@mblp.org>
Cc: Joshua W. Hendrickson <JHendrickson@mblp.org>; Mike Nowaczyk <mike.nowaczyk@mjvandammeinc.com>; Pepin, Steffanie <spepin@geiconsultants.com>; Carpenter, Michael <mcarpenter@geiconsultants.com>
Subject: RE: Fuel Contamination Reporting

Mike, Steffanie,
Photos and Field notes in project directory. I will be leaving for 2 to 3 weeks for the Soo.
Bruce

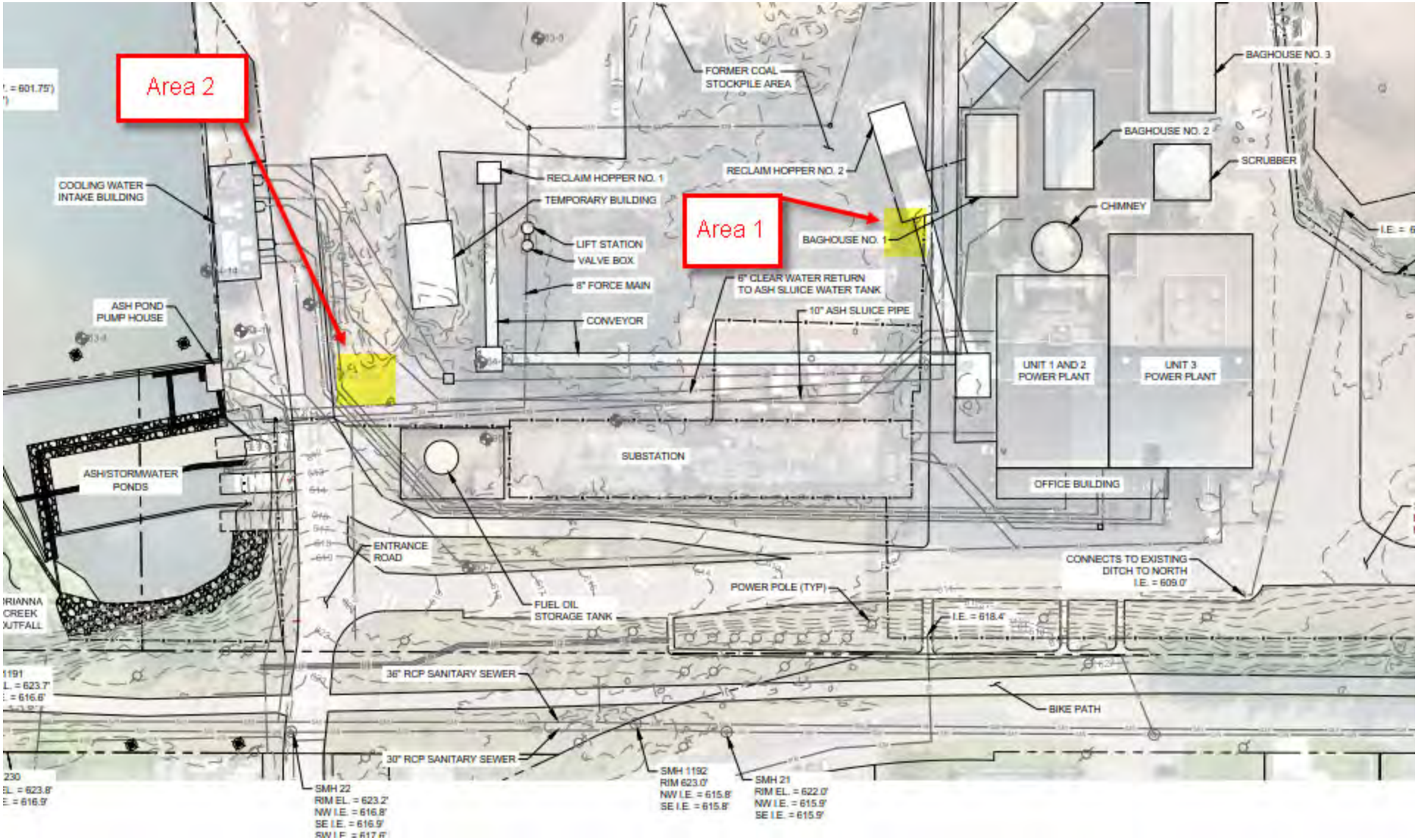
GEI50
BRUCE PETERSON
Field Professional
906.629.6099 cell: 906.869.0454
109 W. Baraga Avenue, Marquette, MI 49855



From: John E. Schultz <jschultz@mblp.org>
Sent: Monday, May 18, 2020 7:22 AM
To: Thomas J. Skewis <tskewis@mblp.org>
Cc: Joshua W. Hendrickson <JHendrickson@mblp.org>; Mike Nowaczyk <mike.nowaczyk@mjvandammeinc.com>; Peterson, Bruce <bpeterson@geiconsultants.com>; Pepin, Steffanie <spepin@geiconsultants.com>; Carpenter, Michael <mcarpenter@geiconsultants.com>
Subject: [EXT] FW: Fuel Contamination Reporting

MJ VanDamme has found two spots with potential fuel contamination. We need to report this to EGLE. Bruce Peterson with GEI and Mike Nowacyzk MJVD have information and photos. The material was tested by Trimedia for MJVD in Area 1. I do not know if Area 2 was tested yet. . The material has been isolated and covered on the dock area. Please gather information first.

Steve Harrington with EGLE contact information is below.



Thanks,

John Schultz
Manager of Mechanical Engineering Services
2200 Wright Street
Marquette, MI 49855
Phone: (906)-228-0332

Fax: (906) 228-0359

Marquette
BOARD OF LIGHT & POWER

From: Carpenter, Michael <mcarpenter@geiconsultants.com>
Sent: Friday, May 15, 2020 4:40 PM
To: John E. Schultz <jschultz@mblp.org>; Thomas J. Skewis <tskewis@mblp.org>
Cc: Pepin, Steffanie <spepin@geiconsultants.com>
Subject: Fuel Contamination Reporting

Hi Guys,

Per John's message, the guy to reach out to at EGLE is Steve Harrington. 906-228-4517 harringtons@michigan.gov

Bruce has a bunch of photos and his field book documenting conditions, as well as TriMedia's reporting that Steffanie and Mike N. can provide.

Let us know if you need any support with this effort.

Thanks,
Mike

GEI50
MICHAEL D. CARPENTER, P.E. (MI, CO, WI, MN)
Vice President/Senior Engineer
906.662.4749 cell: 906.360.1037
109 W. Baraga Avenue, Marquette, MI 49855

TRIMEDIA
ENVIRONMENTAL & ENGINEERING

830 W. Washington Street
Marquette, MI 49855
906.228.5125
906.228.5126 Fax
www.trimediaee.com

May 19, 2020

SENT VIA ELECTRONIC MAIL
Mr. Mike Wills, Project Manager
MJ VanDamme Inc.
PO Box 1172
Gwinn, Michigan 49841

Re: *Summary Transmittal* – Marquette Board of Light and Power's (BLP's) Coal Ash removal project, Marquette, Michigan
TriMedia Project Number 2020-1150

Dear Mike,

TriMedia Environmental & Engineering Services, LLC (TriMedia) has prepared this correspondence to summarize our site observations and test results for the referenced project. Our services were requested to assist MJ VanDamme, Inc. (MJVD) with assessing potential subsurface impacts identified during the completion of coal ash removal efforts. The following provides additional information of our observations and findings.

SITE OBSERVATIONS AND RESULTS

On Monday, May 11, 2020, TriMedia visited the project site to observe the conditions of an existing excavation located near the Reclaimed Hopper No. 2, where reportedly petroleum sheen and impacted soil was observed. At the time of our arrival, we observed a stockpile of soil was located near the excavation and was reportedly excavated from the open excavation. The stockpile was covered with and placed upon plastic sheeting. MJVD scraped additional subgrade areas during our visit using an excavator to allow TriMedia to assess the area and screen soils. Based on our observations, no further petroleum contamination was evident in the area of the scrap and our field screening results exhibited photoionization detector (PID) readings ranging from 0.0 to 1.8 parts per million (ppm). Upon completion of the field activities, we surveyed the excavation extents using a YUMA-GPS and mapped the excavation on the attached Figure 1.

On Thursday, May 14, 2020, TriMedia visited the project site at MJVD's request due to encountering similar petroleum impacts in an excavation located between the Ash Pond Pumphouse and the above ground storage tank. Upon our arrival, we observed the excavation was about 40 by 30 feet in area and varied in depth from about 10 to 12 feet. Groundwater was present at the bottom of the excavation and what appeared to be petroleum sheen was observed on the surface of the groundwater. TriMedia observed the soils visually, and screened the soils with a PID, registering results of over 550 ppm standing outside the excavation on the northwest side. MJVD scraped the soils along the east and south sidewalls until PID readings were observed to be lower (0-5 ppm) and no visible or olfactory petroleum contamination was evident. The northwest corner of the excavation appeared to be the area containing higher levels of impact, however in-situ infrastructure (piping along the north and west sidewalls, a power pole to the west and the asphalt access road to the north)

prevented further excavation of impacted soil. The excavation was then terminated due to the infrastructure present and the excavation limits were mapped with the Yuma GPS. Based on MJVD's automated machine-control GPS technology, an approximate subgrade elevation of the excavation was about 602 feet. The soil excavated from the referenced excavation was staged on plastic sheeting and covered appropriately.

At the request of MJVD in an effort to assist with potential offsite disposal of the observed soil impacts, TriMedia obtained grab samples from the stockpiles (1 each) and submitted the samples to ALS for testing for waste characterization purposes. TriMedia will coordinate disposal options using the analytical test data obtained.

DISCUSSION

The results of our field visits were discussed with you and Mr. Bruce Peterson of GEI, who we understand contacted Mr. John Schultz of the Marquette BLP.

It is hoped this *Summary Transmittal* meets your needs and expectations. Should you have any questions regarding this correspondence, or the project in general, please do not hesitate to contact me at (269) 447-0677 or via email at bparlato@trimediaee.com.

Sincerely,
TriMedia Environmental & Engineering Services, LLC

Lance Lindberg
Senior Scientist

Bradley G. Parlato, P.E.
Senior Engineer / Regional Manager

LL/BGP/mlt

Enclosure: Figure 1
Photo Log

cc: TriMedia File 2020-1150

TRIMEDIA ENVIRONMENTAL & ENGINEERING

Drawn:	ESN	5/19/2020
Approved:	LL	5/19/2020
Project #:	2020-089	

Map Location

Legend

- Excavation - 5/11/2020
- Excavation - 5/18/2020

N

0 40 80 160 Feet

FIGURE 1
MJ VANDAMME INC.

MARQUETTE BOARD OF LIGHT AND POWER
ASH POND CLOSURE EXCAVATIONS

	Taken By: LL Date Taken: 5/14/2020 Direction: Northeast Description: View of excavation showing petroleum sheen.
	Taken By: LL Date Taken: 5/14/2020 Direction: North Description: View of excavation along south side of access road.
	Taken By: LL Date Taken: 5/14/2020 Direction: Northeast Description: View of bottom of excavation showing sheen.

	Taken By: LL Date Taken: 5/14/2020 Direction: North Description: View of northwest corner of excavation showing petroleum sheen and water.
	Taken By: LL Date Taken: 5/14/2020 Direction: North Description: View of northwest corner of excavation.
	Taken By: LL Date Taken: 5/14/2020 Direction: East Description: View of groundwater in bottom of excavation.

	Taken By: LL Date Taken: 5/14/2020 Direction: North Description: View of drainage pipe on northwest corner and west end of excavation.
	Taken By: LL Date Taken: 5/14/2020 Direction: North Description: View of northwest corner of excavation where cold water intake pipe is located. Contamination evident here.
	Taken By: LL Date Taken: 5/14/2020 Direction: North Description: View of limits of north end of excavation. Piping and access road prevented further excavation north.

	Taken By: LL Date Taken: 5/14/2020 Direction: Northeast Description: View of excavation and groundwater on bottom.

From:	Mike Nowaczyk
To:	John E. Schultz; Thomas J. Skewis
Cc:	Jim Delmont; Pepin, Steffanie; Carpenter, Michael; Joshua W. Hendrickson; Jennifer Wallace; Rod Wells; Mike Wills
Subject:	[EXT] RE: MCSWMA Contaminated Soil No4 Belt and New Basin
Date:	Wednesday, May 27, 2020 2:35:53 PM
Attachments:	image001.png 20050745 (TriMedia) MJVD Shiras Plant (2020-1150).pdf 20051115 (TriMedia) MJVD Shiras Plant (2020-1150).pdf

---

John,

Attached are the sample results from TriMedia that you had requested. The samples collected on May 11, 2020 are from the first excavation and the samples collected May 14, 2020 from just West of the Basin #1 excavation area.

-Mike

From: John E. Schultz <jschultz@mblp.org>
Sent: Wednesday, May 27, 2020 1:20 PM
To: Mike Nowaczyk <mike.nowaczyk@mjvandammeinc.com>; Mike Wills <mike.wills@mjvandammeinc.com>; Thomas J. Skewis <tskewis@mblp.org>
Cc: Jim Delmont <jim.delmont@mjvandammeinc.com>; Pepin, Steffanie <spepin@geiconsultants.com>; Carpenter, Michael <mcarpenter@geiconsultants.com>; Joshua W. Hendrickson <JHendrickson@mblp.org>; Jennifer Wallace <jennifer.wallace@mjvandammeinc.com>; Rod Wells <rod.wells@mjvandammeinc.com>
Subject: MCSWMA Contaminated Soil No4 Belt and New Basin

Mike, can you forward results of the first sample by No4 Belt and the second taken from the new basin area. Tom Skewis tracks this material for our reporting purposes and we need to keep this information filed in our operating records.

The original copy will be given to Mike Wills this afternoon.

Thanks,

John Schultz
Manager of Mechanical Engineering Services
2200 Wright Street
Marquette, MI 49855
Phone: (906)-228-0332
Fax: (906) 228-0359

19-May-2020

Lance Lindberg
TriMedia Environmental & Engineering Svcs
830 W. Washington St.
Marquette, MI 49855

Re: **MJVD Shiras Plant (2020-1150)** Work Order: **20050745**

Dear Lance,

ALS Environmental received 2 samples on 12-May-2020 08:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Electronically approved by: Bill Carey

Bill Carey
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS Group, USA

Date: 19-May-20

Client: TriMedia Environmental & Engineering Svcs
Project: MJVD Shiras Plant (2020-1150)
Work Order: **20050745**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
20050745-01	WC-1	Soil		5/11/2020 09:30	5/12/2020 08:30	☐
20050745-02	WC-2	Soil		5/11/2020 09:35	5/12/2020 08:30	☐

ALS Group, USA

Date: 19-May-20

Client: TriMedia Environmental & Engineering Svcs
Project: MJVD Shiras Plant (2020-1150)
WorkOrder: **20050745**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

Client:	TriMedia Environmental & Engineering Svcs
Project:	MJVD Shiras Plant (2020-1150)
Work Order:	20050745

Case Narrative

Samples for the above noted Work Order were received on 5/12/2020. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
No other deviations or anomalies were noted.

Metals:
Batch 155894, Method ICP_6020_S, Sample 20050745-01BMS: The MS recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Ba

Batch 155894, Method ICP_6020_S, Sample 20050745-01BMSD: The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Ba

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group, USA

Date: *19-May-20*

Client: TriMedia Environmental & Engineering Svcs
Project: MJVD Shiras Plant (2020-1150)
Work Order: 20050745
Sample ID: WC-1
Lab ID: 20050745-01
Collection Date: 5/11/2020 09:30 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471B**	Prep: SW7471 5/14/20 09:25		Analyst: **MAC**
Mercury	ND		19	µg/Kg-dry	1	5/14/2020 11:17 AM
METALS BY ICP-MS			**SW6020B**	Prep: SW3050B 5/13/20 15:35		Analyst: **STP**
Arsenic	**12,000**		**80**	**µg/Kg-dry**	1	5/13/2020 07:44 PM
Barium	**24,000**		**400**	**µg/Kg-dry**	1	5/13/2020 07:44 PM
Cadmium	ND		80	µg/Kg-dry	1	5/13/2020 07:44 PM
Chromium	**4,300**		**400**	**µg/Kg-dry**	1	5/13/2020 07:44 PM
Lead	**4,000**		**400**	**µg/Kg-dry**	1	5/13/2020 07:44 PM
Selenium	ND		80	µg/Kg-dry	1	5/13/2020 07:44 PM
Silver	ND		40	µg/Kg-dry	1	5/13/2020 07:44 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 5/12/20 11:22		Analyst: **MF**
Benzene	ND		61	µg/Kg-dry	1	5/16/2020 03:29 AM
Ethylbenzene	ND		61	µg/Kg-dry	1	5/16/2020 03:29 AM
m,p-Xylene	**170**		**120**	**µg/Kg-dry**	1	5/16/2020 03:29 AM
o-Xylene	**83**		**61**	**µg/Kg-dry**	1	5/16/2020 03:29 AM
Toluene	**140**		**61**	**µg/Kg-dry**	1	5/16/2020 03:29 AM
Xylenes, Total	**250**		**180**	**µg/Kg-dry**	1	5/16/2020 03:29 AM
Surr: 1,2-Dichloroethane-d4	*102*		*70-130*	*%REC*	1	5/16/2020 03:29 AM
Surr: 4-Bromofluorobenzene	*108*		*70-130*	*%REC*	1	5/16/2020 03:29 AM
Surr: Dibromofluoromethane	*95.9*		*70-130*	*%REC*	1	5/16/2020 03:29 AM
Surr: Toluene-d8	*102*		*70-130*	*%REC*	1	5/16/2020 03:29 AM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**8.1**		**0.10**	**% of sample**	1	5/17/2020 12:04 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *19-May-20*

Client: TriMedia Environmental & Engineering Svcs
Project: MJVD Shiras Plant (2020-1150) **Work Order:** 20050745
Sample ID: WC-2 **Lab ID:** 20050745-02
Collection Date: 5/11/2020 09:35 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471B**	Prep: SW7471 5/14/20 09:25		Analyst: **MAC**
Mercury	ND		17	µg/Kg-dry	1	5/14/2020 11:19 AM
METALS BY ICP-MS			**SW6020B**	Prep: SW3050B 5/13/20 15:35		Analyst: **STP**
Arsenic	**12,000**		**88**	**µg/Kg-dry**	1	5/13/2020 07:49 PM
Barium	**39,000**		**440**	**µg/Kg-dry**	1	5/13/2020 07:49 PM
Cadmium	ND		88	µg/Kg-dry	1	5/13/2020 07:49 PM
Chromium	**4,100**		**440**	**µg/Kg-dry**	1	5/13/2020 07:49 PM
Lead	**4,400**		**440**	**µg/Kg-dry**	1	5/13/2020 07:49 PM
Selenium	ND		88	µg/Kg-dry	1	5/13/2020 07:49 PM
Silver	ND		44	µg/Kg-dry	1	5/13/2020 07:49 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 5/12/20 11:22		Analyst: **MF**
Benzene	ND		49	µg/Kg-dry	1	5/16/2020 03:13 AM
Ethylbenzene	ND		49	µg/Kg-dry	1	5/16/2020 03:13 AM
m,p-Xylene	ND		97	µg/Kg-dry	1	5/16/2020 03:13 AM
o-Xylene	ND		49	µg/Kg-dry	1	5/16/2020 03:13 AM
Toluene	**66**		**49**	**µg/Kg-dry**	1	5/16/2020 03:13 AM
Xylenes, Total	ND		150	µg/Kg-dry	1	5/16/2020 03:13 AM
Surr: 1,2-Dichloroethane-d4	*104*		*70-130*	*%REC*	1	5/16/2020 03:13 AM
Surr: 4-Bromofluorobenzene	*103*		*70-130*	*%REC*	1	5/16/2020 03:13 AM
Surr: Dibromofluoromethane	*94.6*		*70-130*	*%REC*	1	5/16/2020 03:13 AM
Surr: Toluene-d8	*102*		*70-130*	*%REC*	1	5/16/2020 03:13 AM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**8.0**		**0.10**	**% of sample**	1	5/17/2020 12:04 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 19-May-20

Client: TriMedia Environmental & Engineering Svcs

Work Order: 20050745

Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **155939** Instrument ID **HG4** Method: **SW7471B**

MBLK Sample ID: **MBLK-155939-155939** Units: **mg/Kg** Analysis Date: **5/14/2020 10:30 AM**

Client ID: Run ID: **HG4_200514A** SeqNo: **6414475** Prep Date: **5/14/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.020								

LCS Sample ID: **LCS-155939-155939** Units: **mg/Kg** Analysis Date: **5/14/2020 10:33 AM**

Client ID: Run ID: **HG4_200514A** SeqNo: **6414476** Prep Date: **5/14/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1692	0.020	0.1665	0	102	80-120	0			

MS Sample ID: **20050699-18BMS** Units: **mg/Kg** Analysis Date: **5/14/2020 10:37 AM**

Client ID: Run ID: **HG4_200514A** SeqNo: **6414483** Prep Date: **5/14/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1338	0.016	0.135	0.02282	82.2	75-125	0			

MSD Sample ID: **20050699-18BMSD** Units: **mg/Kg** Analysis Date: **5/14/2020 10:39 AM**

Client ID: Run ID: **HG4_200514A** SeqNo: **6414484** Prep Date: **5/14/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1408	0.017	0.1386	0.02282	85.1	75-125	0.1338	5.09	35	

The following samples were analyzed in this batch: 20050745-01B 20050745-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20050745
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **155894** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK Sample ID: **MBLK-155894-155894** Units: **mg/Kg** Analysis Date: **5/13/2020 07:17 PM**
Client ID: Run ID: **ICPMS3_200513A** SeqNo: **6413077** Prep Date: **5/13/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Lead	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								

LCS Sample ID: **LCS-155894-155894** Units: **mg/Kg** Analysis Date: **5/13/2020 07:18 PM**
Client ID: Run ID: **ICPMS3_200513A** SeqNo: **6413078** Prep Date: **5/13/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.91	0.25	5	0	98.2	80-120	0			
Barium	5.058	0.25	5	0	101	80-120	0			
Cadmium	4.964	0.10	5	0	99.3	80-120	0			
Chromium	5.109	0.25	5	0	102	80-120	0			
Lead	5.12	0.25	5	0	102	80-120	0			
Selenium	4.945	0.25	5	0	98.9	80-120	0			
Silver	5.084	0.25	5	0	102	80-120	0			

MS Sample ID: **20050745-01BMS** Units: **mg/Kg** Analysis Date: **5/13/2020 07:45 PM**
Client ID: **WC-1** Run ID: **ICPMS3_200513A** SeqNo: **6413093** Prep Date: **5/13/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.56	0.37	7.342	11.29	85.4	75-125	0			
Barium	32.88	0.37	7.342	21.98	148	75-125	0			S
Cadmium	6.571	0.15	7.342	0.05565	88.7	75-125	0			
Chromium	10.73	0.37	7.342	3.953	92.3	75-125	0			
Lead	11.16	0.37	7.342	3.69	102	75-125	0			
Selenium	6.935	0.37	7.342	0.2414	91.2	75-125	0			
Silver	6.721	0.37	7.342	0.008798	91.4	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20050745
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **155894** Instrument ID **ICPMS3** Method: **SW6020B**

MSD Sample ID: **20050745-01BMSD** Units: **mg/Kg** Analysis Date: **5/13/2020 07:47 PM**

Client ID: **WC-1** Run ID: **ICPMS3_200513A** SeqNo: **6413094** Prep Date: **5/13/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	18.32	0.36	7.153	11.29	98.3	75-125	17.56	4.25	20	
Barium	34.43	0.36	7.153	21.98	174	75-125	32.88	4.62	20	S
Cadmium	6.312	0.14	7.153	0.05565	87.5	75-125	6.571	4.02	20	
Chromium	10.54	0.36	7.153	3.953	92	75-125	10.73	1.79	20	
Lead	11.29	0.36	7.153	3.69	106	75-125	11.16	1.16	20	
Selenium	6.535	0.36	7.153	0.2414	88	75-125	6.935	5.95	20	
Silver	6.266	0.36	7.153	0.008798	87.5	75-125	6.721	7.01	20	

The following samples were analyzed in this batch: 20050745-01B 20050745-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20050745
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **155813** Instrument ID **VMS8** Method: **SW8260C**

MBLK Sample ID: **MBLK-155813-155813** Units: **µg/Kg-dry** Analysis Date: **5/14/2020 08:32 PM**
Client ID: Run ID: **VMS8_200514B** SeqNo: **6416765** Prep Date: **5/12/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	*993.5*	0	*1000*	0	*99.4*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1004*	0	*1000*	0	*100*	*70-130*	0			
Surr: Dibromofluoromethane	*948*	0	*1000*	0	*94.8*	*70-130*	0			
Surr: Toluene-d8	*989*	0	*1000*	0	*98.9*	*70-130*	0			

LCS Sample ID: **LCS-155813-155813** Units: **µg/Kg-dry** Analysis Date: **5/14/2020 07:44 PM**
Client ID: Run ID: **VMS8_200514B** SeqNo: **6416764** Prep Date: **5/12/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	987.5	30	1000	0	98.8	75-125	0			
Ethylbenzene	988.5	30	1000	0	98.8	75-125	0			
m,p-Xylene	1974	60	2000	0	98.7	80-125	0			
o-Xylene	1017	30	1000	0	102	75-125	0			
Toluene	973	30	1000	0	97.3	70-125	0			
Xylenes, Total	2992	90	3000	0	99.7	75-125	0			
Surr: 1,2-Dichloroethane-d4	*976.5*	0	*1000*	0	*97.6*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*996*	0	*1000*	0	*99.6*	*70-130*	0			
Surr: Dibromofluoromethane	*1016*	0	*1000*	0	*102*	*70-130*	0			
Surr: Toluene-d8	*982.5*	0	*1000*	0	*98.2*	*70-130*	0			

MS Sample ID: **20050724-01A MS** Units: **µg/Kg-dry** Analysis Date: **5/15/2020 01:57 AM**
Client ID: Run ID: **VMS8_200514B** SeqNo: **6416761** Prep Date: **5/12/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1357	23	1368	0	99.2	75-125	0			
Ethylbenzene	1430	29	1368	79.62	98.7	75-125	0			
m,p-Xylene	2726	180	2736	0	99.6	80-125	0			
o-Xylene	1378	53	1368	0	101	75-125	0			
Toluene	1305	37	1368	0	95.4	70-125	0			
Xylenes, Total	4104	180	4105	0	100	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1353*	0	*1368*	0	*98.9*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1516*	0	*1368*	0	*111*	*70-130*	0			
Surr: Dibromofluoromethane	*1263*	0	*1368*	0	*92.3*	*70-130*	0			
Surr: Toluene-d8	*1396*	0	*1368*	0	*102*	*70-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20050745
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **155813** Instrument ID **VMS8** Method: **SW8260C**

MS Sample ID: **20050724-01A MS** Units: **µg/Kg-dry** Analysis Date: **5/15/2020 01:57 AM**
Client ID: Run ID: **VMS8_200514B** SeqNo: **6416778** Prep Date: **5/12/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1357	41	1368	0	99.2	75-125	0			
Ethylbenzene	1430	41	1368	79.62	98.7	75-125	0			
m,p-Xylene	2726	82	2736	0	99.6	80-125	0			
o-Xylene	1378	41	1368	0	101	75-125	0			
Toluene	1305	41	1368	0	95.4	70-125	0			
Xylenes, Total	4104	120	4105	0	100	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1353*	0	*1368*	0	*98.9*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1516*	0	*1368*	0	*111*	*70-130*	0			
Surr: Dibromofluoromethane	*1263*	0	*1368*	0	*92.3*	*70-130*	0			
Surr: Toluene-d8	*1396*	0	*1368*	0	*102*	*70-130*	0			

MSD Sample ID: **20050724-01A MSD** Units: **µg/Kg-dry** Analysis Date: **5/15/2020 02:13 AM**
Client ID: Run ID: **VMS8_200514B** SeqNo: **6416762** Prep Date: **5/12/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1368	26	1544	0	88.6	75-125	1357	0.769	30	
Ethylbenzene	1460	33	1544	79.62	89.4	75-125	1430	2.02	30	
m,p-Xylene	2808	210	3088	0	91	80-125	2726	2.98	30	
o-Xylene	1480	60	1544	0	95.9	75-125	1378	7.13	30	
Toluene	1370	42	1544	0	88.8	70-125	1305	4.9	30	
Xylenes, Total	4289	210	4631	0	92.6	75-125	4104	4.4	30	
Surr: 1,2-Dichloroethane-d4	*1510*	0	*1544*	0	*97.8*	*70-130*	1353	*10.9*	*30*	
Surr: 4-Bromofluorobenzene	*1665*	0	*1544*	0	*108*	*70-130*	1516	*9.36*	*30*	
Surr: Dibromofluoromethane	*1405*	0	*1544*	0	*91*	*70-130*	1263	*10.6*	*30*	
Surr: Toluene-d8	*1548*	0	*1544*	0	*100*	*70-130*	1396	*10.3*	*30*	

MSD Sample ID: **20050724-01A MSD** Units: **µg/Kg-dry** Analysis Date: **5/15/2020 02:13 AM**
Client ID: Run ID: **VMS8_200514B** SeqNo: **6416779** Prep Date: **5/12/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1368	46	1544	0	88.6	75-125	1357	0.769	30	
Ethylbenzene	1460	46	1544	79.62	89.4	75-125	1430	2.02	30	
m,p-Xylene	2808	93	3088	0	91	80-125	2726	2.98	30	
o-Xylene	1480	46	1544	0	95.9	75-125	1378	7.13	30	
Toluene	1370	46	1544	0	88.8	70-125	1305	4.9	30	
Xylenes, Total	4289	140	4631	0	92.6	75-125	4104	4.4	30	
Surr: 1,2-Dichloroethane-d4	*1510*	0	*1544*	0	*97.8*	*70-130*	1353	*10.9*	*30*	
Surr: 4-Bromofluorobenzene	*1665*	0	*1544*	0	*108*	*70-130*	1516	*9.36*	*30*	
Surr: Dibromofluoromethane	*1405*	0	*1544*	0	*91*	*70-130*	1263	*10.6*	*30*	
Surr: Toluene-d8	*1548*	0	*1544*	0	*100*	*70-130*	1396	*10.3*	*30*	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20050745
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **155813** Instrument ID **VMS8** Method: **SW8260C**

The following samples were analyzed in this batch:	20050745-01A	20050745-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20050745
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **R288703** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R288703** Units: **% of sample** Analysis Date: **5/17/2020 12:04 PM**
Client ID: Run ID: **MOIST_200516A** SeqNo: **6419799** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS Sample ID: **LCS-R288703** Units: **% of sample** Analysis Date: **5/17/2020 12:04 PM**
Client ID: Run ID: **MOIST_200516A** SeqNo: **6419798** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.10	100	0	100	98-102	0			

DUP Sample ID: **20050745-01B DUP** Units: **% of sample** Analysis Date: **5/17/2020 12:04 PM**
Client ID: **WC-1** Run ID: **MOIST_200516A** SeqNo: **6419782** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	7.85	0.10	0	0	0	0-0	8.13	3.5	10	

DUP Sample ID: **20050745-02B DUP** Units: **% of sample** Analysis Date: **5/17/2020 12:04 PM**
Client ID: **WC-2** Run ID: **MOIST_200516A** SeqNo: **6419784** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	8.29	0.10	0	0	0	0-0	8.03	3.19	10	

The following samples were analyzed in this batch: 20050745-01B 20050745-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 192153

ALS Project Manager:

ALS Work Order #: 2005074S

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	MJVD SHIRAS PLANT	A	BTEX
Work Order		Project Number	2020-1150	B	RCRA 8-METALS
Company Name	TriMedia Environmental & Engineering Sv	Bill To Company	TriMedia Environmental & Engineering	C	
Send Report To	LANCE LINDBERG	Invoice Attn	Lorelei Sorensen	D	
Address	830 W. Washington St.	Address	830 W. Washington St.	E	
				F	
City/State/Zip	Marquette, MI 49855	City/State/Zip	Marquette, MI 49855	G	
Phone	(906) 228-5125	Phone	(906) 228-5125	H	
Fax	(906) 228-5126	Fax	(906) 228-5126	I	
e-Mail Address	lance.lindberg@trimedianet.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WC-1	5-11-20	0930	SOIL	MeOH	3	X	X									
2	WC-2	5-11-20	0935	SOIL	MeOH	3	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: LANCE LINDBERG

Shipment Method: UPS

Required Turnaround Time: (Check Box) ☒ Std ~~10 WK~~ 5 Days ☐ 5 WK Days ☐ Other ☐ 2 WK Days ☐ 24 Hour

Results Due Date:

Relinquished by: Date: 5-11-20 Time: 1530 Received by: UPS

Relinquished by: UPS Date: 5/12/20 Time: 0830 Received by (Laboratory):

Logged by (Laboratory): DES Date: 5/12/20 Time: 0840 Checked by (Laboratory):

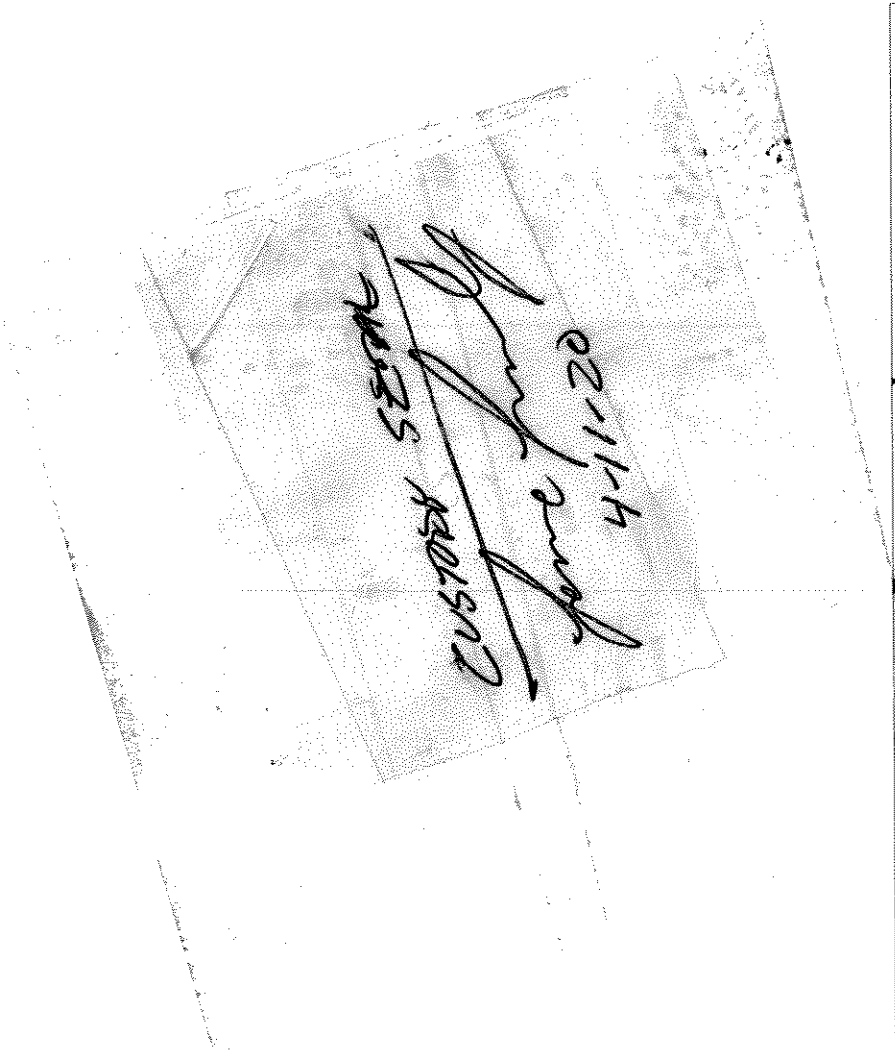
Notes: MARQUETTE CO. LANDFILL DISPOSAL

Cooler ID	Cooler Temp.
SR1	3.7-c

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP CheckList
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.



THOMAS L. ANTHOS
906-228-5125
TRIMEDIA ENVIRO & ENG-MARQUETT
830 W. WASHINGTON ST.
MARQUETTE MI 49855

30 LBS **1 OF 1**

DWT: 24,14,13

SHIP TO:
ATTN: BILL CAREY
616-399-6070
ALS - HOLLAND
3352 128TH AVENUE.
HOLLAND MI 49424-9263

MI 495 9-04

UPS NEXT DAY AIR EARLY **1+**

TRACKING #: 1Z FF0 084 15 9528 5224

BILLING: P/P

Reference#1: 2929-1150
Reference#2: See LL / DAM

ALS Group, USA

Sample Receipt Checklist

Client Name: **TRIMEDIA-MARQ** Date/Time Received: **12-May-20 08:30**

Work Order: **20050745** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 12-May-20 (Date) Reviewed by: Bill Carey (eSignature) 12-May-20 (Date)

Matrices: Soil

Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.2/3.2 c	SR1	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	5/12/2020 8:39:38 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

22-May-2020

Lance Lindberg
TriMedia Environmental & Engineering Svcs
830 W. Washington St.
Marquette, MI 49855

Re: **MJVD Shiras Plant (2020-1150)** Work Order: **20051115**

Dear Lance,

ALS Environmental received 2 samples on 15-May-2020 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Electronically approved by: Bill Carey

Bill Carey
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS Group, USA

Date: 22-May-20

Client: TriMedia Environmental & Engineering Svcs
Project: MJVD Shiras Plant (2020-1150)
Work Order: **20051115**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
20051115-01	WC-1	Soil		5/14/2020 12:00	5/15/2020 10:00	☐
20051115-02	WC-2	Soil		5/14/2020 12:30	5/15/2020 10:00	☐

ALS Group, USA

Date: 22-May-20

Client: TriMedia Environmental & Engineering Svcs
Project: MJVD Shiras Plant (2020-1150)
WorkOrder: **20051115**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight

Client: TriMedia Environmental & Engineering Svcs
Project: MJVD Shiras Plant (2020-1150)
Work Order: 20051115

Case Narrative

Samples for the above noted Work Order were received on 5/15/2020. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
No other deviations or anomalies were noted.

Metals:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group, USA

Date: *22-May-20*

Client: TriMedia Environmental & Engineering Svcs
Project: MJVD Shiras Plant (2020-1150)
Work Order: 20051115
Sample ID: WC-1
Lab ID: 20051115-01
Collection Date: 5/14/2020 12:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471B**	Prep: SW7471 5/19/20 08:35		Analyst: **MAC**
Mercury	**110**		**23**	**µg/Kg-dry**	1	5/19/2020 10:33 AM
METALS BY ICP-MS			**SW6020B**	Prep: SW3050B 5/20/20 11:22		Analyst: **STP**
Arsenic	**2,200**		**99**	**µg/Kg-dry**	1	5/20/2020 05:38 PM
Barium	**11,000**		**500**	**µg/Kg-dry**	1	5/20/2020 05:38 PM
Cadmium	**180**		**99**	**µg/Kg-dry**	1	5/20/2020 05:38 PM
Chromium	**3,100**		**500**	**µg/Kg-dry**	1	5/20/2020 05:38 PM
Lead	**15,000**		**500**	**µg/Kg-dry**	1	5/20/2020 05:38 PM
Selenium	ND		99	µg/Kg-dry	1	5/20/2020 05:38 PM
Silver	ND		50	µg/Kg-dry	1	5/20/2020 05:38 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 5/15/20 15:03		Analyst: **MF**
Benzene	ND		45	µg/Kg-dry	1	5/20/2020 09:37 AM
Ethylbenzene	ND		45	µg/Kg-dry	1	5/20/2020 09:37 AM
m,p-Xylene	**180**		**89**	**µg/Kg-dry**	1	5/20/2020 09:37 AM
o-Xylene	**57**		**45**	**µg/Kg-dry**	1	5/20/2020 09:37 AM
Toluene	**110**		**45**	**µg/Kg-dry**	1	5/20/2020 09:37 AM
Xylenes, Total	**240**		**130**	**µg/Kg-dry**	1	5/20/2020 09:37 AM
Surr: 1,2-Dichloroethane-d4	*97.8*		*70-130*	*%REC*	1	5/20/2020 09:37 AM
Surr: 4-Bromofluorobenzene	*101*		*70-130*	*%REC*	1	5/20/2020 09:37 AM
Surr: Dibromofluoromethane	*88.0*		*70-130*	*%REC*	1	5/20/2020 09:37 AM
Surr: Toluene-d8	*104*		*70-130*	*%REC*	1	5/20/2020 09:37 AM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**21**		**0.10**	**% of sample**	1	5/20/2020 12:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *22-May-20*

Client: TriMedia Environmental & Engineering Svcs
Project: MJVD Shiras Plant (2020-1150)
Work Order: 20051115
Sample ID: WC-2
Lab ID: 20051115-02
Collection Date: 5/14/2020 12:30 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7471B**	Prep: SW7471 5/19/20 08:35		Analyst: **MAC**
Mercury	**92**		**20**	**µg/Kg-dry**	1	5/19/2020 10:35 AM
METALS BY ICP-MS			**SW6020B**	Prep: SW3050B 5/20/20 11:22		Analyst: **STP**
Arsenic	**1,900**		**89**	**µg/Kg-dry**	1	5/20/2020 05:40 PM
Barium	**15,000**		**450**	**µg/Kg-dry**	1	5/20/2020 05:40 PM
Cadmium	**100**		**89**	**µg/Kg-dry**	1	5/20/2020 05:40 PM
Chromium	**3,500**		**450**	**µg/Kg-dry**	1	5/20/2020 05:40 PM
Lead	**16,000**		**450**	**µg/Kg-dry**	1	5/20/2020 05:40 PM
Selenium	ND		89	µg/Kg-dry	1	5/20/2020 05:40 PM
Silver	ND		45	µg/Kg-dry	1	5/20/2020 05:40 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260C**	Prep: SW5035 5/15/20 15:03		Analyst: **MF**
Benzene	ND		47	µg/Kg-dry	1	5/20/2020 09:53 AM
Ethylbenzene	ND		47	µg/Kg-dry	1	5/20/2020 09:53 AM
m,p-Xylene	**120**		**94**	**µg/Kg-dry**	1	5/20/2020 09:53 AM
o-Xylene	ND		47	µg/Kg-dry	1	5/20/2020 09:53 AM
Toluene	**71**		**47**	**µg/Kg-dry**	1	5/20/2020 09:53 AM
Xylenes, Total	**160**		**140**	**µg/Kg-dry**	1	5/20/2020 09:53 AM
Surr: 1,2-Dichloroethane-d4	*113*		*70-130*	*%REC*	1	5/20/2020 09:53 AM
Surr: 4-Bromofluorobenzene	*99.1*		*70-130*	*%REC*	1	5/20/2020 09:53 AM
Surr: Dibromofluoromethane	*102*		*70-130*	*%REC*	1	5/20/2020 09:53 AM
Surr: Toluene-d8	*103*		*70-130*	*%REC*	1	5/20/2020 09:53 AM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**17**		**0.10**	**% of sample**	1	5/20/2020 12:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

QC BATCH REPORT

Batch ID: **156111** Instrument ID **HG4** Method: **SW7471B**

MBLK Sample ID: **MBLK-156111-156111** Units: **mg/Kg** Analysis Date: **5/19/2020 12:00 PM**

Client ID: Run ID: **HG4_200519A** SeqNo: **6424713** Prep Date: **5/19/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.017								

LCS Sample ID: **LCS-156111-156111** Units: **mg/Kg** Analysis Date: **5/19/2020 12:02 PM**

Client ID: Run ID: **HG4_200519A** SeqNo: **6424714** Prep Date: **5/19/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1355	0.017	0.1382	0	98.1	80-120	0			

MS Sample ID: **20051224-01AMS** Units: **mg/Kg** Analysis Date: **5/19/2020 10:50 AM**

Client ID: Run ID: **HG4_200519A** SeqNo: **6424088** Prep Date: **5/19/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.2658	0.017	0.1401	0.1618	74.2	75-125	0			S

MSD Sample ID: **20051224-01AMSD** Units: **mg/Kg** Analysis Date: **5/19/2020 10:52 AM**

Client ID: Run ID: **HG4_200519A** SeqNo: **6424089** Prep Date: **5/19/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.3011	0.017	0.1399	0.1618	99.6	75-125	0.2658	12.5	35	E

The following samples were analyzed in this batch: 20051115-01B 20051115-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20051115
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **156227** Instrument ID **ICPMS4** Method: **SW6020B**

MBLK Sample ID: **MBLK-156227-156227** Units: **mg/Kg** Analysis Date: **5/20/2020 05:30 PM**
Client ID: Run ID: **ICPMS4_200520B** SeqNo: **6429372** Prep Date: **5/20/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Lead	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								

LCS Sample ID: **LCS-156227-156227** Units: **mg/Kg** Analysis Date: **5/20/2020 05:32 PM**
Client ID: Run ID: **ICPMS4_200520B** SeqNo: **6429373** Prep Date: **5/20/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.853	0.25	5	0	97.1	80-120	0			
Barium	5.007	0.25	5	0	100	80-120	0			
Cadmium	4.984	0.10	5	0	99.7	80-120	0			
Chromium	5.042	0.25	5	0	101	80-120	0			
Lead	4.995	0.25	5	0	99.9	80-120	0			
Selenium	4.806	0.25	5	0	96.1	80-120	0			
Silver	5.264	0.25	5	0	105	80-120	0			

MS Sample ID: **20051182-01BMS** Units: **mg/Kg** Analysis Date: **5/20/2020 05:44 PM**
Client ID: Run ID: **ICPMS4_200520B** SeqNo: **6429380** Prep Date: **5/20/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.643	0.33	6.676	3.154	97.2	75-125	0			
Barium	21.38	0.33	6.676	12.97	126	75-125	0			S
Cadmium	5.699	0.13	6.676	-0.01104	85.5	75-125	0			
Chromium	11.85	0.33	6.676	4.483	110	75-125	0			
Lead	11.56	0.33	6.676	3.324	123	75-125	0			
Selenium	5.905	0.33	6.676	-0.09167	89.8	75-125	0			
Silver	5.812	0.33	6.676	0.006233	87	75-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20051115
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **156227** Instrument ID **ICPMS4** Method: **SW6020B**

MSD Sample ID: **20051182-01BMSD** Units: **mg/Kg** Analysis Date: **5/20/2020 05:45 PM**
Client ID: Run ID: **ICPMS4_200520B** SeqNo: **6429381** Prep Date: **5/20/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.68	0.33	6.649	3.154	128	75-125	9.643	19.1	20	S
Barium	16.94	0.33	6.649	12.97	59.7	75-125	21.38	23.2	20	SR
Cadmium	5.734	0.13	6.649	-0.01104	86.4	75-125	5.699	0.599	20	
Chromium	10.25	0.33	6.649	4.483	86.7	75-125	11.85	14.6	20	
Lead	11.45	0.33	6.649	3.324	122	75-125	11.56	0.968	20	
Selenium	5.849	0.33	6.649	-0.09167	89.3	75-125	5.905	0.944	20	
Silver	5.858	0.33	6.649	0.006233	88	75-125	5.812	0.792	20	

The following samples were analyzed in this batch: 20051115-01B 20051115-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20051115
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **156045** Instrument ID **VMS8** Method: **SW8260C**

MS Sample ID: **20051094-02A MS** Units: **µg/Kg-dry** Analysis Date: **5/20/2020 10:09 AM**
Client ID: Run ID: **VMS8_200519C** SeqNo: **6427940** Prep Date: **5/15/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1255	40	1327	0	94.5	75-125	0			
Ethylbenzene	1248	40	1327	0	94	75-125	0			
m,p-Xylene	2510	80	2654	5.12	94.4	80-125	0			
o-Xylene	1299	40	1327	5.851	97.5	75-125	0			
Toluene	1224	40	1327	0	92.2	70-125	0			
Xylenes, Total	3809	120	3981	0	95.7	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1437*	0	*1327*	0	*108*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1412*	0	*1327*	0	*106*	*70-130*	0			
Surr: Dibromofluoromethane	*1165*	0	*1327*	0	*87.8*	*70-130*	0			
Surr: Toluene-d8	*1326*	0	*1327*	0	*99.9*	*70-130*	0			

MSD Sample ID: **20051094-02A MSD** Units: **µg/Kg-dry** Analysis Date: **5/20/2020 10:26 AM**
Client ID: Run ID: **VMS8_200519C** SeqNo: **6427941** Prep Date: **5/15/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1280	40	1346	0	95.1	75-125	1255	2.01	30	
Ethylbenzene	1301	40	1346	0	96.7	75-125	1248	4.15	30	
m,p-Xylene	2588	81	2691	5.12	96	80-125	2510	3.08	30	
o-Xylene	1363	40	1346	5.851	101	75-125	1299	4.79	30	
Toluene	1261	40	1346	0	93.7	70-125	1224	2.94	30	
Xylenes, Total	3951	120	4036	0	97.9	75-125	3809	3.67	30	
Surr: 1,2-Dichloroethane-d4	*1444*	0	*1346*	0	*107*	*70-130*	1437	*0.448*	*30*	
Surr: 4-Bromofluorobenzene	*1461*	0	*1346*	0	*109*	*70-130*	1412	*3.38*	*30*	
Surr: Dibromofluoromethane	*1164*	0	*1346*	0	*86.5*	*70-130*	1165	*0.116*	*30*	
Surr: Toluene-d8	*1370*	0	*1346*	0	*102*	*70-130*	1326	*3.31*	*30*	

The following samples were analyzed in this batch: 20051115-01A 20051115-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: TriMedia Environmental & Engineering Svcs
Work Order: 20051115
Project: MJVD Shiras Plant (2020-1150)

QC BATCH REPORT

Batch ID: **R289018** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R289018** Units: **% of sample** Analysis Date: **5/20/2020 12:45 PM**
Client ID: Run ID: **MOIST_200520C** SeqNo: **6430521** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS Sample ID: **LCS-R289018** Units: **% of sample** Analysis Date: **5/20/2020 12:45 PM**
Client ID: Run ID: **MOIST_200520C** SeqNo: **6430520** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	98-102	0			

DUP Sample ID: **20050730-01A DUP** Units: **% of sample** Analysis Date: **5/20/2020 12:45 PM**
Client ID: Run ID: **MOIST_200520C** SeqNo: **6430506** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.49	0.10	0	0	0	0-0	5.48	0.182	10	

DUP Sample ID: **20051115-02B DUP** Units: **% of sample** Analysis Date: **5/20/2020 12:45 PM**
Client ID: **WC-2** Run ID: **MOIST_200520C** SeqNo: **6430514** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.14	0.10	0	0	0	0-0	17.29	4.8	10	

The following samples were analyzed in this batch: 20051115-01B 20051115-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 193940

ALS Project Manager:

ALS Work Order #: 2005115

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	MJVD SHIRAS PLANT	A	BTEX
Work Order		Project Number	2020-1150	B	RCRA 8 METALS
Company Name	TriMedia Environmental & Engineering Sv	Bill To Company	TriMedia Environmental & Engineering	C	
Send Report To	LANCE LINDBERG	Invoice Attn	Lorelei Sorensen	D	
Address	830 W. Washington St.	Address	830 W. Washington St.	E	
				F	
City/State/Zip	Marquette, MI 49855	City/State/Zip	Marquette, MI 49855	G	
Phone	(906) 228-5125	Phone	(906) 228-5125	H	
Fax	(906) 228-5126	Fax	(906) 228-5126	I	
e-Mail Address	lance.lindberg@trimedia.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WC-1	5-14-20	1200	SOIL	MeOH	3	X	X									
2	WC-2	5-14-20	1230	SOIL	MeOH	3	X	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: LANCE LINDBERG

Shipment Method: UPS

Required Turnaround Time: (Check Box) 3 DAYS ☒ Standard WK Days ☐ 5 WK Days ☐ Other ☐ 2 WK Days ☐ 24 Hour

Results Due Date:

Relinquished by:		Date: 5-14-20	Time: 1500	Received by: UPS
Relinquished by: UPS		Date: 5/15/20	Time: 1000	Received by (Laboratory):
Logged by (Laboratory): KR		Date: 5/15/20	Time: 1045	Checked by (Laboratory):

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Notes: MGT CO. LANDFILL DISPOSAL

Cooler ID	Cooler Temp.
521	3.0°C

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP CheckList
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

THOMAS L. ANTHOS
906-228-5125
TRIMEDIA ENVIRO & ENG-MARQUETT
830 W. WASHINGTON ST.
MARQUETTE MI 49855

34 LBS **3 OF 3**

DWT: 24,14,13
AH

SHIP TO:
ATTN: BILL CAREY
616-399-6070
ALS - HOLLAND
3352 128TH AVENUE.
HOLLAND MI 49424

MI 495 9-04

UPS NEXT DAY AIR **1**

TRACKING #: 1Z FF0 084 01 9239 8661

BILLING: P/P

Reference #1: 2
Reference #2: t

3352 128th Avenue
Holland, MI 49424
Ph: 616-399-6070
Fx: 616-399-6185

Custody Seal

Company: TRIMEDIA

Name: [illegible]

Date: 5-14-20 Time: 1500

ALS Group, USA

Sample Receipt Checklist

Client Name: **TRIMEDIA-MARQ** Date/Time Received: **15-May-20 10:00**

Work Order: **20051115** Received by: **KRW**

Checklist completed by Keith Wierenga eSignature 15-May-20 Date Reviewed by: Bill Carey eSignature 15-May-20 Date

Matrices: Soil

Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.0/3.0 C	SR1	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	5/15/2020 10:45:51 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

MARQUETTE COUNTY SOLID WASTE MANAGEMENT
WASTE CHARACTERIZATION / DEMO FORM

Name of Generator: MARQUETTE BOARD OF LIGHT + POWER	Phone # 906-228-0311
Address: 2200 WRIGHT ST.	
City: MARQUETTE, MI 49855	
Contact Person: JOHN SCHULTZ	Phone # 906-563-5344 Fax# N/A
Origin of Waste (address): SHIRAS STEAM PLANT	
Municipality the waste was generated in: CITY OF MARQUETTE	
Quantity of Waste: 200 yds (est.) Tons / Yards (circle one)	awaiting pit survey

**********ATTACH MSDS SHEETS IF AVAILABLE**********

1.	This waste is a soil or demo	Soil X	Demo___
2.	This waste is a Type II or Type III solid waste.	Yes X	No___
3.	This waste exhibits or includes material that exhibits characteristics of toxicity.	Yes___	No X
4.	This waste exhibits or includes material that exhibits characteristics of ignitability.	Yes___	No X
5.	This waste exhibits or includes material that exhibits characteristics of reactivity.	Yes___	No X
6.	This waste exhibits or includes material that exhibits characteristics of corrosiveness.	Yes___	No X
7.	There are indications this waste might contain chlorinated materials.	Yes___	No X
8.	A complete list of testing results for this site is attached.	Yes X	No___
9.	This material is capable of producing emissions that violate Part 55 of the Natural Resources and Environmental Protection Act	Yes___	No X
10.	This material could contain PCB.	Yes___	No X
11.	This waste has been representatively sampled and is characterized as	Hazardous	Non-Hazardous X
12.	Property Tax ID Number 0020890 Shiras Steam Plant		

13. In the attached site description, list ALL known contaminants at the site and state the source of the contamination. Consultant must say definitely in this letter that there are NO other known contaminants.

14. I attest that the waste characterization and attachments are accurate and complete.

Company Name: MARQUETTE BOARD OF LIGHT + POWER

Print Name: JOHN SCHULTZ Title: Manager Mechanical Engineering Services

Generator's Signature: John Schultz

Date: Weds 5/27/2020

15. I attest that the waste characterization and attachments are accurate and complete.

Company Name: TRUMEDIA ENV. + ENGINEERING

Print Name LANCE LINDBERG Title: SR. SCIENTIST

Consultant's Signature:

Date: 5-20-20

MARQUETTE COUNTY SOLID WASTE MANAGEMENT WASTE MANIFEST

Disposal of Hydrocarbon Contaminated Material

Generator's Name and Mailing Address
MARQUETTE BOARD OF LIGHT & POWER
2200 WRIGHT ST.
MARQUETTE, MI 49855
Generator's Phone (906) 228-0300

Transporter Company Name
MJ VAN DAMME TRUCKING

Designated Facility Name and Site Address
Marquette County Landfill
600 County Road NP
Marquette, MI 49855

	Material Description	Total Quantity	Unit
1	HYDROCARBON CONTAMINATED SOIL	200 (est.)	yds
2			
3			
4			
5			
6			

Generator's Certification: I hereby declare that the contents of this consignment are fully and accurately described in the requirements set forth by the Marquette County Solid Waste Management Authority in the MCSWMA Hydrocarbon Contaminated Material Acceptance Policy.

Printed/Typed Name John Schultz Signature John Schultz Date 5/27/2020

Transporter Acknowledgment of Receipt of Material

Printed/Typed Name	Signature	Date

MCSWMA Authorized Personnel Signature as Acknowledgment of Receipt of Material

Printed/Typed Name	Signature	Date

12/5/97

From:	Pepin, Steffanie
To:	Mike Nowaczyk
Cc:	John E. Schultz; Carpenter, Michael
Subject:	Shiras RFI #3 - Ash Removal within Cell 3 Riprap Slope
Date:	Friday, June 19, 2020 1:30:00 PM
Attachments:	Cell 3 Cross Section.pdf Cost Estimate.pdf

Hi Mike N.,

Below is our response to MJVD's Request for Information (RFI) regarding the Ash Removal within Cell 3 Riprap Slope. Please review and let us know if you have any questions.

RFI #3: Contractor encountered CCR ash above the water line within the ripap on the bank of Cell 3 and requested information for how to proceed.

Resolution:

The current contract includes CCR ash removal from the Ash Pond up to the water line visible on the Cell 3 riprap, as well as cleaning CCR Ash off the riprap embedded in the Cell 3 slope. This resolution instructs the contractor to complete additional CCR ash removal above the water line and up to the CCR ash limit identified in test pits dug on June 12, 2020 (approximately where the trees start growing on the bank).

Per on site meeting on June 17, 2020, with MBLP, GEI, and MJVD, Contractor shall remove all CCR ash and riprap along the bank of Cell 3 within the limits described above and immediately replace the slope with non-woven geotextile (minimum 10oz/SY fabric), plain riprap, and heavy riprap up to EL 607 in order to maintain bank stability. Do not install 8" coarse gravel and 8" filter gravel beneath the riprap as shown on the plans. Restoration above EL 607 will consist of topsoil, seed, fertilizer, and mulch blanket, as shown in the attached cross section.

The riprap removed from the bank will be washed on site and reused along the south side of the sheet pile wall left in place for Orianna Creek.

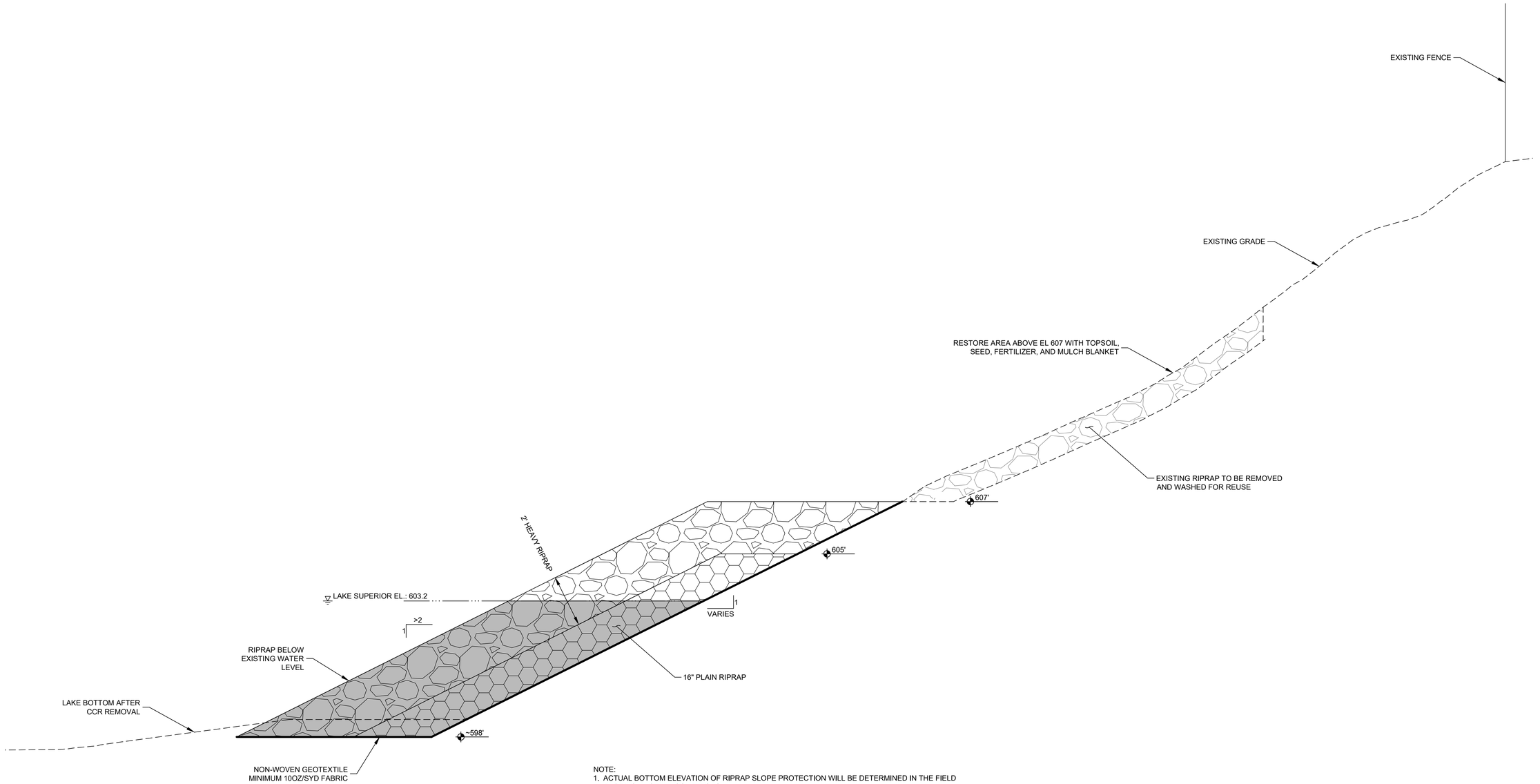
The work will be paid for at the unit prices for the following items. Estimated quantities are included in the attached cost estimate. Quantities are used only to estimate additional cost to project. All items will be paid for based on actual quantities installed in the field.

#4020, Ash Pond CCR Excavation Handling, Ton
#4020A, DCSWMA Loading and Hauling, Ton
#4020B, DCSWMA Tipping Fee, Ton – N/A, paid directly by MBLP
#4040 Ash Pond Rip Rap Cleaning, HR
#6010, Riprap Heavy, SY
#6020, Riprap Plain, SY
#6030, Modified MDOT 4AA, SY – Deduction
#6040, MDOT 34R, SY – Deduction
#6050, Topsoil, Seed, Fertilizer, & Mulch, SY

#8020, Geotextile, SY

GEI50

STEFFANIE PEPIN, P.E.
Project Engineer
906.629.6100 cell: 906.236.2821
109 W. Baraga Avenue, Marquette, MI 49855



NOTE:
1. ACTUAL BOTTOM ELEVATION OF RIPRAP SLOPE PROTECTION WILL BE DETERMINED IN THE FIELD BASED ON ACTUAL CONDITIONS.

A
C-12

SECTION
RIPRAP SHORELINE PROTECTION

SCALE: N.T.S.

Item	Description	Unit	Estimated Quantity	Unit Price	Extension	Notes
4020	Ash Pond CCR Excavation Handling	ton	370	$ 22.00	$ 8,140.00	Assume 2-ft deep, 105 lb/cf
4020A	DCSWMA Loading and Hauling	ton	370	$ 13.30	$ 4,921.00	
4020B	DCSWMA Tipping Fee (to be direct paid by MBLP)	ton	370	$ -	$ -	N/A - paid directly by MBLP
4040	Ash Pond Rip Rap Cleaning	HR	8	$ 108.00	$ 864.00	
6010	Riprap Heavy	SY	90	$ 33.90	$ 3,051.00	
6020	Riprap Plain	SY	90	$ 22.25	$ 2,002.50	
6030	Modified MDOT 4AA	SY	-350	$ 7.50	$ (2,625.00)	Deduction
6040	MDOT 34R	SY	-350	$ 7.50	$ (2,625.00)	Deduction
6050	Topsoil Seed Fertilize & Mulch	SY	300	$ 2.25	$ 675.00	
8020	Geotextile	SY	440	$ 1.00	$ 440.00	
	Estimated Additional Cost to Project =				**$ 14,843.50**	

From:	Pepin, Steffanie
To:	Mike Nowaczyk
Cc:	John E. Schultz; Carpenter, Michael
Subject:	Shiras RFI #4 - Orianna Creek Sheet Pile Cutoff Elevations
Date:	Friday, June 19, 2020 1:30:00 PM
Attachments:	Revised Cross Section.pdf

Hi Mike N.,

Below is our response to MJVD's Request for Information (RFI) regarding the Orianna Creek Sheet Pile Wall Cutoff Elevations. Please review and let us know if you have any questions.

RFI #4: Contractor requested clarification regarding sheet pile cutoff elevation along Orianna Creek as directed in Work Change Directive #1.

Resolution:

Work Change Directive #1 and Change Order #1 directed the Contractor to deduct 146 LF from Item #5070 Remove Exterior Sheet Pile Walls. This length of wall along Orianna Creek will be cut off and left in place. Riprap will be installed south of the wall and on top of the wall. Contractor requested clarification on sheet pile wall cutoff elevation.

Per on site meeting on June 17, 2020, with MBLP, GEI, and MJVD, Contractor shall cut the steel sheet pile (SSP) at the elevations marked on both sides of the wall, and described as follows:

1. From shore, cut SSP wall 6" below existing grade on north side of wall until the location marked 3'-6"
2. At this location, cut SSP wall level at 3'-6" below top of wall (approx. EL 606.2) until the second location marked 3'-6"
3. From this location, transition the SSP wall cutoff elevation from 3'-6" below top of wall (approx. EL 606.2) to 5'-0" below top of wall (approx. EL 604.7) at the location marked 5'-0"
4. From here, cut SSP wall 6" below existing grade on north side of wall until the location marked PULL
5. SSP beyond the location marked PULL shall be removed and paid for under Item #5070

SSP top will be covered with riprap as shown in the attached revised cross-section. Contractor shall install non-woven geotextile (minimum 10oz/SY fabric) beneath the riprap installed south of the sheet pile wall. Washed riprap from the Cell 3 slope shall be installed at the toe of the wall, with plain and heavy riprap above it.

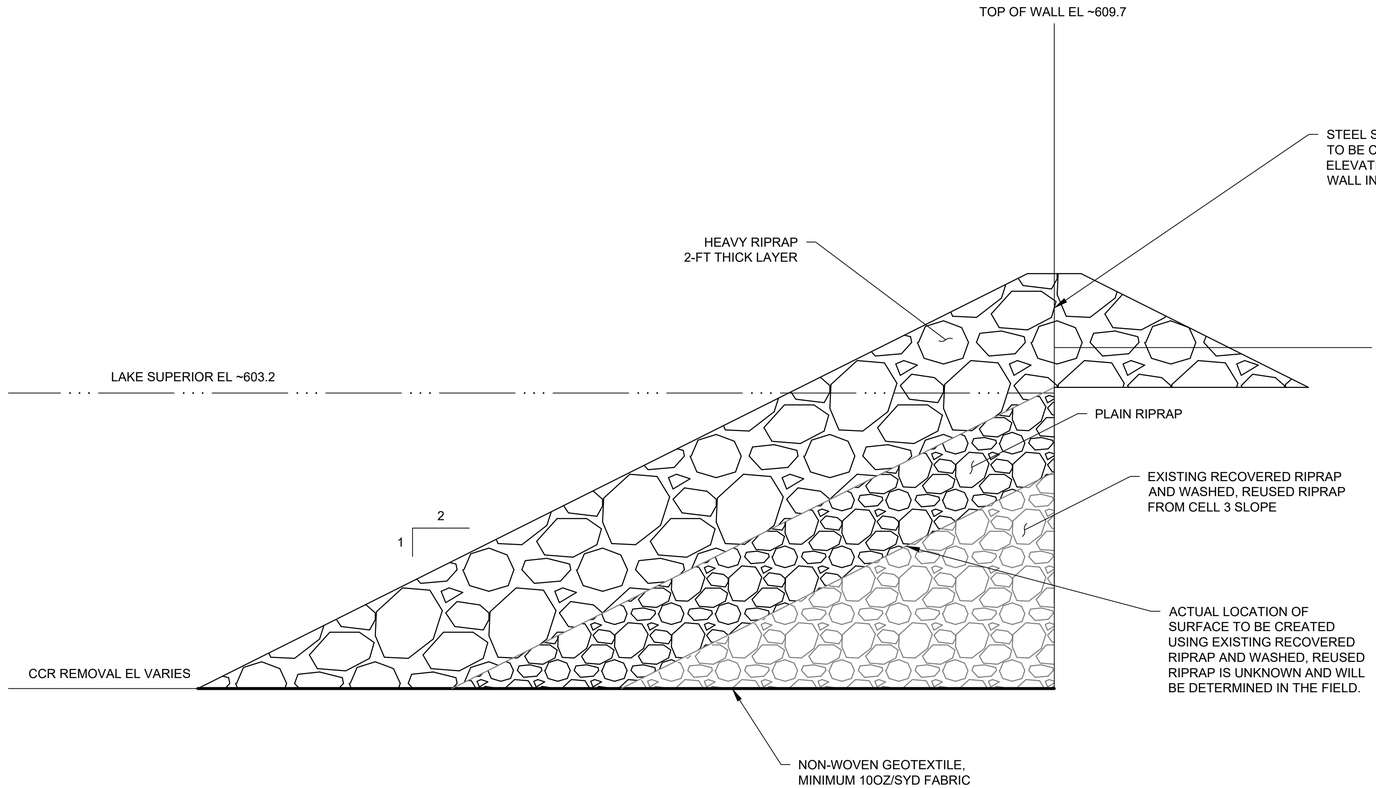
The existing fence above the SSP wall shall be removed and included in the item for SSP cutting. The corner post located at the west end of the SSP wall shall remain in place. Fence that parallels bike path shall also remain in place.

The work described above will be paid for at the unit prices for the following items.
#6010, Riprap Heavy, $33.90/SY
#6020, Riprap Plain, $22.25/SY

#7020A, Sheet Pile Cutting, $35/LF
#8020, Geotextile, $1/SY

GEI50

STEFFANIE PEPIN, P.E.
Project Engineer
906.629.6100 cell: 906.236.2821
109 W. Baraga Avenue, Marquette, MI 49855



GEI Consultants
GEI CONSULTANTS OF MICHIGAN, P.C.
109 W. BARAGA AVENUE
MARQUETTE, MI 49855
(906)451-4021

Marquette Board of Light and Power
2200 Wright Street
Marquette, Michigan 49855

Ash Pond Clean Closure and Stormwater Management Project
Shiras Steam Plant
Marquette, Michigan

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

OLD CELL 4 CROSS SECTION

REV. 1

GEI Project 1903625

Pepin, Steffanie

From: Pepin, Steffanie
Sent: Thursday, July 2, 2020 9:46 AM
To: John E. Schultz; Joshua W. Hendrickson
Cc: Carpenter, Michael
Subject: RE: Shiras Drainage Basin 1 issues

Per discussions with John S. and Mike W. on site this morning, item #2 is no longer an issue because the water line is part of the force main and will be removed by MJVD as part of this project.

Thanks,

GEI50
STEFFANIE PEPIN, P.E.
Project Engineer
906.629.6100 cell: 906.236.2821
109 W. Baraga Avenue, Marquette, MI 49855

From: Pepin, Steffanie
Sent: Wednesday, July 1, 2020 5:32 PM
To: John E. Schultz <jschultz@mblp.org>; Joshua W. Hendrickson <JHendrickson@mblp.org>
Cc: Carpenter, Michael <mcarpenter@geiconsultants.com>
Subject: Shiras Drainage Basin 1 issues

Hi John and Josh,

During my site visit today, MJVD presented a couple issues in Drainage Basin 1 that we wanted to bring to your attention.

1. MJVD found what we assume is more diesel contaminated soil when excavating to proposed grade on the north side of the basin bottom. Approximate location is shown in green in the screenshot below. MJVD covered the location to approximately 0.6-ft above finish grade for now. They are planning to continue with finish grading of the perimeter berm before they do finish grading of the bottom of Drainage Basin 1, in order to minimize the potential of spreading the contaminated soil around the site. During finish grading of the basin bottom, they will pile the contaminated soil separately and remove it for disposal at the landfill. The operator asked if they need to remove all the contaminated soil, and I told him that we are only excavating to finish grade (not chasing the contamination) per decisions made at the end of May. We just wanted to make you aware of this new location.
2. Below is a screenshot of our most recent Drainage Basin 1 layout. There is an existing water line in the southwest corner of the proposed basin, shown below in blue and also shown in the attached three photos. MJVD requested information for how to complete Drainage Basin 1 / Berm at the southwest corner due to the waterline

conflict. From what I understand, this water line needs to remain in place through demolition so it cannot be removed to construct Drainage Basin 1. Mike C. and I discussed some options. We propose that MJVD chamfer the southwest corner of Drainage Basin 1 by grading similar to the contours shown below in pink, and maintain 5-ft cover over the pipe beneath the berm surface (to prevent freezing over winter). This would change the volume of Drainage Basin 1 temporarily until the water line is removed. When the water line is removed during plant demolition, the southwest corner of Drainage Basin 1 shall be constructed as shown by the red contours in the screen shot below. Let us know your thoughts on this option.

Thanks,

GEI50

STEFFANIE PEPIN, P.E.
Project Engineer
906.629.6100 cell: 906.236.2821
109 W. Baraga Avenue, Marquette, MI 49855

Pepin, Steffanie

From: Pepin, Steffanie
Sent: Friday, August 7, 2020 1:21 PM
To: Mike Nowaczyk; mike.wills@mjvandammeinc.com
Cc: John E. Schultz; Carpenter, Michael
Subject: Shiras RFI #6 - Ash in South bank of pond

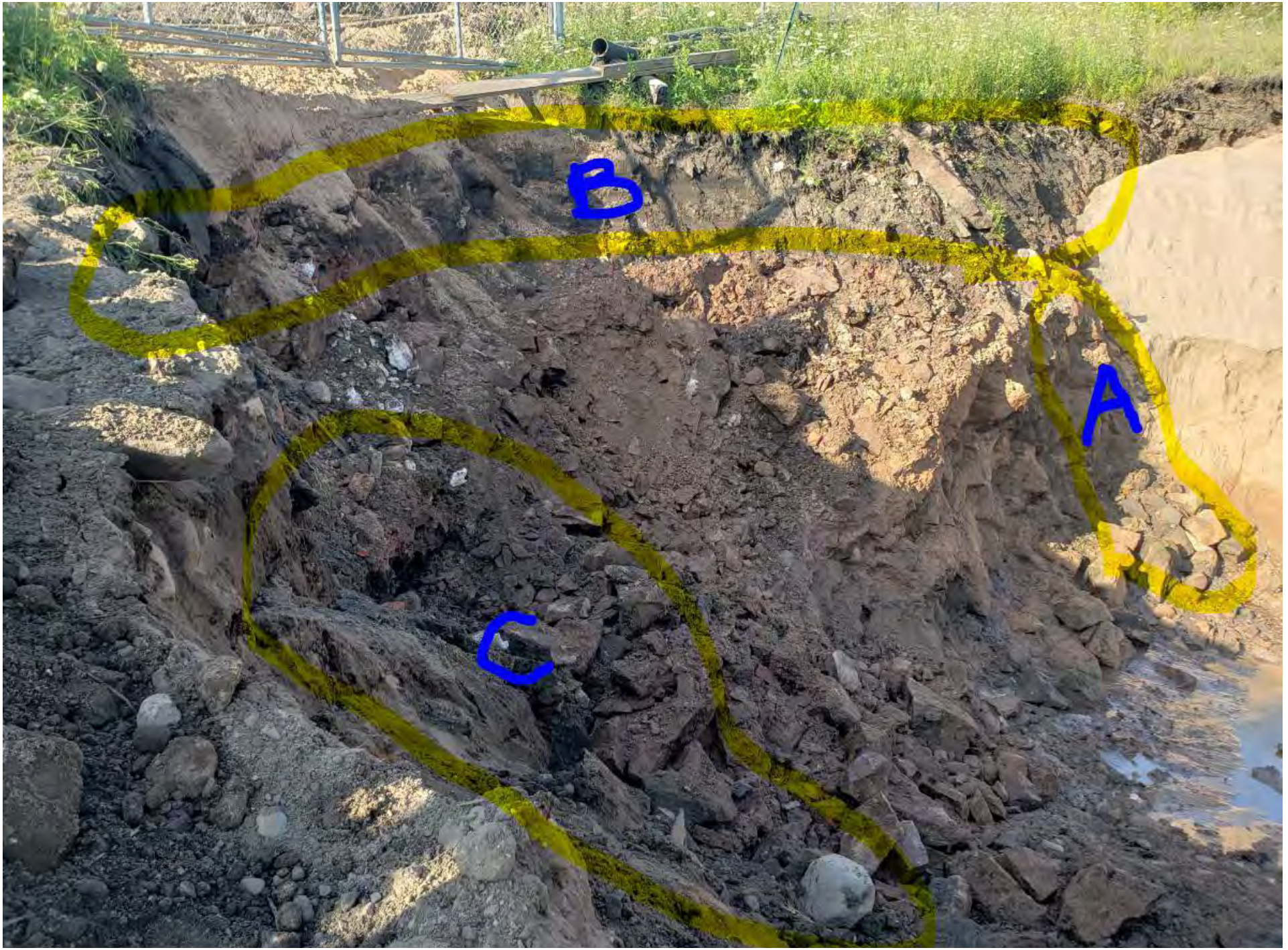
Importance: High

Hi Mike N. and Mike W.,

Just writing to document our resolution to MJVD's question about ash in the South bank (RFI #6).

RFI:
On Wednesday, August 5, 2020, MJVD found ash in the South bank of the ash pond. It appears to go under the fence North of the access road. MJVD requested information regarding how far they should chase the ash in this location. They are concerned it will impact the stability of the access road. See photo below for description of areas in question.

Resolution: (See labeled photo below)
Per our onsite meeting on August 7, 2020, between MBLP, GEI, and MJVD
Area A – No additional excavation.
Area B – Remove the 1' – 2' layer of ash.
Area C – Remove ash as much as possible without impacting stability of access road.
Restore South bank with sand/riprap similar to West bank.


B
A
C

Thanks,

GEI50

STEFFANIE PEPIN, P.E.
Project Engineer
906.629.6100 cell: 906.236.2821
109 W. Baraga Avenue, Marquette, MI 49855

Appendix G

Work Change Directives

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Work Change Directive No. 1

Date of Issuance:	04-20-2020	Effective Date:	
Owner:	Marquette Board of Light & Power	Owner's Contract No.:	MBLP PO 35961
Contractor:	MJ VanDamme Trucking, Inc.	Contractor's Project No.:	
Engineer:	GEI Consultants of Michigan, PC	Engineer's Project No.:	1903625
Project:	Ash Pond Clean Closure and Stormwater Management Project	Contract Name:	Ash Pond Clean Closure and Stormwater Management Project

Contractor is directed to proceed promptly with the following change(s):

Description:
Per revised sheets C-10.0 and C-12.0 in the Issue for Construction plan set dated 4-13-2020, cut north steel sheet pile wall of Old Cell 4 level with existing ground north of wall in order to preserve Orianna Creek stream channel per request of EGLE. Install riprap on south side of this wall consistent with riprap to be installed on west and south banks of ash pond, per revised Sheet C-12.0.

Add the following items of work to the contract:
#5075: Exterior Sheet Pile Cut Above Grade, 115 LF

Revise contract quantity for the following items of work:

Item	Bid Quantity	Revised Quantity
#6010: Riprap Heavy	680 SY	940 SY
#6020: Riprap Plain	350 SY	480 SY
#6030: Modified MDOT 4AA	350 SY	480 SY
#6040: MDOT 34R	350 SY	480 SY

Attachments: *[List documents supporting change]*
Issue for Construction plan set dated 4-13-2020

Purpose for Work Change Directive:
Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to: *[check one or both of the following]* – NOT APPLICABLE

☐ Non-agreement on pricing of proposed change.

☐ Necessity to proceed for schedule or other Project reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price $ [increase] [decrease].
Contract Time days [increase] [decrease].

Basis of estimated change in Contract Price:

☐ Lump Sum ☒ Unit Price
☐ Cost of the Work ☐ Other

RECOMMENDED:	AUTHORIZED BY:	RECEIVED:
By: Mike Carpenter, GEI	By: John Schultz, MBLP	By:
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Title: Project Engineer	Title: Manager of Mechanical Engineering Services	Title:
Date:	Date:	Date:

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Work Change Directive No. 2

Date of Issuance:	5-29-2020	Effective Date:	
Owner:	Marquette Board of Light & Power	Owner's Contract No.:	35961
Contractor:	MJ VanDamme Trucking, Inc.	Contractor's Project No.:	200040
Engineer:	GEI Consultants of Michigan, PC	Engineer's Project No.:	1903625
Project:	Ash Pond Clean Closure and Stormwater Management Project	Contract Name:	Ash Pond Clean Closure and Stormwater Management Project

Contractor is directed to proceed promptly with the following change(s):

Description:
Drainage Basin 1 surface shall be constructed per the attached revised Sheets C6.0 and C-7.0. Storm sewer system slopes will remain. Invert of the outlet end section will remain at 603.5. Drainage Basin 1 bottom elevation shall slope from the pipe outlet elevation 603.5 at the east side of the basin (30-foot-wide flat area) to elevation 605.00 at the west side of the basin. The basin bottom footprint shall be widened by 10 feet to the south. Any contaminated material removed during basin excavation shall be hauled off site. Contractor shall not undercut basin to remove contaminated soil beneath basin bottom elevation. Dewatering is not required for basin excavation.

Attachments:
Revised Sheets C6.0 and C-7.0.

Purpose for Work Change Directive:
Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to:

☐ Non-agreement on pricing of proposed change.

☒ Necessity to proceed for schedule or other Project reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price $0 [~~increase~~] [~~decrease~~].
Contract Time 0 days [~~increase~~] [~~decrease~~].

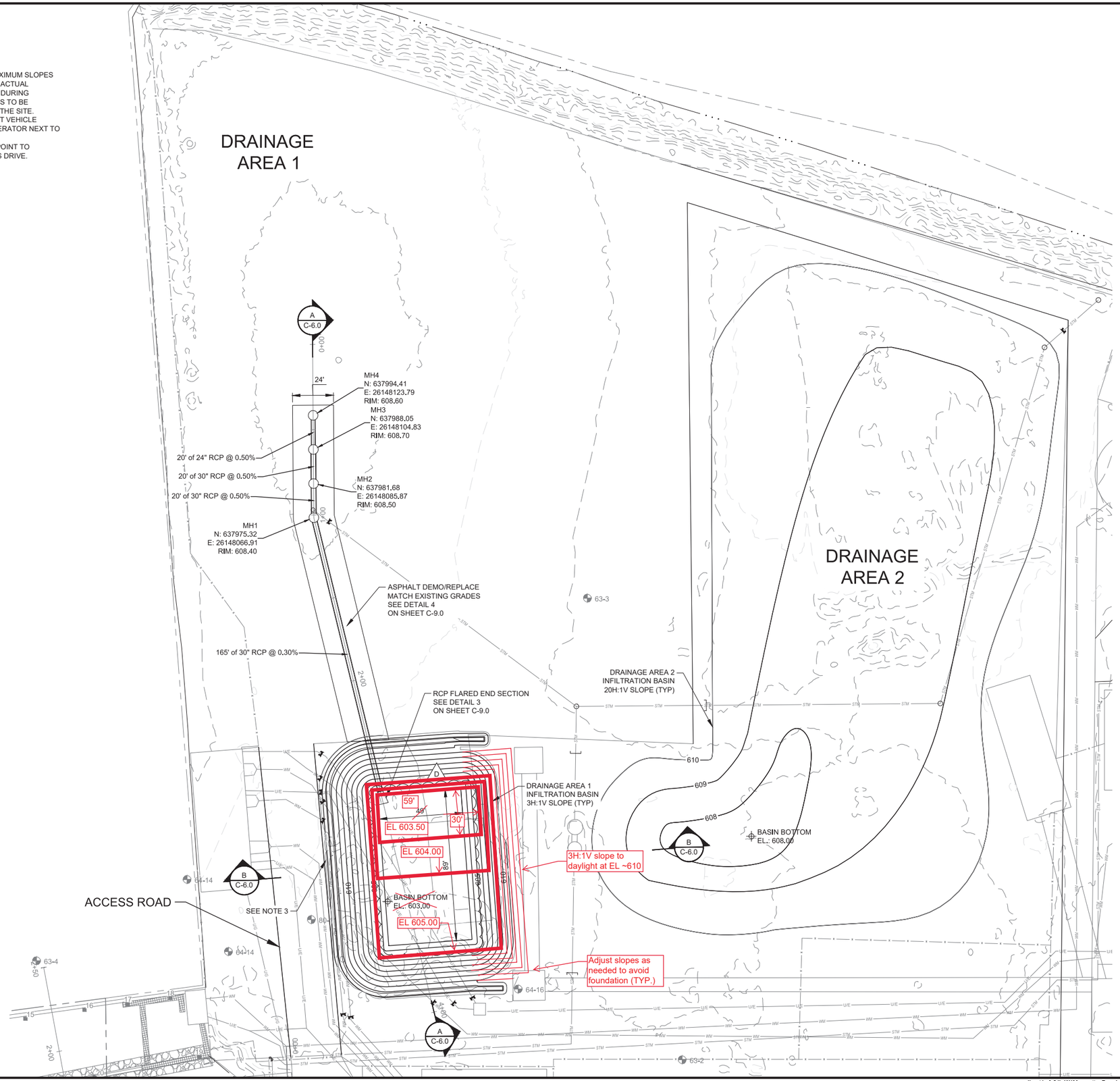
Basis of estimated change in Contract Price:

☐ Lump Sum ☒ Unit Price
☐ Cost of the Work ☐ Other

RECOMMENDED:	AUTHORIZED BY:	RECEIVED:
By: Michael Carpenter Engineer (Authorized Signature)	By: Owner (Authorized Signature)	By: Contractor (Authorized Signature)
Title: Engineer of Record	Title:	Title:
Date: 5/29/2020	Date:	Date:

NOTES:

1. GRADING CONTOURS INDICATE MAXIMUM SLOPES AND LOCATION OF BASIN BOTTOM. ACTUAL ELEVATIONS WILL BE DETERMINED DURING CONSTRUCTION, AS NO MATERIAL IS TO BE REMOVED FROM OR IMPORTED TO THE SITE.
2. FINISHED GRADING SHALL SUPPORT VEHICLE ACCESS TO THE TEMPORARY GENERATOR NEXT TO THE SUBSTATION.
3. PROVIDE BREAK IN BERM AT LOW POINT TO PREVENT PONDING ALONG ACCESS DRIVE.



\\mqf1v-fs01\ W:\Marquette_Boardof\Light&Power\1903625_Shiras CCR Clean Closure Design\CAD\Design\Working\C-5.0 C-6.0 C-7.0 C-8.0 STORMWATER.dwg - 1/27/2020

GEI Consultants
GEI CONSULTANTS OF MICHIGAN, P.C.
109 W. BARAGA AVENUE
MARQUETTE, MI 49855
(906)451-4021

Marquette Board of Light and Power
2200 Wright Street
Marquette, Michigan 49855

Ash Pond Clean Closure and Stormwater Management Project
Shiras Steam Plant
Marquette, Michigan

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
D	4/30/2020	REVISION 1	MDC
C	4/13/2020	ISSUE FOR CONSTRUCTION	MDC
B	2/7/2020	ADDENDUM 1	MDC
A	1/27/2020	ISSUE FOR BID	MDC

Designed:	K. Price
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

STORMWATER BASIN AND PIPING PLAN

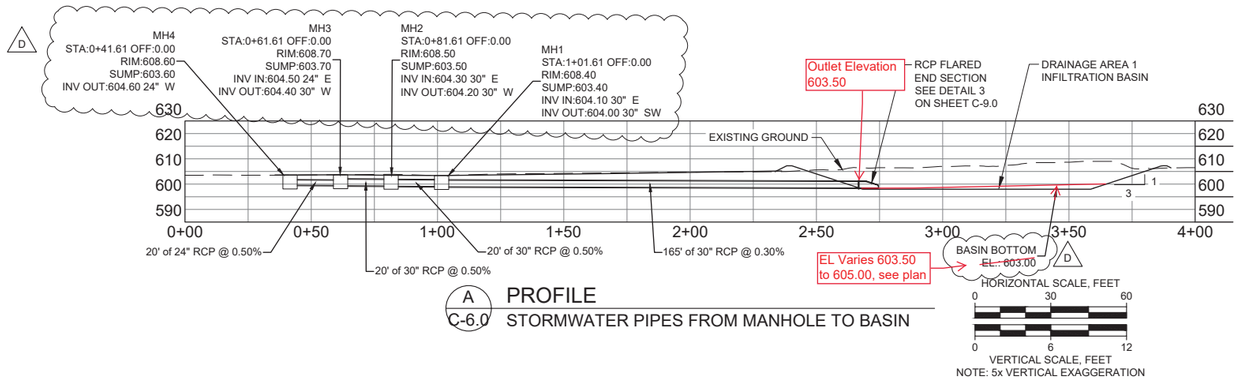
GEI Project 1903625

DWG. NO.
C-6.0

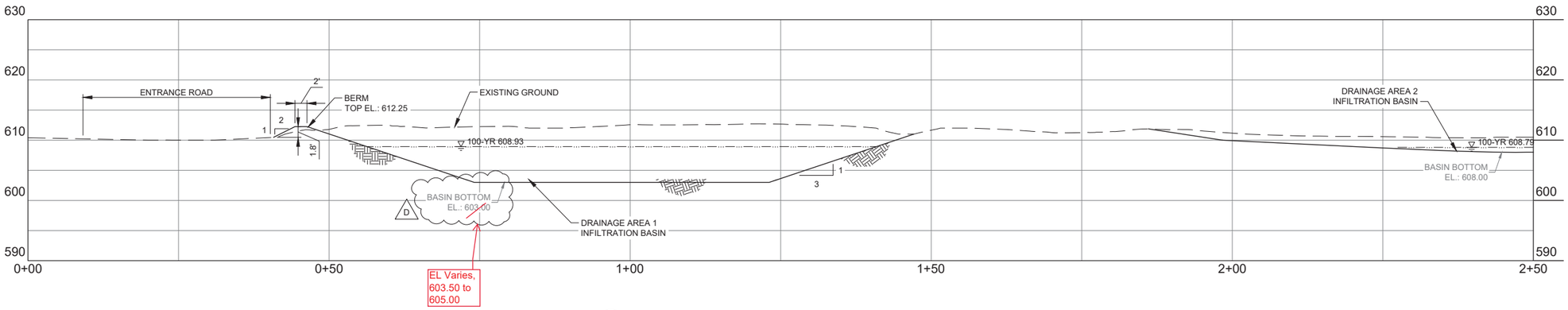
SHEET NO.
8

0 30 60
SCALE: 1" = 30'

For Construction



A C-6.0 **PROFILE**
STORMWATER PIPES FROM MANHOLE TO BASIN



B C-6.0 **SECTION**
AREA 1 BASIN AND CAPPED UTILITES

0 10 20
SCALE: 1" = 10'

NOTES:

1. INFILTRATION BASIN DESIGNED ASSUMING AN INFILTRATION RATE OF 14 IN / HR.
2. BASIN BOTTOM MAY NEED TO BE CLEANED OF FINES TO MAINTAIN INFILTRATION.

For Construction

GEI Consultants
GEI CONSULTANTS OF MICHIGAN, P.C.
109 W. BARAGA AVENUE
MARQUETTE, MI 49855
(906)451-4021

Marquette Board of Light and Power
2200 Wright Street
Marquette, Michigan 49855

Ash Pond Clean Closure and Stormwater Management Project
Shiras Steam Plant
Marquette, Michigan

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	
D	4/30/2020	REVISION 1	MDC
C	4/13/2020	ISSUE FOR CONSTRUCTION	MDC
B	2/7/2020	ADDENDUM 1	MDC
A	1/27/2020	ISSUE FOR BID	MDC

Designed:	K. Price
Checked:	S. Pepin
Drawn:	G. Carvalho
Approved By:	M. Carpenter

STORMWATER SYSTEM PROFILES AND SECTIONS

GEI Project 1903625

DWG. NO.
C-7.0

SHEET NO.
9

Appendix H

Contractor Submittals

MBLP - Ash Pond Clean Closure and Stormwater Management Project
Submittal Register

Submittal No. #	Submittal Name	Section/Sheet Name	Description	Date Submitted	Date Returned to Contractor	Date ReSubmitted	Date Returned to Contractor	Date ReSubmitted	Date Returned to Contractor	No Exceptions Taken	Furnish as Noted	Revise and Resubmit
Bid	Contractor Work Plan	General Specifications	Submitted with Bid	2/14/2020	4/20/2020					x		
0	Submittal Register	General Specifications	Sent via Email	3/27/2020	4/20/2020						x	
1	Construction Schedule	General Specifications	Sent via Email	4/3/2020	4/20/2020	4/29/2020	4/29/2020	6/24/2020		x		
2	Traffic Maintenance Plan	General Specifications	Sent via Email	4/15/2020	4/20/2020					x		
3	Dewatering, Excavation, & Handling Plan	General Specifications	Sent via Email	4/15/2020	4/20/2020						x	
4	Surface Water Management Plan	General Specifications	Sent via Email	4/15/2020	4/20/2020					x		
5	Dust Management Plan	General Specifications	Sent via Email	4/15/2020	4/20/2020					x		
6	Health & Safety Plan	General Specifications	On-site Meeting	4/15/2020	4/20/2020	5/6/2020	5/6/2020			x		
7	COVID-19 Plan	Pre-construction Call	Sent via Email	4/15/2020	4/20/2020					x		
8	Structure Monitoring Plan	Section 01330, Submittal Procedures	Sent via Email	4/16/2020	4/20/2020					x		
9	Stormwater Management System Shop Drawings	Section 01330, Submittal Procedures	Sent via Email	4/20/2020	4/20/2020	4/22/2020	4/27/2020	4/29/2020	4/29/2020	x		
10	Silt Fence	Materials	Sent via Email	4/29/2020	4/29/2020					x		
11	Erosion Control Blanket	Materials	Sent via Email	5/1/2020	5/6/2020					x		
12	Geotextile Fabric	Materials	Sent via Email	5/1/2020	5/6/2020					x		
13	Seed & Fertilizer	Materials	Sent via Email	5/11/2020	5/14/2020					x		
14	Turbidity Curtain	Materials	Sent via Email	5/11/2020	5/13/2020					x		
N/A	Proposed Roof Drain Plan	General Specifications	Discussed on site 5-6-20 and during Progress Meeting #4 5-13-20	5/13/2020	5/13/2020					x		
15	Coarse Gravel	Materials	Sent via Email	5/14/2020	5/19/2020					x		
16	Filter Gravel	Materials	Sent via Email	5/14/2020	5/19/2020					x		
17	Pipe Bedding	Materials	Sent via Email	5/14/2020	5/19/2020					x		
18	HMA Materials	Materials	Sent via Email	5/18/2020	5/19/2020					x		
N/A	General Fill	Materials	From MBLP Pit	N/A	N/A					x		
N/A	Rip Rap	Materials	MJVD Quarry; Visual Inspection	N/A	N/A					x		
N/A	Topsoil	Materials	MJVD Quarry; Visual Inspection	N/A	N/A					x		
19	Hydro Seeder Specifications	Materials	Sent via Email	6/9/2020	6/12/2020					x		
20	Precast Concrete Barrier	Materials	Sent via Email	6/9/2020	6/12/2020					x		
21	Contractor's on-site QC Program	T1.0	Sent via Email	6/24/2020								

DEWATERING, EXCAVATION, & HANDLING PLAN

1.0 INTRODUCTION

This Dewatering, Excavation and Handling Plan has been prepared to outline the proposed excavation activities within the ash ponds. The project includes dewatering the ash ponds, controlling groundwater infiltration, excavating ash and removing the sheet pile walls. Based on the project bid package, 1,800 tons of ash and 750 tons of subgrade material (6-inch cut below ash) is estimated.

2.0 ASH POND REMOVAL PLAN

Carefully planned out construction sequencing is key to the success of this project. Based on our review of the project bid documents, and our experience with similar projects we propose the following task sequence. This sequence assumes that specified stormwater features are previously installed and functioning to handle local stormwater flow and does not flow into the proposed Ash Pond Work area.

1 TURBIDITY CURTAIN INSTALLATION

Prior to performing any work within the Ash Ponds, a turbidity curtain will be installed within Lake Superior, encompassing the entire work zone. The turbidity curtain will be ballasted to extend 12" above the lake bed.

2 DEWATERING

Dewater Ash Pond Cells using conventional trash pump(s) and conveying water via hose to City Sewer Utility. Pumping rate not to exceed 300 gallons per minute (gpm). During drawdown, identify "leaks" that may be realized and plug leaks with suitable temporary impermeable media. Once surface water is removed, install localized "sumps" within the exposed subgrade consisting of vertical slotted PVC riser (or similar sump material) jacketed with open-graded aggregate. Localized dewatering to continue at sump locations throughout Excavation Task (See Task 4 Below).

3 INTERIOR SHEETPILE WALLS AND APPURTENANCE REMOVAL

Remove associated walkways/railings and then remove the following interior sheetpile walls using an excavator and vibratory extractor attachment:

- Interior Walls of Cell 3,
- Interior Walls of Cell 2,
- Interior Walls of Cell 4/5,

Perimeter Walls remain in place, intent of this task is to create 1 robust cell to work within. Removed sheets will be inspected upon removal, and if ash accumulation is observed, ash will be cleansed in cell prior to relocation.

3a UPLAND CELL 3 CUTOFF WALL INSTALLATION

Install removed sheets (from Task 3) along west shore of Cell 3 as means of groundwater infiltration cutoff. Specific depths and layout to be determined as field conditions dictate. This method may be considered to use in substitute of the well-point dewatering system.

4 ASH AND SUBGRADE EXCAVATION

As stated in Task 2, localized dewatering will be used to allow efficient excavation of the ash and underlying subgrade. Excavation will be accomplished using 300-series excavators traversing upon timber mats. Material will be loaded into off-road haul trucks (ORT) which will traverse over timber mats within the excavation area and unload at the upland soil dewatering pad located in the former coal stockpile area. Excavation will occur in sequential fashion meaning ash layer will be removed from localized area then the underlying 6-inch subgrade layer will be removed. Zone of removal will be dependent upon the local dewatering zone of influence. The anticipated duration of dewatering, ash and subgrade excavation is estimated at approximately two to three weeks.

5 PERIMETER SHEETPILE REMOVAL

After complete ash/subgrade removal, the dewatering sumps will be decommissioned, and the perimeter walls will be removed. The temporary wall installed along Cell 3 will be removed using a conventional excavator. The lakeward wall along Cell 4 and the perimeter walls along Old Cell 4 will be removed using an crane attached to a work barge working from Lake Superior. The sheets will be loaded out on trucks and properly disposed of.

6 ASH MOISTURE CONDITIONING AND PROCESSING

As stated in Task 4, the excavated material (ash and subgrade material) will be hauled to the upland soil dewatering pad, for moisture conditioning, processing, and trucking. The dewatering pad will be constructed to promote gravity dewatering/decanting methods. The pad will be constructed by excavating a sloped basin, and constructing berms with the excavated material around the perimeter. The berms and subgrade will be lined and protected using mats and/or aggregate to protect the liner. "Wet" material will be placed in the upper elevation levels of the pad and allowed to decant for a sufficient period of time. An excavator will periodically agitate the wet pile promoting aeration and mixing the relatively dry surface soils within the overly wet interior of the pile. This technique also controls the risk of migrating dust. Free water will flow via gravity into the lower portion of the basin, and be pumped into the City Sanitary as needed. The pad will be constructed to allow various phases of the material retention time, meaning areas isolated to "wet", semi-wet, and relatively dry for loadout purposes.

7 DUST CONTROL, TRACKING & SPILL CONTROL

Dust control will be implemented by watering travel routes as needed and protecting exposed stockpiles by covering or placing relatively moist soils at the surface. A street sweeper will be available in the event that sediment tracking occurs, and haul road entrances will be stabilized with oversized crushed aggregate to "shake-down" tire accumulation. Secondary containment will be utilized on stationary

equipment containing fuels/oils, such as generators, light plants, fuel cells and containers. Spill Kits will be stationed throughout the areas where heavy equipment is proposed, such as within the Ash Pond Cell and on the marine barge. Spill kits will contain absorbents, boom and waste bags to address localized spills.

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	1

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/29/2020	**1.01.A.2**	**01330**	**Construction Schedule Rev1**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

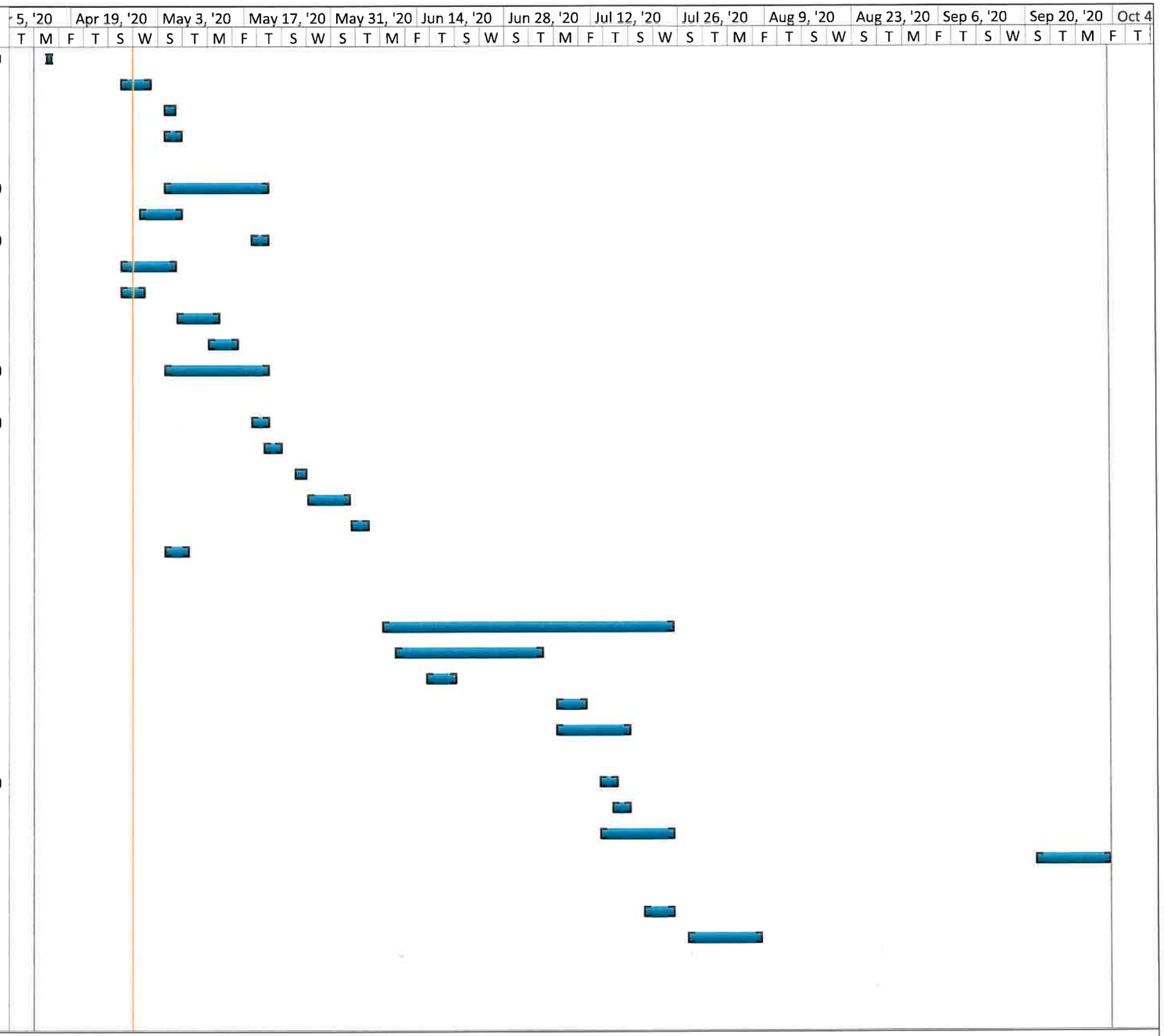
REMARKS: Revision1 Project Construction Schedule Attached

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/29/2020

ID	Task Name	Duration	Start	Finish
1	Pre-Construction Meeting	1 day	Wed 4/15/20	Wed 4/15/20
2	Mobilization	5 days	Mon 4/27/20	Fri 5/1/20
3	Erosion Controls - Silt Fence & Etc	2 days	Mon 5/4/20	Tue 5/5/20
4	Surveying & Stakeout	3 days	Mon 5/4/20	Wed 5/6/20
5				
6	COAL handling, loadout, & Trucking	13 days	Mon 5/4/20	Wed 5/20/20
7	Catch Basin/Stormwater Piping Removal	5 days	Thu 4/30/20	Wed 5/6/20
8	CCR removal from Sluice Tank	3 days	Mon 5/18/20	Wed 5/20/20
9	Temporary building disassembly and transport	7 days	Mon 4/27/20	Tue 5/5/20
10	CCR removal from Temporary Building	4 days	Mon 4/27/20	Thu 4/30/20
11	Grading of Stormwater Basin Area 2	5 days	Wed 5/6/20	Tue 5/12/20
12	Bulkhead Ash Sluice pipe/Reroute roof drain	5 days	Mon 5/11/20	Fri 5/15/20
13	CCR deposits - excavation & loadout	13 days	Mon 5/4/20	Wed 5/20/20
14				
15	Cut/Bulkhead Circulation pipes & electric utilities	3 days	Mon 5/18/20	Wed 5/20/20
16	Lift station, Valve box, force main removal	3 days	Wed 5/20/20	Fri 5/22/20
17	Grading of Stormwater Basin Area 1	2 days	Mon 5/25/20	Tue 5/26/20
18	Stormwater manholes and new concrete piping	5 days	Wed 5/27/20	Tue 6/2/20
19	HMA paving and patching	3 days	Wed 6/3/20	Fri 6/5/20
20	Earth berm embankment/Precast concrete barrier construction	4 days	Mon 5/4/20	Thu 5/7/20
21				
22	Ash Pond Dewatering	35 days	Mon 6/8/20	Fri 7/24/20
23	Ash Pond CCR excavation, loadout, & trucking	18 days	Wed 6/10/20	Fri 7/3/20
24	Remove walkway handrails & grating	5 days	Mon 6/15/20	Fri 6/19/20
25	PumpHouse demolition	5 days	Mon 7/6/20	Fri 7/10/20
26	Remove Interior Sheetpile Walls	10 days	Mon 7/6/20	Fri 7/17/20
27				
28	Cut & Bulkhead Forcemain & Stormwater Pipes	3 days	Mon 7/13/20	Wed 7/15/20
29	Remove Concrete Ramps & bulkheads	3 days	Wed 7/15/20	Fri 7/17/20
30	Remove Exterior Sheetpile Walls	10 days	Mon 7/13/20	Fri 7/24/20
31	Monitoring Well Abandonement	10 days	Mon 9/21/20	Fri 10/2/20
32				
33	Site Restoration - Rip rap placement	5 days	Mon 7/20/20	Fri 7/24/20
34	Topsoil, seed, & mulch	10 days	Mon 7/27/20	Fri 8/7/20
35				
36	**Substantial Completion August 1st**			
37	**100% Completion August 15th**			



Project: MBLP ASH POND CLEAN C
Date: Wed 4/29/20

Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Deadline
Split	External Tasks	Inactive Summary	Manual Summary	Progress
Milestone	External Milestone	Manual Task	Start-only	
Summary	Inactive Task	Duration-only	Finish-only	

ID	Task Name	Duration	Start	Finish
1	Pre-Construction Meeting	1 day	Wed 4/15/20	Wed 4/15/20
2	Mobilization	5 days	Mon 4/20/20	Fri 4/24/20
3	Erosion Controls - Silt Fence & Etc	5 days	Mon 4/20/20	Fri 4/24/20
4	Surveying & Stakeout	4 days	Mon 4/20/20	Thu 4/23/20
5				
6	COAL handling, loadout, & Trucking	16 days	Mon 4/20/20	Mon 5/11/20
7	Catch Basin/Stormwater Piping Removal	5 days	Mon 5/4/20	Fri 5/8/20
8	CCR removal from Sluice Tank and Hoop Building	7 days	Mon 5/18/20	Tue 5/26/20
9	Grading of Stormwater Basin Area 2	5 days	Mon 5/11/20	Fri 5/15/20
10	Bulkhead Ash Sluice pipe/Reroute roof drain	5 days	Mon 5/4/20	Fri 5/8/20
11	CCR deposits - excavation & loadout	5 days	Mon 5/25/20	Fri 5/29/20
12				
13	Cut/Bulkhead Circulation pipes & electric utilities	3 days	Mon 6/1/20	Wed 6/3/20
14	Lift station, Valve box, force main removal	3 days	Wed 6/3/20	Fri 6/5/20
15	Grading of Stormwater Basin Area 1	2 days	Mon 6/8/20	Tue 6/9/20
16	Stormwater manholes and new concrete piping	5 days	Mon 6/15/20	Fri 6/19/20
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21	Ash Pond CCR excavation, loadout, & trucking	15 days	Mon 6/15/20	Fri 7/3/20
22	Remove walkway handrails & grating	5 days	Mon 7/6/20	Fri 7/10/20
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33	**Substantial Completion August 1st**			
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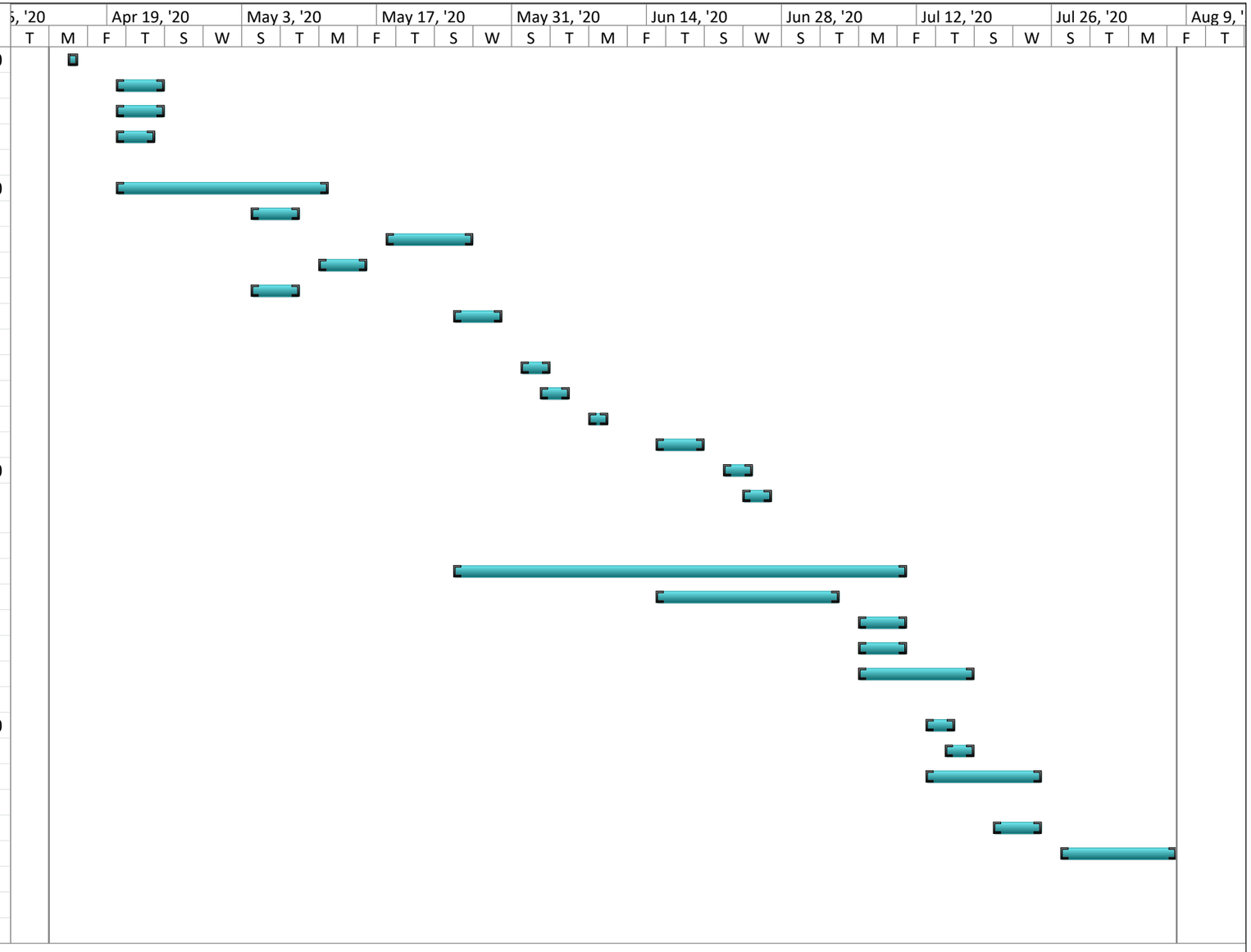


Project: MBLP ASH POND CLEAN C
Date: Thu 4/2/20

Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Deadline
Split	External Tasks	Inactive Summary	Manual Summary	Progress
Milestone	External Milestone	Manual Task	Start-only
Summary	Inactive Task	Duration-only	Finish-only

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	2

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/14/2020	**1.01.A.4**	**01330**	**Traffic Maintenance Plan**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: Initial Traffic Maintenance Plan Attached

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/14/2020

Traffic Control & Maintenance Plan

MBLP Ash Pond Clean Closure & Stormwater Management Project
Marquette, MI.

Contract No. 35961
MJVD Project Number: 200040

Prepared For: GEI Consultants of Michigan, P.C.

Prepared By: M.J. VanDamme Trucking, Inc.

Signature Page

Traffic Control & Maintenance Plan

MBLP Ash Pond Clean Closure & Stormwater Management Project

Marquette, MI

Prepared by: _____ 4/15/2020

Mike Nowaczyk, Project Manager — Date

Reviewed by: _____ 4.15.20

Rod Wells, General Manager — Date

Approved by: _____ Vice President 4/15/2020

Name & Title — Date

Effective Date

___ New Plan

___ Title Change

___ Plan Revision

___ Plan Rewrite

Table of Contents

1.0 INTRODUCTION

M.J. VanDamme Trucking, Inc (MJVD) has prepared this Traffic Control & Maintenance Plan (Plan) to worker safety within the project area, and associated public safety at points of interaction with the project area, for the Marquette Board of Light & Power (MBLP) Ash Pond Clean Closure & Stormwater Management Project. This Plan is designed to protect personnel on the ground, personnel in vehicles or heavy equipment, and property from damage resulting from impact or collision. A copy of this Plan will be available to onsite personnel and maintained within the Project Field Trailer and shall become effective upon the initiation of site activities and remain in place for the duration of the project.

1.1 Site Location and Project Description

This project is located at the MBLP Shiras Steam Plant facility, which is located on the shore of Lake Superior in Marquette, Michigan. The Work consists of removing surface deposits of coal combustion residual (CCR) from several former ash dewatering areas, removing CCR from the ash ponds (5 cells enclosed and divided by sheet pile walls) at the northwest corner of the site, and hauling and disposing CCR off site consistent with requirements of Title 40 Code of Federal Regulations (40 CFR) Part 257, Subpart D - Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments. In addition, the Work consists of removing remaining coal and coal yard grading, constructing stormwater management improvements, and removing ash pond sheet pile walls.

1.2 Objectives

The primary goal of this Plan is to protect personnel on the ground, personnel in vehicles or heavy equipment, and property from damage resulting from impact or collision.

2.0 TRAFFIC CONTROL MEASURES

Minor traffic control may be warranted at the entrance to the Site on East Hampton Road although Traffic Regulation (i.e. stopping traffic, shifting lanes, closing lanes) is not expected at this Site. However, for the purposes of this Plan, traffic control will follow Michigan Department of Transportation (MDOT) guidance documents.

2.1 Standards & Guidance Documents

Traffic control measures will vary depending on the type of construction activity, site and roadway location, traffic volumes, and vehicle type. Overall, traffic controls put in place during the project will follow the MDOT guidance documents.

2.2 Flagging Operations

Flagging may be required when mobilizing large-scale equipment to the site. If the need for flagging operations occur, they will be determined based on MDOT guidance, documents, and site conditions.

2.3 Road Closures

In general, road closures will be avoided whenever possible and are not anticipated during the project. If the need for a road closure arises, the road closures will be determined based on MDOT guidance documents, site conditions, and potential hazards to public safety.

2.4 Detours

Although not expected for this project, if the need for road closures are necessary, MJVD will coordinate with local agencies, residents, and services regarding detour routes. Detour routes will use existing public roads and shall typically match closed roads in terms of freight capacity and lane width.

2.5 Signage

Proper MDOT signage will be posted near the Site entrances to alert vehicles to the potential for equipment entering and exiting the Site. Additional signage if required, will be installed in accordance with MDOT Standards.

3.0 PUBLIC SAFETY

This project may attract individuals curious about the construction and remediation activities. Access restrictions will be initiated during the site preparation phase and will be in place throughout the entire project. MJVD recognizes that nearby residents and others may have a high interest in the project and that it is important to control access. To limit public access to construction areas, the following restrictions will be put in place:

3.1 Work Area Exclusion

Temporary construction fencing may be placed around immediate construction areas to prevent public access including, where appropriate, construction signs, barricades, and no trespassing signs.

3.2 Emergency Service Access

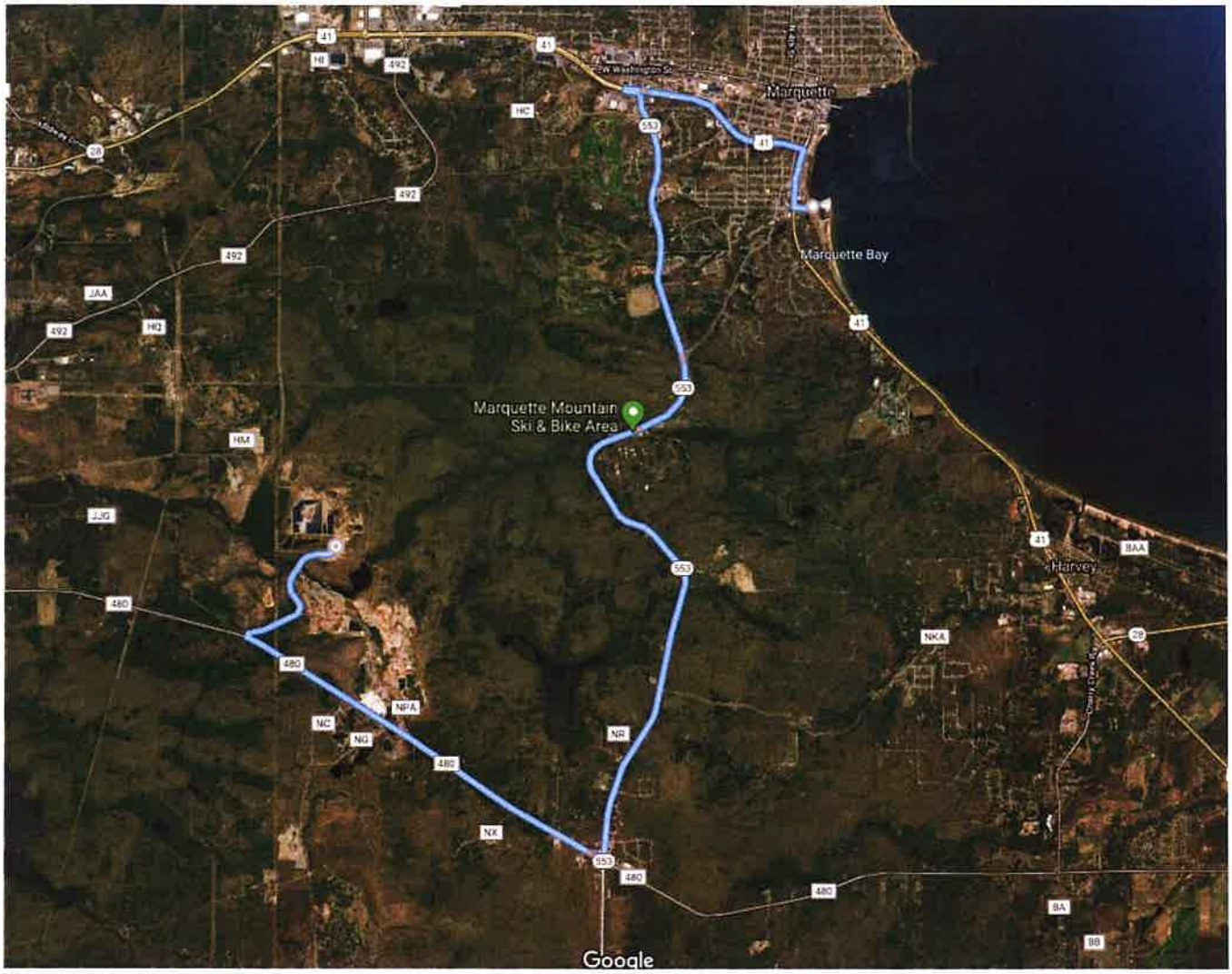
Access for emergency service vehicles will not be limited during any portion of the construction or remediation activities. Emergency service vehicles shall have access from the North on East Hampton Street and from the South on South Lake Street.

4.0 TRUCKING ROUTES

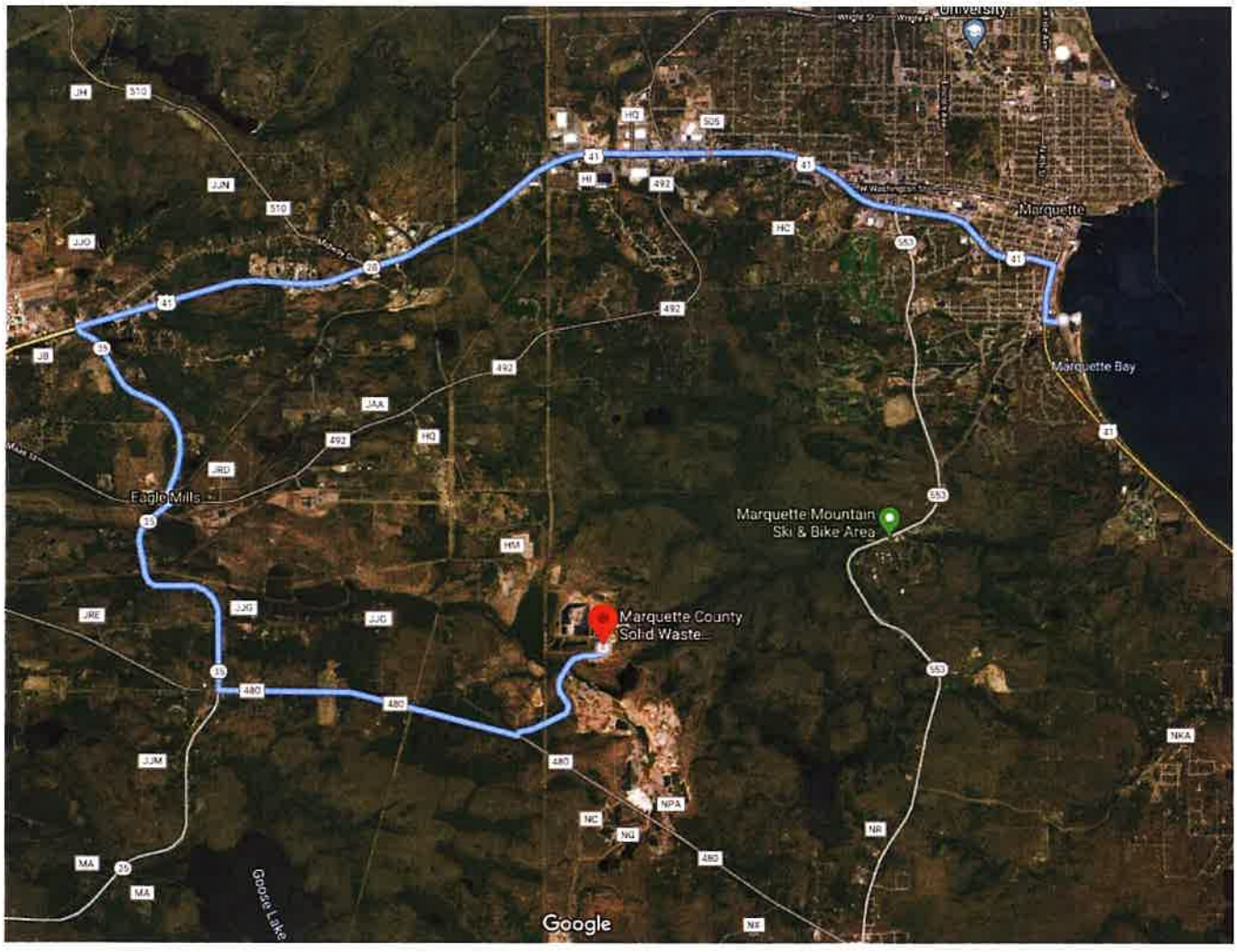
Traffic route maps have been prepared, included below, and illustrate specific haul routes to be used by trucks transporting material to the various disposal site(s). A copy of this Plan will be available to onsite personnel and maintained within the Project Field Trailer and shall become effective upon the initiation of site activities and remain in place for the duration of the project.

4.1 Disposal at Marquette County Landfill

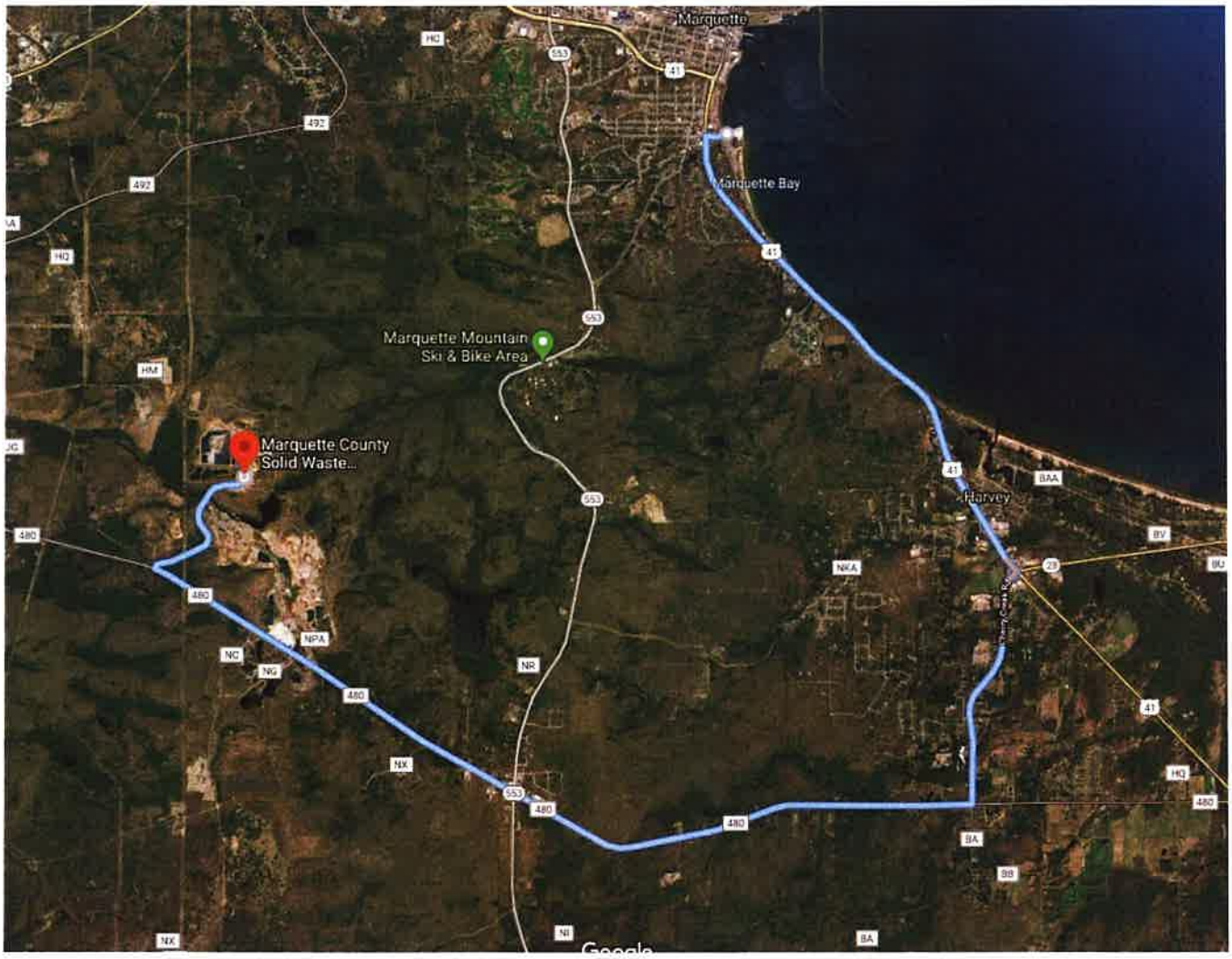
Trucking Route Option #1



Trucking Route Option #2

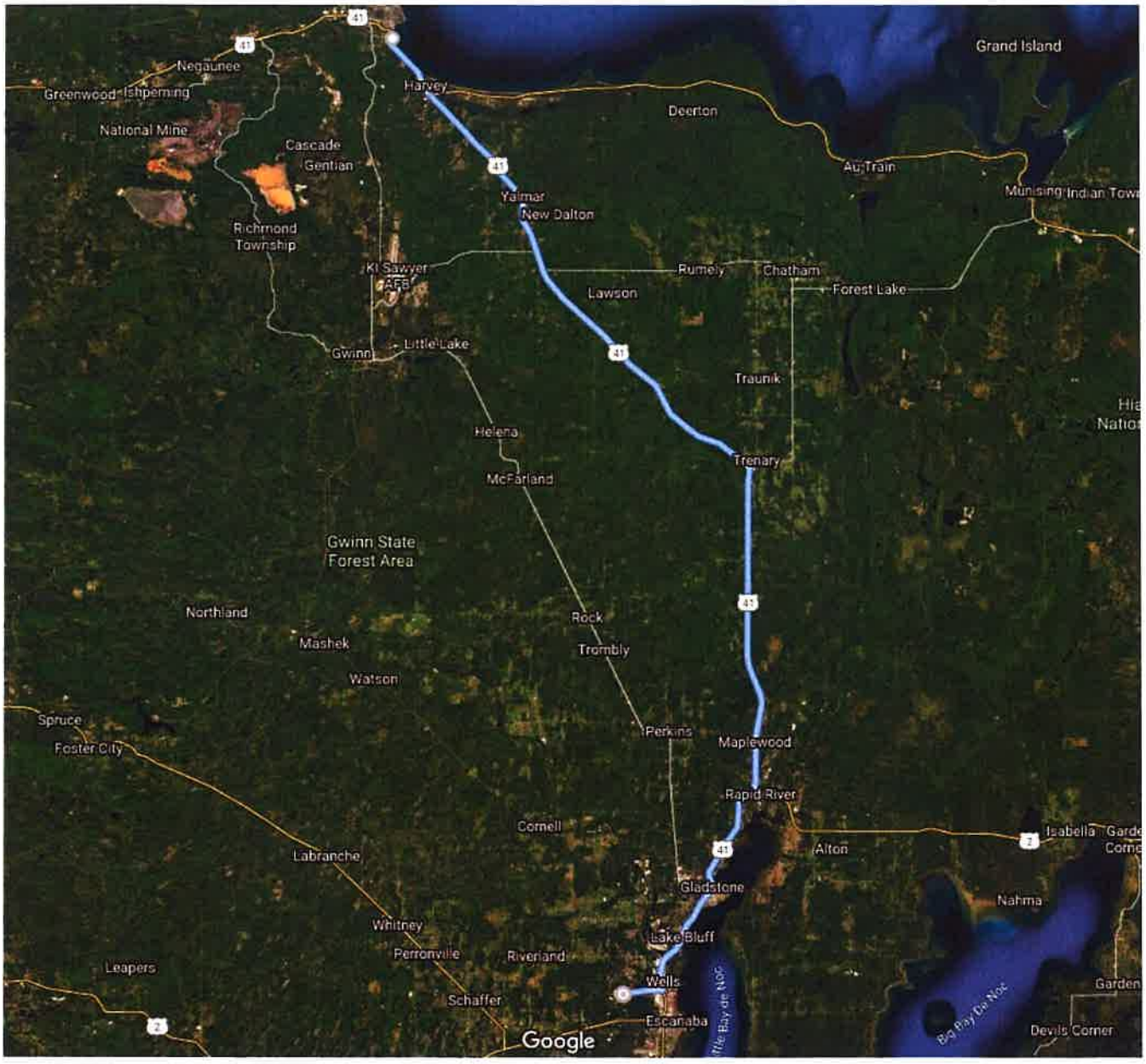


Trucking Route Option #3

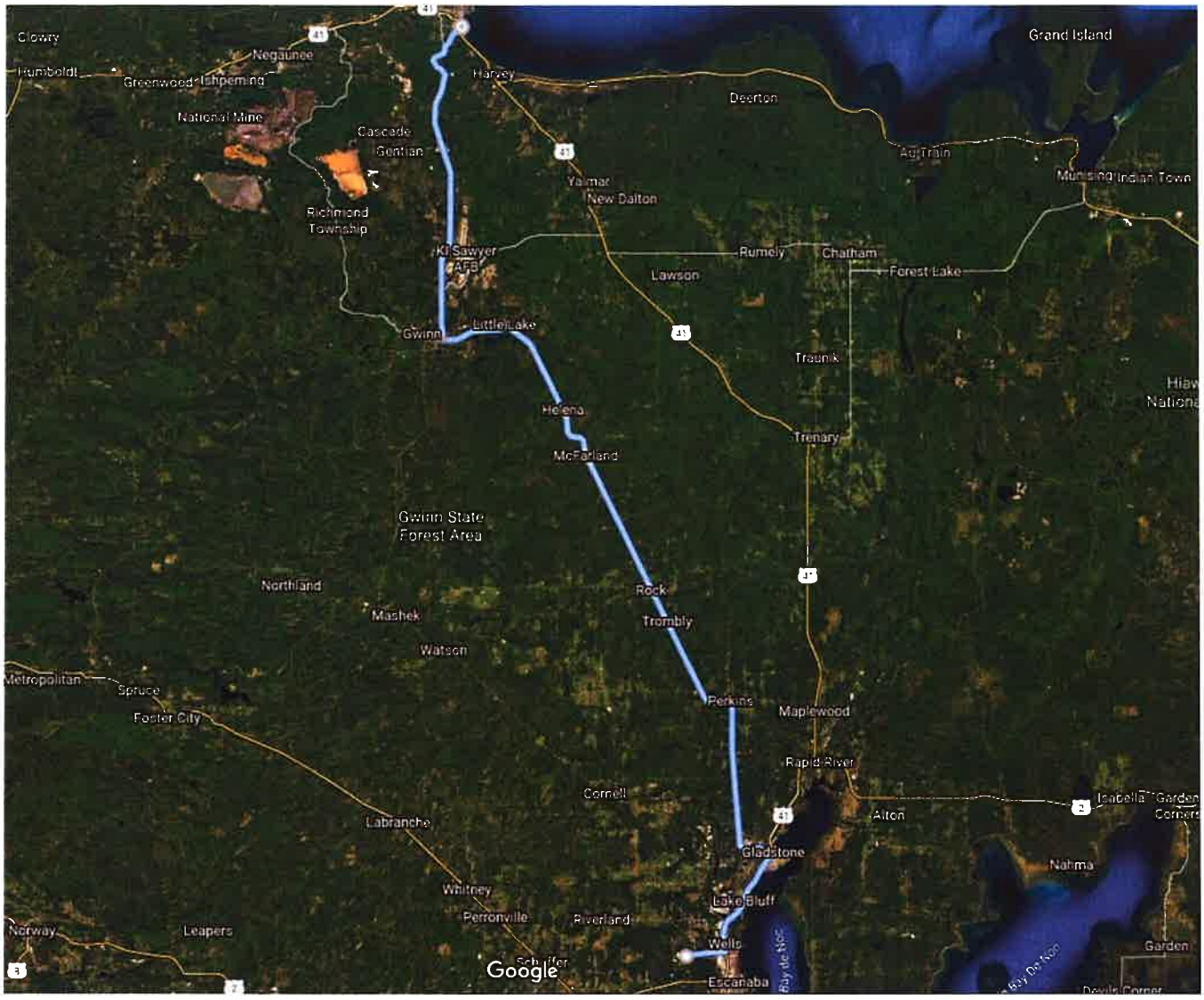


4.2 Disposal at Delta County Landfill

Trucking Route Option #1



Trucking Route Option #2



MJ VanDamme Inc.
301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	3

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/14/2020	**1.01.A.7**	**01330**	**Dewatering, Excavation, & Handling Plan**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: Initial Dewatering, Excavation, & Handling Plan Attached

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/14/2020

Dewatering, Excavation, & Handling Plan

MBLP Ash Pond Clean Closure & Stormwater Management Project
Marquette, MI.

Contract No. 35961
MJVD Project Number: 200040

Prepared For: GEI Consultants of Michigan, P.C.

Prepared By: M.J. VanDamme Trucking, Inc.

Signature Page

Dewatering, Excavation, & Handling Plan

MBLP Ash Pond Clean Closure & Stormwater Management Project

Marquette, MI

Prepared by: _____ 4/15/2020

Mike Nowaczyk, Project Manager — Date

Reviewed by: _____ 4.15.20

Rod Wells, General Manager — Date

Approved by: _____ 4/15/2020

Name & Title — Date

Effective Date

___ New Plan

___ Title Change

___ Plan Revision

___ Plan Rewrite

Table of Contents

1.0 Introduction

M.J. VanDamme Trucking, Inc. (MJVD) has prepared this Dewatering, Excavation, & Handling Plan to outline to proposed activities within Ash Ponds located at the Marquette Board of Light and Power (MBLP) Shiras Steam Plant facility. This plan details the approach, sequence, and methodology for the dewatering and excavation of the Ash Pond cells and handling of excavated materials. A copy of this plan will be available to onsite personnel and maintained within the Project Field Trailer.

1.1 Site Location and Project Description

This project is located at the MBLP Shiras Steam Plant facility, which is located on the shore of Lake Superior in Marquette, Michigan. The Work consists of removing surface deposits of coal combustion residual (CCR) from several former ash dewatering areas, removing CCR from the ash ponds (5 cells enclosed and divided by sheet pile walls) at the northwest corner of the site, and hauling and disposing CCR off site consistent with requirements of Title 40 Code of Federal Regulations (40 CFR) Part 257, Subpart D - Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments. In addition, the Work consists of removing remaining coal and coal yard grading, constructing stormwater management improvements, and removing ash pond sheet pile walls.

1.2 Objectives

The primary goal of this Plan is to outline the methodology and sequence for the Ash Pond dewatering and excavation to ensure regulatory and permitting guidelines are followed.

2.0 Ash Pond Removal Plan

A carefully planned out construction sequencing is key to the success of this project. Based on MJVD's review of the project documents, and experience with similar projects, MJVD proposes the following task sequence outlined in the sections below. This sequence assumes that stormwater features specified in the project documents remain in place and are functioning to handle the local stormwater flow, not allowing flow into the proposed Ash Pond work area.

2.1 Turbidity Curtain Installation

Prior to performing any excavation work within the Ash Ponds, a turbidity curtain will be installed within Lake Superior, encompassing the work zone. The turbidity curtain will be constructed and ballasted to extend approximately one foot above the lakebed.

2.2 Dewatering

Dewatering of Ash Pond Cells will be accomplished using conventional trash pump(s) and conveyance of water via hose to City Sewer Utility. Pumping rate will not exceed 300 gallons per minute (gpm). During drawdown, MJVD will identify "leaks" that may be realized and plug leaks with suitable temporary impermeable media. Once surface water is removed, MJVD will install localized "sumps" within the exposed subgrade consisting of vertical slotted PVC riser (or similar sump material) jacketed with open-graded aggregate. Localized dewatering will continue at sump locations throughout the excavation.

2.3 Interior Sheet Pile Walls and Appurtenance Removal

Once the area is dewatered, MJVD will remove associated walkways and railings, followed by the removal of interior sheet pile walls using an excavator and vibratory extractor attachment. These will include interior walls of Cell 3, interior walls of Cell 2, and interior walls of Cells 4/5. Perimeter walls will remain in place as the intent of this task is to create one robust cell to work within. Removed sheets will be inspected upon removal, and if CCR accumulation is observed, sheets will be decontaminated within the cell prior to relocation.

2.4 Upland Cell 3 Cutoff Wall Installation

Interior sheet pile removal will be followed by installation of removed sheets along west shore of Cell 3 to eliminate groundwater infiltration. Specific depths and layout of this design to be determined as field conditions dictate. This method may also be considered in substitute of the well-point dewatering system.

2.5 Ash and Subgrade Excavation

As stated above, localized dewatering will be used to allow efficient excavation of the ash and underlying subgrade. Excavation will be accomplished using 300-series excavators traversing upon timber mats. Material will be loaded into off-road haul trucks (ORT) which will also traverse over timber mats within the excavation area and unload at the upland soil dewatering pad located in the former coal stockpile area. Excavation will occur in a sequential fashion meaning ash layer will be removed from localized area followed by the removal of underlying 6-inch subgrade layer. The area of removal will be dependent upon the local dewatering zone of influence.

2.6 Perimeter Sheet Pile Wall Removal

After complete ash/subgrade removal, the dewatering sumps will be decommissioned, and the perimeter walls will be removed. The temporary wall installed along Cell 3 will be removed using a conventional excavator. The lakeward wall along Cell 4 and the perimeter walls along Old Cell 4 will be removed using a crane attached to a marine barge operating on Lake Superior. The sheets will be loaded out on trucks and will be disposed in accordance with the project specifications.

2.7 Ash Moisture Conditioning and Processing

The excavated material (ash and subgrade material) will be hauled to the upland soil dewatering pad, for moisture conditioning, processing, and trucking. The dewatering pad will be constructed to promote gravity dewatering/decanting methods. The pad will be constructed by excavating a sloped basin and constructing berms utilizing the excavated material around the perimeter. The berms and subgrade may be lined and protected using mats and/or aggregate to protect the liner. The pad will be constructed to allow various phases of the material retention time, meaning areas isolated to "wet", semi-wet, and relatively dry for material loading purposes. "Wet" material will be placed in the upper elevation levels of the pad and allowed to decant for a sufficient period of time. An excavator will periodically agitate the wet pile promoting aeration and mixing the relatively dry surface soils within the overly wet interior of the pile. This technique also controls the

risk of migrating dust. Free water will flow via gravity into the lower portion of the basin and pumped into the City Sanitary as needed.

3.0 Dust Control, Tracking & Spill Control

Dust control will be implemented by watering the equipment travel routes throughout the project area as needed and protecting exposed stockpiles by covering or placing relatively moist soils at the surface. A street sweeper will be available in the event sediment tracking occurs, and haul road entrances will be stabilized with oversized crushed aggregate to "shake-down" tire accumulation. Secondary containment will be utilized on stationary equipment containing fuels/oils, such as generators, light plants, fuel cells and containers. Spill Kits will be stationed throughout the areas where heavy equipment is proposed, such as within the Ash Pond Cell and on the marine barge. Spill kits will contain absorbents, boom and waste bags to address localized spills.

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	4

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/14/2020	**1.01.A.8**	**01330**	**Surface Water Management Plan**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: Initial Surface Water Management Plan is Attached

The Fugitive Dust Management Plan has been prepared as a separate submittal

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/14/2020

Surface Water Management Plan

MBLP Ash Pond Clean Closure & Stormwater Management Project Marquette, MI.

Contract No. 35961
MJVD Project Number: 200040

Prepared For: GEI Consultants of Michigan, P.C.

Prepared By: M.J. VanDamme Trucking, Inc.

Signature Page

Surface Water Management Plan

MBLP Ash Pond Clean Closure & Stormwater Management Project

Marquette, MI

Prepared by: _____ 4/15/2020

Mike Nowaczyk, Project Manager — Date

Reviewed by: _____ 4.15.20

Rod Wells, General Manager — Date

Approved by: _____ Vice President 4/15/2020

Name & Title — Date

Effective Date

____New Plan

____Title Change

____Plan Revision

____Plan Rewrite

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1.0 INTRODUCTION

This Surface Water Management Plan (Plan) has been prepared for the Marquette Board of Light and Power (MBLP) Ash Pond Clean Closure & Stormwater Management Project and details the protection of surface water through erosion control measures that will be employed during the earthwork operations at the Site. This Plan complements the requirements and conditions set forth in the Soil and Sedimentation Control Permit (Part 91) issued and administered by Marquette County. This Plan identifies potential sources of storm water impacts, recommends appropriate Best Management Practices (BMPs), describes proposed engineering and administrative controls to reduce the discharge of pollutants in storm water runoff, and prescribes an implementation schedule to ensure that the storm water management actions are carried out and evaluated on a regular basis. A copy of this plan will be available to onsite personnel and maintained within the Project Field Trailer.

1.1 Site Location and Project Description

This project is located at the MBLP Shiras Steam Plant facility, which is located on the shore of Lake Superior in Marquette, Michigan. The Work consists of removing surface deposits of coal combustion residual (CCR) from several former ash dewatering areas, removing CCR from the ash ponds (5 cells enclosed and divided by sheet pile walls) at the northwest corner of the site, and hauling and disposing CCR off site consistent with requirements of Title 40 Code of Federal Regulations (40 CFR) Part 257, Subpart D - Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments. In addition, the Work consists of removing remaining coal and coal yard grading, constructing stormwater management improvements, and removing ash pond sheet pile walls.

1.2 Objectives

The primary goal of this Plan is to protect surface waters from the earthwork activities required for the referenced project. This Plan provides procedures and BMPs to reduce the potential for erosive conditions.

2.0 EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES

2.1 Erosion Control

The purpose of this section is to identify the types of erosion controls that will be used during construction activities. The controls will provide soil stabilization for disturbed areas and structural measures to divert runoff and remove sediment. To the maximum extent practicable, balancing effectiveness and cost, the use of source area control BMPs designed to prevent erosion and storm water from becoming impacted will be implemented.

2.1.1 Minimize Extent of Disturbed Area

Disturbed areas will be limited to the extents shown on the Project Drawings.

2.1.2 Control Storm Water Flowing from Project

Silt fence will be properly installed (trenched and wrapped at joints) at locations shown on the project drawings. Sediment Traps will be located where needed to capture migrating sand and sediment particles. Additional sediment traps will be installed throughout the project extent as needed. The sediment traps will be inspected and maintained daily, while the silt fence inspected and repaired (as needed) following any significant rain event (equal or greater than 0.5 inches/hour/24 hours) and daily during prolonged rain events. Otherwise, inspection of silt fence shall be completed weekly at a minimum.

2.1.3 Protect Soil Stockpiles

Stockpiled soil will be located in the staging area locations as directed by the Engineer and will be protected by best management practices.

2.1.4 Stabilize Soils

Exposed soils will be stabilized where restoration activities have permanently ceased by seeding and installing mulch as specified.

2.1.5 Control Dewatering Practices

In locations which water collects in excavations during construction (e.g. groundwater seeps, significant precipitation event, etc.), isolated dewatering may be required. A pump of sufficient capacity may be used to remove water that accumulates within excavations. The pump(s) would be directed to discharge in an upland area through a filtration bag or straw bale dewatering structure in order to remove sediment and minimize erosion at the discharge location.

3.0 MAINTENANCE AND INSPECTION PROCEDURES

3.1 Inspection Frequency

Visual inspections of structural control measures, disturbed areas that have not been stabilized, and locations where vehicles enter or exit the Site will be performed weekly and within 24 hours of the end of a significant rain event, as defined above. The inspection will be conducted by a project member that is certified with the Michigan Department of Environment, Great Lakes, and Energy (EGLE) as a Certified Stormwater Operator. The Project Superintendent for MJVD will verify that the structural BMPs described in Section 2.0 of this Plan are in good condition and are minimizing erosion. The Project Superintendent will also verify that good housekeeping procedures used to prevent pollution of storm water are effective.

3.2 Inspection Practices

The following inspection practices will be used to maintain soil erosion and sediment control and prevent the pollution of storm water:

- Erosion and sediment control measures identified in this Plan will be inspected to ensure that they are functioning as intended. Accumulated sediment will be removed as necessary.
- The discharge location where storm water leaves an area under construction will be inspected visually to determine if erosion control measures are effective in preventing significant impacts to receiving waters.
- Soil Stockpiles: Temporary soil stockpiles will be inspected on a weekly basis and after rainfall events to verify the effectiveness of the BMPs.
- Filter Bags: Filter bags must be serviced to remove collected sediment and maintain filtering capacity. Accumulated sediment within a bag will be removed when it has reached approximately one-third of its height.

A log of inspections will be kept onsite. The inspection report will include the following information: Inspector's name, date of inspection, observations relative to the effectiveness of the BMPs, actions taken or necessary to correct deficiencies, and a listing of areas where restoration work has permanently or temporarily stopped.

MJ VanDamme Inc.
301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
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Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	5

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/14/2020	**1.01.A.8**	**01330**	**Fugitive Dust Management Plan**

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REMARKS: Initial Fugitive Dust Management Plan is Attached

The Surface Water Management Plan has been prepared as a separate submittal

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/14/2020

Fugitive Dust Management Plan

MBLP Ash Pond Clean Closure & Stormwater Management Project
Marquette, MI.

Contract No. 35961
MJVD Project Number: 200040

Prepared For: GEI Consultants of Michigan, P.C.

Prepared By: M.J. VanDamme Trucking, Inc.

Signature Page

Fugitive Dust Management Plan

MBLP Ash Pond Clean Closure & Stormwater Management Project

Marquette, MI

Prepared by: _____ 4/15/2020

Mike Nowaczyk, Project Manager — Date

Reviewed by: _____ 4.15.20

Rod Wells, General Manager — Date

Approved by: _____ Vice President 4/25/2020

Name & Title — Date

Effective Date

___ New Plan

___ Title Change

___ Plan Revision

___ Plan Rewrite

Table of Contents

1.0 INTRODUCTION

M.J. VanDamme Trucking, Inc. (MJVD) has prepared this Fugitive Dust Management Plan (FDMP) to identify the measures that will be taken to reduce the potential for particulate emissions associated with construction and remediation activities at the Marquette Board of Light and Power (MBLP) Shiras Steam Plant. This FDMP will be implemented in conjunction with the Surface Water Management Plan also prepared for these remediation activities.

The purpose of this FDMP is to identify potential sources of emissions and the steps that will be taken to reduce the potential for particulate emissions during construction and remediation activities. Best Management Practices (BMPs) will be implemented throughout the project. In summary, BMPs will include wetting active construction areas, minimizing or ceasing activities during periods of high wind, sweeping or wetting paved areas, wetting unpaved areas, and application of dust suppressant materials. This FDMP provides specific information about the generation and control of dust emissions during the excavation, stockpiling, and loading of these materials, along with other activities associated with this remediation project, and corresponding dust control methods.

1.1 Site Description and Project Overview

This project is located at the MBLP Shiras Steam Plant facility, which is located on the shore of Lake Superior in Marquette, Michigan.

The Work consists of removing surface deposits of coal combustion residual (CCR) from several former ash dewatering areas, removing CCR from the ash ponds (5 cells enclosed and divided by sheet pile walls) at the northwest corner of the site, and hauling and disposing CCR off site consistent with requirements of Title 40 Code of Federal Regulations (40 CFR) Part 257, Subpart D – Standards for the disposal of Coal Combustion Residuals in Landfills and Surface Impoundments. In addition, the Work consists of removing remaining coal and coal yard grading, constructing stormwater management improvements, and removing ash pond sheet pile walls.

1.2 Fugitive Dust Control Objectives and Approach

The objectives of the FDMP are as follows:

- Provide a plan for preemptively limiting and controlling fugitive dust during construction and remediation activities.
- Determine whether construction controls are effective in reducing fugitive

dust emissions and make appropriate and necessary adjustments.

- Develop a permanent record that includes documenting the total quantity of loaded and unloaded material in cubic yards or tons, total application of water, total duration of street cleaning and sweeping, and instances of weather events that require work to cease.

2.0 DUST CONTROL PLAN

Control of dust will be a high priority during construction and remediation activities. The primary mechanism for dust control will be the use of water trucks with a spray bar and hose(s). Proactive controls will be instituted to reduce the amount of dust generation during Site activities, including enforcement of low speed limits for vehicular traffic, decontamination of trucks leaving the work areas and height limits for stockpiles, if applicable.

MJVD will implement a dust control training program for all Site personnel. This training program will review the potential sources of dust, individual responsibilities, and actions for controlling dust as described in this plan. The training will emphasize the importance of dust control to the overall success of the construction and remedial activities and familiarize Site personnel with the appropriate dust control procedures that must be adhered to in accordance with this plan to minimize dust generation.

2.1 POTENTIAL DUST GENERATION ACTIVITIES AND PROPOSED CONTROLS

Construction and remediation activities will have the potential to generate emissions in the form of fugitive dust. Dust control methods will vary based on the activities occurring at the Site. Activities to be conducted during the remediation activities which have the potential to generate dust, and the respective dust control measures, are described in the summary table below.

ACTIVITY	DUST CONTROL
Truck traffic	Wet down unpaved haul roads. Keep paved roads clean and/or wet down. Use of tarping for trucks transporting materials. Adhere to transfer point guidelines.
CCR excavation, loading activities	Water spray/mist, adjust excavation activities, adjust work under unfavorable conditions (i.e. sustained wind speed greater than 30 miles per hour). Adhere to transfer point guidelines.
Stockpiling	Water spray/mist on stockpiles during sustained wind greater than 20 miles per hour and at the end of each day.
Soil Loading, Hauling, and Backfill Replacement	Adhere to transfer point guidelines. Water spray/mist as required.

2.2 Dust Suppression Measure Details

2.2.1 Tarping

All trucks being utilized for transport and disposal of excavated material at the Site are required to be fitted with tarps covering the trailer. Trucks shall be covered immediately after loading and are to remain covered throughout the transportation and disposal of excavated material. The cover must be installed in such a way to prevent wind from entering over the leading edge of the trailer rim.

2.2.2 Watering

MJVD shall conduct operations and maintain the Site as to minimize the creation and dispersion of fugitive dust. Water shall be applied to the Site as necessary to prevent dust during excavation, loading/unloading, and backfilling activities. Excavation areas and on-site roadways will be kept damp, as necessary, without creating ponding or mists that travel beyond the Site boundaries. The watering operations shall be sufficient to control fugitive dust. Water shall be applied in a manner to prevent runoff. As a contingency measure, MJVD will have erosion and sedimentation controls, such as silt fencing, sediment logs, or manhole silt screens, installed as necessary to manage runoff.

2.2.3 Transfer Point Guidelines

Transfer points refer to any time material is loaded or unloaded during construction and remediation activities. For the purposes of this project, the primary transfer points of concern will be the transfer of material from the excavator/loader to a

waiting truck. The secondary transfer points of concern will be the unloading of the clean soil for use in backfilling the excavated areas. At all transfer points, the following guidelines will be maintained:

- During any loading of impacted soils, the material must be moist during the transfer from the stockpile into the truck and or truck/trailer.
- All trucks entering and leaving the Site will adhere to the posted speed limit.
- All trucks shall adhere to the tarping policy established in this FDMP.
- All trucks leaving the Site will be visually inspected for loose material. Any loose material is to be removed and placed into the truck trailer.
- All loading of impacted soils must be completed on pavement where possible.

2.2.4 Roadway Maintenance

In order to keep roadways clean and free of accumulation, MJVD will perform routine street sweeping during construction activities. The street sweeper will be equipped with a water spray and vacuum system to prevent fugitive dust. Street sweeping will be completed at the end of every day or as needed, but at a minimum of once a day. All trucks are to take the most efficient and direct route to the disposal facility as possible as described in the Traffic Maintenance Plan.

3.0 REPORTING

3.1 Record of the Material

Daily summaries of the amount of material, in tons or cubic yards that has been removed or delivered will be maintained by MJVD. These records will include the number of trucks leaving the facility each day, manifests documenting disposal of material at the landfill, and bill of ladings for materials delivered to the Site.

3.2 Record of Watering

A record of water application will be maintained, including number of times applied and a daily total of water used in gallons. Records shall also include the manner of application, such as spraying or misting. Any incidents of pooling or runoff will be noted as well, including the areas of the Site affected by the incident.

3.3 Record of Street Sweeping

A record of street sweeping will be maintained, including the time of day that street cleaning was performed.

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
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ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	6

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/15/2020	**1.01.A.5**	**01330**	**Health and Safety Plan**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
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[ ]	**For review & comment**	[ ]	_____				

REMARKS: Corporate Health and Safety Plan attached.

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/15/2020

HEALTH AND SAFETY PLAN

IN ACCORDANCE WITH

29 CFR 1910 (OSHA)
29 CFR 1926 (COSHA)

FOR

MJ VanDamme Trucking, Inc.

INDEX
HEALTH AND SAFETY PLAN

MJ VanDamme Trucking, Inc.

Health and Safety Policy Statement
In accordance with 29 CFR 1910, 29 CFR 1926

Scope:

We are committed to providing a safe, injury-free, and healthy work environment for everyone. Safe and healthy conditions do not occur by chance. They are the result of diligent work and careful attention to all company policies by everyone.

Purpose:

Safety requires cooperation on everyone's part. It is important that communication be kept open at all times between management and employees. Employees who notice hazards or other safety problems, or feel that they need additional training, should notify their supervisor. Supervisors and management will address these concerns and take corrective action when warranted.

Everyone will know the safety standards for their area or job and abide by them. Supervisors will instill a positive safety attitude and awareness in their workers through personal adherence, personal contact, training, and regularly scheduled safety meetings. It is the duty of all employees to perform their work with regard for the safety of themselves and co-workers.

Any employee has the right and duty to stop work activities if unsafe conditions are observed at any job location.

Our safety policies are based on experience and current standards and are also an integral part of the company's personnel policies. This means that compliance with the policies is a condition of employment and must be taken seriously. Failure to comply is sufficient grounds for disciplinary action or for termination of employment.

Your safety and health are a top priority in this organization and is an integral part of productivity and quality. The best reason for you to observe these policies is because it's in your own self-interest to do so and the best interest of company. Following these policies will help you stay safe, healthy, and able to work, play, and enjoy life.

Management Team
MJ VanDamme Trucking, Inc.
Date - 01/01/2019

ACKNOWLEDGMENT

By my signature I establish that I have read the Corporate Health and Safety Program, am familiar with its provisions, understand its provisions, and agree to comply with all health and safety requirements. In addition, my signature below indicates that I understand that failure to comply with these health and safety requirements is sufficient grounds for disciplinary action or for termination of employment.

Name (Print)	Signature/Date
_____	_____
Witness (Print)	Witness Signature/Date
_____	_____

1.0 PURPOSE AND POLICY:

A. The purpose of this Corporate Health and Safety Program (CHSP) is to establish corporate personnel protective standards, and mandatory safety practices, procedures and management to be used by MJ VanDamme Trucking, Inc. ("the Company") during work activities at project sites.

B. Company policy is to maintain the most protective environment possible for Company employees. Company personnel will follow all applicable Federal and State regulations.

(1), the Company will follow those regulations as outlined in Occupational Safety and Health Administration (OSHA) Standards for General Industry (29 CFR Part 1910), and OSHA Standards for Construction (29 CFR Part 1926).

C. All Company personnel and contract employees will respect confidentiality of Company work activities and our clients' trade secrets.

(1) Company personnel will also follow all applicable health and safety requirements provided by our clients when working on sites under the client's control.

(2) Personnel safety is the primary goal of all Company employees including the Company owners, project managers, supervisors, technical staff, and office staff. Company takes pride in our safety record.

2.0 APPLICABILITY:

A. The provisions of this CHSP are mandatory for all Company activities at project sites.

(1) All Company personnel shall abide by the CHSP.

(2) This plan will be revised as necessary pending unforeseen site conditions or activities, and such approved revisions will be provided as appropriate to all recipients of this CHSP.

B. Any supplemental site-specific Health and Safety Plans (HSP) shall conform to the CHSP as a minimum standard.

C. All Company personnel and contract employees who engage in on site project activities must be familiar with the CHSP, comply with its requirements, follow the site specific HSP, and will provide a signature confirming review and understanding.

3.0 SCOPE OF WORK:

A. The project scope of work will drive the requirements of the HSP.

(1) Appropriate H&S measures will be developed for the type of work being performed and the type of hazards of concern that are present or potentially present.

B. The Project Manager in conjunction with the Corporate H&S Administrator will be responsible for developing the HSP that meets the minimum requirements of the CHSP and the scope of work for specific projects.

4.0 Safety Program and Disciplinary Program

A. Company is committed to a safe and lawful working environment.

B. Violation of the CHSP will result in disciplinary action, up to and including termination of employment, at the discretion of Company.

C. The CHSP includes work within the office, field activities, and use of vehicles.

D. Supervisors, Project Managers, Corporate H&S Administrator and Project site safety officers will be responsible for enforcement of all safety activities and issues.

E. Company employees are responsible for reading and understanding the CHSP.

F. Any safety procedures not followed in the CHSP will result in disciplinary action.

(1) The employee will be informed immediately of the safety violation. The cause and/or reason for the safety violation will be discussed.

(2) Disciplinary action will depend on the severity of the safety infraction. The incident will be documented and placed in the project safety file.

(3) Periodic inspections by the Corporate H&S Administrator and/or Project Manager will be conducted to verify safety procedures are being followed by site supervisor(s) and personnel.

(4) If the supervisor(s) are not following safety procedures, the supervisor(s) will be informed of the safety violations and disciplined depending on the severity of the safety infraction.

5.0 Health and Safety Program Responsibilities

A. Our goal is to protect employees from injury while working for the Company.

(1) This goal will receive top priority from everyone.

(2) Duties and responsibilities of personnel under our CHSP are as follows:

B. Corporate Health and Safety Director:

(1) Administers the corporate H&S program.

(2) Supports the Project Managers in the development of site specific HSP's.

(3) Assists management and supervisors in the health and safety training of employees.

(4) Recommends processes and activities that will develop and maintain incentives for and motivation of employees in health and safety.

(5) Recommends disciplinary action for violators of H&S rules.

(6) Maintains the state H&S poster, emergency telephone numbers, OSHA Form 300, and other required notices.
   (a) Ensures this information is posted in places where employees can see them.

(7) Develops and maintains accident and incident investigation and reporting procedures and systems.
   (a) Investigates serious or reportable injuries and acts to eliminate injury causes.
   (b) Reportable incidents consist of fatalities, lost workday cases, and incidents without lost workdays requiring medical treatment.
   (c) Keeps management informed of findings.
   (d) Reports injuries that result in an occupational fatality or three or more hospitalized workers to appropriate OSHA personnel within eight (8) hours of occurrence.
   (e) Maintains all records and reports of accidents and near misses that have taken place during Company operations.
      (I) Forms and reports may include, the OSHA Form 301 Injury/Illness Log, and/or the OSHA Form 101 Supplementary Record of Occupational Injury and Illnesses.
      (II) Data shall be kept for five (5) years.
   (f) Ensures that a Report of Occupational Injury or Disease report is filed with the Workers' Compensation office within ten days of employee's notification of an occupational injury or disease.

(8) Processes all paperwork associated with accidents, onsite inspections and in-house audits.

(9) Maintains permanent record for Company files maintaining all HIPAA privacy rules.

(10) Maintains all medical records, evaluations and exposure monitoring records for a period of 30 years.

(11) Maintains all training records for a minimum of three (3) years.

(12) Credentials medical providers in person or by proxy explaining MJVD needs and abilities to provide modified work when physician directed.

C. Supervisors

(1) Familiarizes him/her-self with H & S regulations related to his/her area of responsibility.

(2) Directs, implements, and coordinates H & S program elements and activities within area of responsibility.

(3) Ensures that all employees in area of responsibility use appropriate personal protective equipment and safety devices.

(4) Ensures that safety equipment is available, maintained, used, and stored correctly.

(5) Ensures that all persons within area of responsibility receive job H & S training as required.

(6) Conducts periodic H & S inspections of work area.

(7) Ensures correction of unsafe conditions.

(8) Ensures that project managers are aware of and comply with requirements of CHSP.

(9) Investigates all injuries within area of responsibility.
- (a) Reviews all injuries/incidents with supervisors and workers involved.
- (b) Ensures reports and Workers' Compensation forms are completed and submitted as appropriate.
- (c) Insures that corrective action is taken immediately to eliminate the cause of the injury/incident.

(10) Requires all subcontractors and subcontractor personnel working on Company projects comply with H & S regulations.

(11) Maintains copies or access to applicable programs and Workers' Safety forms, in accordance with Company practice and policy.

D. Project Managers (PM)

(1) Understand, explain, and enforce safety responsibilities that apply to Company operations associated with the specific project.

(2) Overall responsibility for the implementation of the site specific HSP and ensures compliance by workers with the H & S regulations and Company rules.

(3) Ensures that persons under his/her supervision use safety devices and personal protective equipment.

(4) Conducts frequent and regular H & S inspections of his/her work projects.

(5) Conducts or designates Site Safety Officer to conduct site specific safety briefings with all workers under his/her supervision.

(6) Ensures that injuries are treated promptly and reported properly.

(7) Investigates all injuries/incidents, obtains all pertinent data, and initiates/takes corrective action.

(8) Acts on reports of hazards or hazardous conditions reported to him/her by employees.

E. Field Engineer/Field Team Leaders

(1) The Field Engineer/Field Team Leader has the authority to direct Company and site activities.
- (a) The Field Engineer/Field Team Leader may also be the Project Manager and the Site Safety Officer.

(2) Manages Company operations.

(3) Implements site specific HSP.

(4) Coordinates with the Site Safety Officer in determining personnel protection levels.

(5) Coordinates with other on-site personnel, including subcontractors to Company.

(6) Documents all field activities.

F. Project Site Safety Officer (SSO)

(1) The Project Site Safety Officer shall have a minimum of 1 year of experience in the safety and construction industry or related fields, a sound working knowledge of Federal and State occupational H & S regulations, and experience in monitoring and administration of a respiratory protection program.

(2) Periodically inspects protective clothing and equipment.

(3) Ensures that protective clothing and equipment are properly stored and maintained.

(4) Ensures control of entry and exit at the Control Access Points (project specific).

(5) Confirms each member's suitability for work based on each member's Company physical results.

(6) Monitors the personnel for signs of stress, such as cold exposure, heat stress, and fatigue.

(7) Conducts periodic inspections to determine if the site HSP is being followed.

(8) Enforces the "buddy" system.

(9) Implements a contingency plan, if necessary.

(10) Ensures that all required H & S equipment is available.

(11) Advises medical personnel of potential exposures and consequences.

G. All Employees:

(1) Will be familiar with and comply with proper H & S practices.

(2) Will use the required safety devices and proper personal protective safety equipment.

(3) Will notify supervisor/SSO/PM immediately of unsafe conditions/acts, incidents, near misses and injuries after ensuring that no one will be injured while notifying the supervisor.

(4) Will inform his/her supervisor if they are uncertain how to conduct a task in a safe manner.

(5) Will assist supervisors/management in all efforts to provide and maintain a safe workplace.

6.0 Workers' Compensation Claims Management:

A. The following actions will be taken/followed on all accidents/injuries being submitted as a Workers' Compensation claim.

(1) Injured employees must report their injury to their supervisor immediately (within one working day - 24 hours for one employee, and within eight hours if more than two employees injured), who in turn will notify other appropriate Company officials, such as the Health and Safety Director or Human Resources Manager.

(2) All injuries/incidents will be investigated by the Corporate H&S Director or supervisor to determine the facts and take corrective actions to prevent future recurrences.

B. Employees, within ten (10) days after notification to the employer, will complete the necessary portions of Company workers compensation carrier Injury Report Form.

C. The supervisor or Human Resources Manager will complete the Employer's Information section of the same report within ten days of the notification and will file the claim with the Division of Workers Compensation.

D. The Human Resources Manager will ensure that the Workers' Safety and Compensation Division is notified as appropriate by filing the above report within ten days of the notification.

E. The accident investigation must confirm that the injury was job related for the resultant claim to be valid.

F. Injured employees will be entered into a modified job program, when such is recommended by the attending physician and MJVD can accommodate the particular restrictions. The injured employee's supervisor will be informed of said restrictions and ensure they are maintained until the employee is released to full duty by the physician.

7.0 OSHA Form 300 Injury/illness Log:

A. The OSHA Form 300 injury/illness log of all recordable occupational injuries and illnesses is maintained in the main office by the Corporate H&S Director.

B. The summary section of the OSHA Form 300 must be posted at each work office by February 1st of the following year and remain in place until April 30th.

8.0 General Corporation Safety Guidelines:

A. The general safety rules and procedures listed below are for <u>your protection</u> and are provided so that you can work without injury because you will <u>know</u> how to work safely.

(1) Employees shall use tools that are suitable for the task and are in good repair.
- (a) Tools should only be used for the task they were intended to perform.
- (b) Any broken or damaged tool shall not be used until it is repaired or replaced.
  - (I) For example, don't use hammers with broken handles or chisels with mushroomed heads.
- (c) Proper handles will be fitted to tools where required.

(2) Hand cleaner and paper towels or rags shall be made available.
- (a) Wash hands or other affected areas as soon as possible, should they come in contact with any hazardous substance.
- (b) Insure that hands are clean before eating, drinking or smoking.
- (c) Avoid making unnecessary facial contact with your hands face while handling hazardous materials.

(3) Getting on or off any equipment while it is in motion is prohibited.

(4) Under no circumstances shall any person be permitted to ride with arms or legs outside of a truck body, in a standing position on the body, on running boards, or seated on side fenders, cab shield, on in the rear of the truck.

(5) Horseplay, scuffling, or dangerous practical jokes are forbidden on the job.

(6) The practice of throwing tools from one location to another, from one employee to another, or dropping them to lower levels shall not be permitted.

(7) Sharp edged or pointed tools shall not be carried in employee's pockets.

(8) There is no job that requires running - WALK - DON'T RUN

(9) Any employee found intoxicated or under the influence of drugs, with alcoholic beverage or illegal chemical substances in their possession while on duty will be subject to dismissal.

(10) Gambling is prohibited while on the job

9.0 Code of Safe Practices - For posting on all jobsites

Code of Safe Practices

1. All persons shall follow these safe practice rules, render every possible aid to safe operations, and report all unsafe conditions or practices to the foreman or superintendent.
2. Foremen shall insist on employees observing and obeying every rule, regulation, and order as is necessary to the safe conduct of the work and shall take such action as is necessary to obtain observance.
3. All employees shall be given frequent accident prevention instructions. Instructions shall be given at least every 10 working days.
4. Anyone known to be under the influence of drugs or intoxicating substances that impair the employee's ability to safely perform the assigned duties shall not be allowed on the job while in that condition.
5. Horseplay, scuffling, and other acts that tend to have an adverse influence on the safety or well-being of the employees shall be prohibited.
6. Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.
7. No one shall knowingly be permitted or required to work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that it might unnecessarily expose the employee or others to injury.
8. Employees shall not enter manholes, underground vaults, chambers, tanks, silos, or other similar places that receive little ventilation, unless it has been determined that is safe to enter.
9. Employees shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted and shall report deficiencies promptly to the foreman or superintendent.
10. Crowding or pushing when boarding or leaving any vehicle or other conveyance shall be prohibited.
11. Workers shall not handle or tamper with any electrical equipment, machinery, or air or water lines in a manner not within the scope of their duties, unless they have received instructions from their foreman.

12. All injuries shall be reported promptly to the foreman or superintendent so that arrangements can be made for medical or first aid treatment.

13. When lifting heavy objects, the large muscles of the leg instead of the smaller muscles of the back shall be used.

14. Inappropriate footwear or shoes with thin or badly worn soles shall not be worn.

15. Materials, tools, or other objects shall not be thrown from buildings or structures until proper precautions are taken to protect others from the falling objects.

10.0 Safety Committee

It is a requirement that all employees participate in the Company safety committee.

Participation is defined as:

- Perform worksite inspections at least daily.
- Document worksite inspection results in daily reports.
- Photograph and correct safety concerns.
- Utilize email to disseminate safety inspection information to superintendents, project managers and the H&S Director.
- Participate in safety inspections conducted by the Company.
- Attend quarterly safety committee meetings to discuss results of periodic inspections.

Quarterly safety committee meetings will require the attendance of one representative from each Company office. It is the individual employees' responsibility to ensure that they make themselves available to attend the scheduled meetings.

Results of safety committee meetings will be made available via email to those employees that are unable to attend the scheduled meetings.

The H&S Director will solicit results from committee members at regular intervals for presentation during safety committee meetings.

Safety Committee Duties & Responsibilities

- Review results of worksite inspections
- Review accident investigation and submit suggestions for accident prevention measures
- If hazardous conditions are presented, investigate and suggest remedial solutions
- Maintain written records of all safety & health issues that the committee discusses
- Be available to process all employee safety suggestions

11.0 Hazard Correction

Unsafe or unhealthy work conditions, practices or procedures shall be corrected in a timely manner based upon the severity of the hazards. Hazards shall be corrected according to the following procedures:

1. When observed or discovered;

2. When an imminent hazard exists, which cannot be immediately abated without endangering employee(s) and/or property, we will remove all exposed workers from the area except those necessary to correct the existing condition. Workers necessary to correct the hazardous condition shall be provided with the necessary protection; and
3. All such actions taken and dates they are completed shall be documented on the appropriate hazard assessment form and/or JSA.

12.0 Training and Instruction

All employees shall receive training and instruction on general and job-specific safety and health practices. Training and instruction shall be provided as follows;

- Upon hiring – Short Service Employee
- Workers assigned to new duties within the company
- Whenever new substances, processes, procedures, or equipment are introduced to the workplace
- Whenever a new hazard is discovered
- All workers with respect to the hazards relative to their job assignment

13.0 Short Service Employee

- An employee is generally considered a "short service employee" if he/she has less than 90 days experience with MJVD, or in his/her present role.
- A "short service employee" may not work alone. A work crew of less than 5 employees may NOT have more than one "short service employee".
- Prior to starting a project, it is the responsibility of MJVD's Site Foreman to notify the client's site coordinator for the project that there is a "short service employee" working on the site.
- "Short service employees" will be visibly identifiable by the use of an "orange" vest with a badge indicating "training". MJVD's Site Foreman will make the client aware as to how they are able to identify these employees.
- Per the previous procedures under "training" the "short service employee" will be monitored and mentored. When they have attained the correct knowledge of not only the equipment but also the HASP and general operating procedures/safety measures the hi-visibility identifiers will be removed, the client will be notified, and documentation will be sent to the office for files.
- A person mentoring may only have one Short-Service employee assigned to their crew at a time and they must remain on site with them at all times.
- Subcontractors must manage their "short service employees" in accordance with the requirements of the MJVD's "short service employee" procedures.
- A short service employee who is involved in an incident within the first 30 days of employment may be terminated. The "supervisor" of a short service employee requiring termination may have a "reprimand" submitted to their personnel file and may serve one day off from their current project. While on the day off the employee will spend the time taking refresher courses for any/all activities that were involved in the incident.
- A "supervisor" who has received a "reprimand" may not serve as a supervisor to a short service employee for at least 30 days after an incident.

1.0 Policy:

A. The following document is to provide guidance in investigating all accidents and/or incidents occurring on our job sites.

B. It will pertain to employee related accidents, injuries to third parties, property damage and vehicle related accidents.

C. This document also serves as a guide in training personnel in the duties and responsibilities required to perform incident investigation as well as the necessary techniques required to complete.

2.0 Purpose:

A. Accident and incident investigations help control accidents and related costs by documenting exactly what occurred and identifying what can be done to prevent a reoccurrence.

(1) A good investigation documents the circumstances at the time of the accident and can help the persons involved accurately recall the situation several years after the occurrence.

(2) This can be extremely helpful in defending a lawsuit or fraudulent claim.

B. A good investigation identifies the causes and allows the supervisor to take steps to prevent the same accident from happening again.

(1) Accident reduction helps improve efficiency and profitability by reducing lost time, work interruption, equipment repairs, and the other indirect costs associated with employee accidents.

C. Accident investigations should be conducted for employee accidents as well as those injuries involving subcontractors or the public.

(1) All incidents of a serious nature should also be investigated.

D. Accidents are usually the result of conditions or actions that the superintendent, foreman, and employees are often in the best position to control.

(1) An accident is an unplanned event that interrupts operations and can result in lost time, property damage, or bodily injury.

(2) Accidents usually arise from problems in at least one of four areas:
* EQUIPMENT - Tools, Machinery, Vehicles, Cords, Ladders
* MATERIAL - Solvents, Adhesives, Compressed gases, Lubricants
* PEOPLE - Our Employees, Subcontractors, anyone who may contribute or cause the accident
* ENVIRONMENT - Temperature, Ventilation, Noise, Rain, Snow, Dust, etc.

3.0 Definitions:

Incidents - are unsafe practices or conditions that have not yet resulted in an accident or loss but could unless corrective steps are taken. Investigations are conducted before the fact and/or before an injury occurs to identify and correct any unsafe practices that could lead to an accident.

Accidents - are persons, objects or energy out of control. Investigations are conducted after the fact and/or after the injury/loss have occurred. The purpose is to identify the causes so similar accidents can be prevented**.**

4.0 Procedures:

A. Accident and incident investigations follow basically the same procedures.

(1) An investigation is a report of the facts, causes and contributing factors that lead to the accident/incident and an action plan for correcting the problem.

B. Situations that should be investigated are those that have resulted in a serious or disabling injury, minor injuries, property damage and near miss incidents.

(1) These investigations could involve employee injuries (Workers Compensation), injuries to subcontractor employees, to public or customers (Liability), or damage to vehicle and equipment (Property).

C. The investigation should include several key steps:

(1) Notice of the event -
- (a) The injured person or fellow workers usually notify the superintendent or foreman. The superintendent or foreman must insist that all accidents be reported immediately.
- (b) There may be some reluctance to report accidents due to fear of discipline, paper work or concern that they will spoil their record.
- (c) Superintendents and foreman must keep the process simple as possible and explain the importance of accident reporting, investigation and prevention.

(2) Go to the Scene Immediately -
- (a) Failure to respond right away prevents proper management of the accident scene and could result in a poor and inaccurate investigation.
- (b) Always, the first task is to attend to the injured and provide first aid/medical attention.
- (c) If possible, the Employees Report of Injury should be filed while the situation is still fresh.
- (d) Witness statements are to be obtained as soon as possible and the supervisor needs to emphasize fact-finding rather than fault finding.
- (e) Gather facts from all available sources avoiding hasty conclusions until all facts are considered.

(3) Photographs-
- (a) For accidents involving serious injury or substantial property loss, physical conditions may be photographed from different angles to further confirm what was found.
- (b) Several photos should be taken of a general view showing the relationship of the accident to surrounding equipment or articles.
- (c) Articles that have a direct relationship to the accident should be photographed with a ruler or some other reference alongside to show size of the object.

(d) Basic information should be included on the back of each photo as follows:
  (I) Data identifying the particular accident
  (II) Data identifying who took the photo, the date and time
  (III) Data to orient the camera position with the accident scene
(e) Posed photographs can also be used to illustrate or refute the statement of a witness or accident victim.
(f) A person with the same general, physical characteristics of the injury party can be placed in the same spot and position as directed by the witness.
(g) Mark important aspects on the photo.

(4) Interview Witnesses -
(a) Witnesses should be interviewed separately and as soon as possible to get an unbiased version of what happened.
(b) Superintendents/foreman should conduct the interview in private and try to put the witness at ease.
(c) Basic questions to be asked include:
  (I) What was the injured doing?
  (II) What unsafe actions (by injured or others) were observed?
  (III) Were there any unsafe conditions?
  (IV) How could the accident have been prevented?
(d) The superintendent/foreman should ask the witness to verbally and visually walk him through the accident.
(e) The story should be told back to the witness to ensure the accuracy of the statement and all facts should be recorded so they are not lost or forgotten.
(f) Thank the witness for their help.
(g) Remember to get the facts not conclusions.

(5) Review the Facts -
(a) Examine all the accident elements:
  (I) Equipment - Maintained, proper for the job, properly used
  (II) Material - Correct for the job, stored and handled properly
  (III) People - How many, enough to do job, properly trained
  (VI) Environment - Did work area contribute or cause accident
  (V) Records should be checked to see if this has occurred before, including any maintenance records if equipment was involved.

(6) Determine Accident Causes -
(a) Be thorough and systematic to ensure accuracy.
(b) System or procedure flaws are commonly the cause of accidents.
(c) The investigation should identify causes or factors that lead to the system failure:

5.0 IMMEDIATE ACCIDENT CAUSES

A. Unsafe Acts -

(1) Are involved in about 90% of all accidents and may be committed by the injured, management or others.

(2) Unsafe acts may be committed deliberately, unknowingly or may result from uncontrollable means.

(3) Unsafe acts are usually short in duration, don't happen continually and have reasons that vary from employee to employee, job to job.

(4) People commit unsafe acts for several reasons including incentives (get it done with a short cut), poor work habits, lack of knowledge and physical or mental impairments (fatigue, medication).

(5) Common unsafe acts include removing safety devices, using unsafe equipment, working at an unsafe speed and horseplay.

B. Unsafe Conditions -

(1) Are involved in about 10% of all accidents and can be associated with hazards caused by people, equipment or processes either directly or indirectly.

(2) Common causes of unsafe conditions include unsafe acts where people create an unsafe situation, normal wear and tear, poor product or equipment design, and by-products such as steam, smoke, vapors or lights.

(3) Unsafe conditions tend to remain until they cause a problem or an accident and, unless corrected, remain that way.

(4) Common unsafe conditions include missing or broken guards, unexpected movement of equipment or materials, poor housekeeping, defective tools and hazardous attire - loose clothing, jewelry, long hair, and improper footwear.

C. Other Accident Causes

(1) Job Factors -
- (a) Involve poor indoctrination,
- (b) Inadequate training,
- (c) No training follow-up,
- (d) Failure to follow safety rules,
- (e) Communication breakdown,
- (f) Lack of material handling equipment.

(2) Personal Factors -
- (a) Involve poor morale caused by job change,
- (b) Drinking,
- (c) Drugs,
- (d) Fatigue or stress

6.0 Corrective Action -

A. Once the immediate and basic accident causes are identified, determine what corrective measures will be taken to prevent a recurrence.

B. Corrective actions generally fall into three categories:

(1) Physical Change -
- (a) The most effective type of corrective measure when it can be used.
- (b) Generally, it is easier to replace or repair the broken equipment than to train all employees to avoid the hazard.

(2) Procedural Change -

(a) How certain jobs or tasks are done followed by employee training and enforcement.

(3) Retrain the Injured Employee -
(a) All employees who may be exposed to the same hazard condition or situation.

7.0 Reports to Management -

A. All appropriate investigation and report forms must be filled out completely and accurately by the superintendent/foreman.

(1) These reports will include facts, the conclusions as a result of the investigation and what corrective action will be taken.

(2) Reports should be written so that someone unfamiliar with the situation can understand it. Readers may include claims adjusters, consultants, OSHA and attorneys.

(3) The superintendent/foreman may be called upon to recall the details of the accident several years after it occurred.

(4) Therefore, it is best to develop as accurate and detailed a report as possible.

B. Be sure to cover the four basic parts:

(1) Identification of the accident - WHO, WHEN, WHERE

(2) Description of the accident - WHAT, HOW

(3) Cause of the accident - WHY

(4) Corrective action measures/remedy

C. All reports should be completed within 24 hours of the occurrence and any additional information added as soon as possible.

8.0 Follow-up and Prevention -

A. The final step in the accident investigation process involves using the information collected and preventing additional accidents.

B. In an ongoing effort the supervisor should:

(1) Communicate the action taken so other employees learn

(2) Ask for support from employees and others who may be able to help.

(3) Review past reports to see if corrective measures were implemented

(4) Conduct inspections and safety talks to implement corrective measures, raise safety awareness and help prevent accident recurrence.

(5) Correct unsafe acts and unsafe conditions as soon as they are noted.
(a) The supervisor sets the example.
(b) The less hazards are tolerated by the supervisor, the fewer hazards and claims he will have to deal with in the future.

(c) Employees will understand that unsafe acts or conditions violate company policy and that compliance with safe work rules and practices is mandatory.(6)Monitor work procedures and employees to be sure the corrective action is effective and if not, what is.

C. Control human error by stopping incorrect methods or procedures, find alternative ways of getting the job done, and provide necessary training to correct the problem, train all employees doing the same job and enforce procedures to ensure compliance.

D. Eliminate hazardous conditions by removing, guarding or warning about them or recommend policies and procedures to help eliminate them.

(1) Follow-up is essential to ensure that hazardous conditions do not reoccur.

9.0 General Liability Accidents:

A. General liability accidents require special handling.

B. Unless they are handled properly, they may result in a lawsuit.

(1) The potential financial loss is much greater than employee accidents.

(2) Injured parties will tend to rely on the legal system to resolve a claim, particularly when you or the claims adjuster fail, or appear to fail, to respond in what they consider a prompt and fair manner.

(3) In addition to supervisors who are aware of a liability claim situation should adhere to the following general procedures:
- (a) Never admit to guilt or company wrong-doing.
  - (I) A sympathetic or reassuring statement made at an accident scene could cause serious damage in court.
  - (II) Let the court determine who is at fault.
- (b) Prompt notification of the accident is essential.
  - (I) This should be a joint effort by all employees and supervisors.
  - (II) An expensive claim and lawsuit can best be avoided by prompt investigation, claims handling and settlement.
  - (III) This does not mean every liability situation will result in a claim, but prompt investigation confirming, or refuting company responsibility is critical and will determine what approach will be taken to handle the situation.
- (c) Statements should be obtained from the injured parties as soon as possible.
  - (I) These should be detailed and provide a full description of the apparent injuries or damage.
  - (II) If possible, these statements should be taken in the presence of another, third person who could be used to corroborate what was said.

(4) Witness statements should be obtained from both employees and the public, if available.
- (a) The full name, address and telephone number of each witness should be obtained.

(5) Photographs should be taken of accident scene elements, particularly those that reflect favorably on the company.
- (a) This might include shots of the scene that clearly show there was no hazard.

C. Follow-up activities should include contact with the injured parties to show concern and interest in their recovery.

(1) This must be handled carefully, sometime at the direction of legal counsel.

(2) The purpose of the contact is to reassure the injured party that you are not ignoring their situation and, by so doing, help diffuse any anger that might prompt them to retain an attorney.

D. Prompt communication is essential, and the supervisor should keep management up-to-date on any new developments.

10.0 Accident Reporting:

A. Forms needed by the office

(1) Supervisors report of injury

(2) Employees report of injury

(3) Release for return to work

(4) Light duty status report

(5) All medical bills and reports

B. Procedures

(1) Instruct all employees to notify their supervisor immediately when an accident or incident occurs.

(2) Get the necessary First Aid or Medical attention for the injured employee.

(3) Assemble the necessary tools and equipment needed to perform a thorough inspection.

(4) Go to the accident scene and fill out the Supervisors Report of Injury or Illness neatly and completely.
(a) Be specific about the accident or incident.
(b) We need to know **WHO, WHAT, WHERE, WHAT HAPPENED, HOW IT HAPPENED AND WHY IT HAPPENED.**
(c) Reports need to be made within 24 hours of the accident.

(5) Inform the office the same day of the accident

(6) Have the injured employee fill out the Employees Report of Injury the same day or as soon as possible.
(a) Be specific and give full detail of what happened and what the apparent injury is.

C. Determine what hazard in the work area caused the accident and be sure to correct it as soon as possible.

(1) Have workers out of the area until the hazard is eliminated.

D. Report to the office any site related incident that would involve the company.

E. No employee will return to work without a work release form.

(1) This can be faxed to the office and the original given to the site supervisor.

F. In case of a serious injury or death, contact the home (corporate) office immediately.

11.0 Corporate Accident & Injury Investigation, Reporting, and Recordkeeping Procedures:

A. It will be the responsibility of the Corporate Safety Director to investigate and make a written report for all job-related injuries/illnesses as well as vehicle accidents involving company owned, leased or rented vehicles.

B. Employees injured on the job or involved in a vehicle accident will contact the Corporate Safety Director as soon as possible.

(1) Report injuries and illnesses using the "Incident Report" found in Tab 4 following this section.

(2) Report "Near Misses" using the "Incident Report" found in Tab 4 following this section.

C. The Corporate Safety Director will be responsible for maintaining the OSHA 300 form for the company.

(1) This form will be kept on record for a period of five years.

(2) Injuries/illnesses that are recordable by OSHA standards result in:
(a) A fatality
(b) Lost work days
(c) Transfer to another job or restricted duties
(d) Require medical treatment

D. Examples of medical treatment, as defined by OSHA standards, are:

(1) Treatment of second- or third-degree burns,

(2) Treatment for infections,

(3) Application of sutures or butterfly bandages,

(4) Removal of a foreign body from the eye,

(5) Prescription medication,

(6) Admission to a hospital,

(7) Back injuries, etc.

E. The Manager of the injured employee must complete the "First Report of Injury and inform the Corporate Safety Director when an injured employee returns to work if off longer than one day.

F. Employees injured on the job, or involved in a vehicle accident, will be subject to a substance abuse screen.

(1) Those employees testing positive will be disciplined in accordance with the Company's Substance Abuse policy.

G. In addition to the reporting required by law (see below), we will report all cases involving "First Aid" and all "Near Misses" (blank form included).

Reporting required by OSHA:

Within eight (8) hours after the death of any employee as a result of a work-related incident,

Within twenty-four (24) hours after the in-patient hospitalization of one or more employees or an employee's amputation or an employee's loss of an eye, as a result of a work-related incident.

Reporting required by Client:

Within twenty-four (24) hours after the death of any employee as a result of a work-related incident,

Within twenty-four (24) hours after the in-patient hospitalization of one or more employees or an employee's amputation or an employee's loss of an eye, as a result of a work-related incident.

H. The Safety Committee will review all cases to determine the root cause and will take the appropriate corrective actions, including revision of protocols and/or retraining of employees.

MJ VanDamme, Inc.

Hazard/Near Miss/Incident Initial Report

FORM

Tracking Number:		**Revised:2/8/2019**

DATE OF OCCURANCE	**Month**		**Day**		**Year**		**Time**	: :

Work Area:		**Incident Reported By:**	
Location Description:		**Company Represented:**	
		Date Reported:	

Person(s) Involved in Incident or Injured Person		(add second sheet if more than three people)	
Name(s):			
Company:		**Occupation:**	**Gender:** ☐**Male** ☐**Female**
Shift Length: ☐ 8hrs ☐10hrs ☐ 12hrs ☐ Other		**Shift Type:** ☐**Day** ☐**Night**	**Start Time:**
Roster Type (i.e. 5 on/2 off):		**Days into Roster:**	**Total time on Project:**
Supervisor Name:			☐ **<1 Month** ☐ **1-3 Months** ☐**4Mths-1yr** ☐ **>1 Year**

DESCRIPTION	**Please provide a summary of the near miss/hit or incident.**
What was the outcome:	☐Near Miss/Hit ☐ First Aid ☐ Medical Treatment ☐ Lost Time Incident ☐ Hazard Recognition
What impact/s did it have:	☐ Health ☐ Safety ☐ Environment ☐ Property Damage
Rate the risk using the below 5x5 risk matrix.	☐ Low ☐ Moderate ☐ High ☐ Critical
What Happened: Please provide a summary of the incident (i.e. Person slipped while walking downstairs, falling and injuring wrist).	.
How Did it Happen: Please describe (i.e. fell from scaffold, hit by falling object, electric shock)	
Why Did it Happen: Please describe why it happened (i.e. operator could not hear alarm, walk way slippery)	
Immediate actions:	

Report Acknowledgement

Employee Signature: _____

Supervisor/Project Manager Signature: _____

Investigation Completed by: (names of those who performed)	
List the root causes of the incident - contributing factors that caused the hazard/incident:	

	Corrective Action:	Person Responsible:	Completion Date:
Corrective Actions:			

MJ VanDamme, Inc.

Hazard/Near Miss/Incident Initial Report

FORM

Tracking Number:		**Revised:2/8/2019**

Incident Investigation Complete, Correction Actions Complete, Communications Complete, Area Manager Signature for Closure.	Project Manager: _____		Date:
	Operations Manager: _____		Date:

Risk = ***Consequence*** x ***Likelihood***

An uncertain event or condition that if it occurs will have an impact upon the achievement of objectives (both upside and downside).

The impact of an event, being a loss, harm, disadvantage or gain.

(NB: ALWAYS ASSESS CONSEQUENCE FIRST)

A qualitative description of probability or frequency.

	Consequence				
Likelihood	1 - Minor	2 - Medium	3 - Serious	4 - Major	5 - Catastrophic
A - Almost Certain	Moderate	High	Critical	Critical	Critical
B - Likely	Moderate	High	High	Critical	Critical
C - Possible	Low	Moderate	High	Critical	Critical
D - Unlikely	Low	Low	Moderate	High*	Critical
E - Rare	Low	Low	Moderate	High*	High*

Likelihood	Likelihood description	Frequency	Substance Exposure
ALMOST CERTAIN	Recurring event during the life-time of an operation/project.	Occurs more than twice per year.	Frequent (daily) exposure at > 10 x OEL.
LIKELY	Event that may occur frequently during the life-time of an operation/ project.	Typically occurs once or twice per year.	Frequent (daily) exposure at > OEL.
POSSIBLE	Event that may occur during the life-time of an operation/project.	Typically occurs in 1-10 years.	Frequent (daily) exposure at > 50% of OEL. Infrequent exposure at > OEL.
UNLIKELY	Event that is unlikely to occur during the life-time of an operation/project.	Typically occurs in 10-100 years.	Frequent (daily) exposure at > 10% of OEL. Infrequent exposure at > 50% of OEL.
RARE	Event that is very unlikely to occur very during the life-time of an operation/project.	Greater than 100 year event.	Frequent (daily) exposure at < 10% of OEL. Infrequent exposure at > 10% of OEL.

Consequence	MINOR	MEDIUM	SERIOUS	MAJOR	CATASTROPHIC
Non-Economic (Social and Environmental)					
HEALTH	Reversible health effects of little concern, requiring first aid treatment at most. Can include minor irritations of eyes, throat, nose and or skin, or minor unaccustomed muscular discomfort.	Reversible health effects of concern that would typically result in medical treatment. Can include temperature effects; travel effects; stress; and sunburn.	Severe, reversible health effects of concern that would typically result in a lost time illness. Can include acute/short-term effects associated with extreme temperature effects, or musculoskeletal effects, vibration effects, nervous system effects, some infectious diseases; and non falciparum malaria.	Single fatality or irreversible health effects or disabling illness. Can include effects of suspected carcinogens, mutagens, teratogens and reproductive toxicants, progressive chronic conditions and/ or acute/short-term high-risk effects.	Multiple fatalities or serious disabling illness to multiple people. Can include effects of known human carcinogens, mutagens, teratogens and reproductive toxicants, and life-threatening respiratory sensitization and falciparum malaria.
SAFETY	Low level short term subjective inconvenience or symptoms. Typically a first aid and no medical treatment.	Reversible injuries requiring treatment, but does not lead to restricted duties. Typically a medical treatment.	Reversible injury or moderate irreversible damage or impairment to one or more persons. Typically a lost time injury.	Single fatality and/or severe irreversible damage or severe impairment to one or more persons.	Multiple fatalities or permanent damage to multiple people.
ENVIRONMENT (on site)	Near-source confined and promptly reversible impact (typically a shift).	Near-source confined and short-term reversible impact (typically a week).	Near-source confined and medium-term recovery impact (typically a month).	Impact that is unconfined and requiring long-term recovery, leaving residual damage (typically years).	Impact that is widespread-unconfined and requiring long-term recovery, leaving major residual damage (typically years).
ENVIRONMENT (off site)	Not applicable.	Near-source confined and promptly reversible impact (typically a shift).	Near-source confined and short-term reversible impact (typically a week).	Near-source confined and medium-term recovery impact (typically a month).	Impact that is unconfined and requiring long-term recovery, leaving residual damage (typically years).

Incident Witness Statement

PROJECT: _____ LOCATION: _____

PRINT NAME: _____ SIGNATURE: _____

DATE OF INCIDENT: _____ DATE OF STATEMENT: _____
(Month / Day / year) (Month / Day / year)

TIME: _____

LOCATION: _____

WHAT HAPPEN: _____

EQUIPMENT: _____

STATEMENT: _____

Multipurpose Interaction

PROJECT:_____ LOCATION: _____

PRINT NAME:_____ SIGNATURE:_____

DATE/INTERACTION:_____ DATE/SUBMITTED:_____
(Day/month/year) **(Day/month/year)**

Job Safety Analysis Worksheet	Date:
Job/Operation:	Contractor Name:
Prepared By: Name	Job Title:
Approved By: Name	Job Title:
Personal Protective Equipment Recommended or Required:	

Basic Job Steps	Potential Accidents or Hazards	Recommended Safe Work Procedures
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MJ VanDamme Trucking, Inc.
Bloodborne Pathogens
In accordance with 29 CFR 1910.1030

1.0 Policy:

A. In compliance with OSHA and as a dimension of the Company's Health and Safety Program, employees must comprehend the danger and risks associated with bloodborne pathogens.

B. Understanding the procedures and actions that one must follow will greatly reduce the risk of infection as well as death.

2.0 Definitions:

Bloodborne pathogen: Any pathogenic organism in human blood that can cause disease in humans

HBV: Hepatitis B Virus; which is a virus that infects the liver. It is acquired by the exchange of infected blood and saliva.

HIV: AIDS is caused by the HIV virus, which attacks the body's immune system, destroying your defenses against infection. It is spread when there is an exchange of infected blood and saliva.

Blood: The term human blood components include plasma, platelets, and serosanguineous fluids. An example would be drainage from wounds.

Exposure: The act of condition of coming in contact with, but not necessarily being infected by, a disease causing agent.

Exposure Control Plan: The control plan is the key to the entire standard. It defines which employees are covered by the standard and includes a description of how each requirement of the standard will be accomplished. Coverage under the standard extends to all employees at potential risk of occupational exposure to blood or other infectious material.

Universal Precautions: Concept of infection control which requires that all human blood and other potentially infectious material be treated as if known to be infectious for blood borne pathogens, regardless of perceived allowed risk of a patient or patient population.

Engineering Controls: The mechanical means of eliminating or minimizing employee exposure.

Work Practice Controls: Methods of reducing exposure by changing the way a task is performed. A significant work practice control with respect to reducing exposure is hand washing.

Personal Protective Equipment: The third means of eliminating exposure (after work practice controls). It must be chosen based on anticipated exposure.

Body Substance Isolation: Defines all body fluids and substances as infectious. It incorporates not only the fluids and materials covered by OSHA but expands coverage to include all body fluids and substances.

3.0 Exposure Determinations:

A. Under the OSHA Bloodborne Pathogens standard, A Good Samaritan acts such as an employee assisting a fellow employee or other individual with an injury (e.g. nose bleed) are not covered.

B. In addition, those employees who receive first aid training but are not required to provide first aid as part of their job tasks are not covered.

C. The following list represents activities where employees may have occupational exposure.

(1) NONE

Note: Each field supervisor shall identify additional job classifications relative to their specific organizational structure and operations.

D. Exposure determination will be made without regards to the use of personal protective equipment.

4.0 Methods of Compliance:

The following practices and procedures will be implemented at the company job sites to minimize or eliminate occupational exposures to job classifications listed above.

A. Universal Precautions

(1) The concept of universal precautions requires us to require our employees to assume all human blood and specified human body fluids are potentially infectious for HIV, HBV and other bloodborne pathogens.

(2) Consequently, employees should avoid any unnecessary exposure to blood or other specified bodily fluids at all times.

B. Engineering and Work Practice Controls

(1) Engineering controls reduce or eliminate employee's exposures by either removing or isolating the hazard or worker from exposure.

(2) The following engineering and work practice controls shall be implemented and enforced:
- (a) Employees with lesions, dermatitis or other compromising conditions shall take extra precaution to avoid direct contact with blood or other infectious materials.
- (b) Eating, drinking, smoking or handling contact lenses are prohibited in area where there is a reasonable likelihood of occupational exposure.
- (c) Employees will wash their hands and skin with soap and water immediately or as soon as possible following contact with blood or other potentially infectious materials.
- (d) Where hand washing facilities are not available, antiseptic hand cleaners or towelettes along with a clean cloth or paper towel should be available.
- (e) Employees should proceed to wash hands or skin with soap and water once available.
- (f) Employees will flush mucous membranes (eyes, nose, mouth) with water immediately or as soon as possible following contact with blood or other potentially infectious materials.

(g) All first aid or other procedures involving blood or other potentially infectious materials will be performed in a manner that minimizes splashing or splattering of these substances.

(h) Contaminated needles or other contaminated sharps will not be bent, recapped or removed.

(i) All contaminated sharps will be placed in specified containers.

(j) All broken glass will be deposited in a specified puncture resistant container to avoid accidents (cuts) during storage and disposal.

(k) Mechanical means (i.e., broom and dust pan) should be used to clean up all broken glassware.

(l) Equipment or surfaces which have been contaminated with blood or other potentially infectious materials should be decontaminated as soon as possible.

(3) After each incident and at least monthly engineering controls will be examined and maintained to ensure effectiveness.

5.0 Personal Protective Equipment:

A. Personal protective equipment is used if occupational exposure remains after implementation of engineering and work practice controls, or if these controls are not feasible.

B. PPE is considered appropriate only if it does not permit blood or other potentially infectious materials to pass through the employee's clothes or come in contact with their skin, eyes, mouth or other mucous membranes under normal working conditions.

C. PPE shall be provided at no cost to the employee in appropriate sizes and be readily available.

D. The following PPE and practices shall be implemented:

(1) Gloves will be worn by the employee when contact with blood or other potentially infectious material is likely.

(2) Disposable gloves will be replaced as soon as practical when visibly contaminated, torn, and punctured.

(3) Disposable gloves will not be re-washed or decontaminated for re-use.

(4) Utility gloves may be decontaminated for re-use if the integrity of the gloves are not compromised (torn, cracked, and deteriorated).

(5) Hands should be washed with soap and water upon removal of gloves.

(6) Masks or protective eyewear (prescription glasses require side shields) will be worn when performing procedures that are likely to spray or splash blood or other potentially infectious materials.

(7) Protective body clothing (gown, overalls) will be worn by employees when performing procedures likely to generate splashes of blood or bodily fluids.

(8) All employees with occupational exposures should replace blood-contaminated or soiled clothing with clean clothing as soon as possible.

(9) Skin which has come in contact with blood or other potentially infectious materials should be washed with soap and water as soon as possible.

(10) Resuscitation bags or masks shall be made available to those responsible for providing cardiopulmonary resuscitation (CPR).

(11) Personal protective equipment should be removed prior to leaving the work area.

(12) Cleaning, repair, replacement or disposal of personal protective equipment will be provided at no cost to the employee.

Note: The employee may temporarily decline the use of personal protective equipment when they use their judgment that its use would have prevented delivery of health care of it would have posed a greater safety hazard to the employee.

6.0 Housekeeping Practices:

A. The job supervisor is responsible for maintaining a clean and sanitary environment.

B. Actual types of cleaning and cleaning schedules vary relative to location, site activities and types of surfaces.

C. The following are general housekeeping practices to be implemented when applicable.

(1) All equipment and environmental/working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials as soon as possible.

(2) Special cleaning procedures can be provided by the corporate health and safety officer. Sodium hypoclorite (household bleach) solution in water (1:10 dilution) can also be used on most surfaces excluding metal and cloth.

(3) Reusable items which become contaminated during the cleaning process shall be properly decontaminated before putting them back into service.

(4) Protective coverings which become contaminated shall be properly disposed of and replaced with a new, clean cover.

(5) Any receptacles intended for re-use will be decontaminated on a regular basis or if visibly contaminated.

(6) Broken glassware shall be cleaned up using mechanical mean (i.e. brush and dust pan).

(7) Contaminated sharps or needles shall be stored in a closeable, puncture resistant container.

(8) Employees shall never reach their hands directly into the container.

7.0 Hepatitis B Vaccination:

A. The OSHA Bloodborne Pathogens standard requires that employees who are required to provide first aid as a primary part of their job description, be offered the hepatitis B vaccine and vaccination series.

(1) This includes initial vaccination post exposure evaluations and the potential need for a routine booster dose(s) if required.

(2) The standard does not require the vaccination be offer to other employees who are required to provide first aid as a collateral duty (those employees where first aid is not a primary job task assigned) relative to their overall job tasks.

(3) If an employee is subject to a job site which would require that the hepatitis shot be administered, it shall be provided to the employee at no cost.

(4) The following procedures will be implemented:
- (a) Specified employees who have occupational exposure will be provided, at no cost, the hepatitis B vaccine and vaccination series, as well as post-exposure evaluation and follow-up procedures.
- (b) Actual vaccination and follow-up procedures shall be performed under the supervision of a licensed physician or other licensed health care professional and provided in accordance with the recommendations of the U.S. Public Health Service.
- (c) The health care professional will be provided with a copy of the Blood borne Pathogens standard (29 CFR 1910.1030).

Note: The hepatitis B vaccination is not required if the employee has previously received the complete hepatitis B vaccination series and antibody testing reveals the employee is immune or the vaccine is inadvisable for medical reasons. A hepatitis B pre-screening program will not be a prerequisite for receiving the vaccination.

B. The hepatitis B vaccination will be available to specified employees within ten working days of initial assignment.

(1) Each employee receiving the vaccination must be informed on the following:
- (a) Efficacy of the vaccine
- (b) Safety of the vaccine
- (c) Method of administration
- (d) Benefits associated with the vaccine
- (e) Acknowledgment of free vaccine and vaccination

(2) An employee who initially declined the hepatitis B vaccination will be allowed to receive the vaccination at a later time.
- (a) All employees who decline the hepatitis B vaccination made available will be required to sign the Employee Hepatitis B Vaccine Declination form.
- (b) The company will offer the hepatitis B vaccination to all unvaccinated employees required to provide first aid as a collateral duty who have rendered first aid in any situation involving the presence of blood or other potentially infectious materials (regardless of whether an actual exposure incident occurred).
- (c) The vaccination should be made available as soon as possible, but in no event later than 24 hours.

8.0 Regulated Waste Management:

A. The following procedures will be implemented to comply with federal and state requirements for regulated infectious wastes.

(1) Containment
- (a) All regulated waste (blood or contaminated items) will be placed in containers that prevent any leakage during the collection, handling, process, storage, transport or shipping.
- (b) A secondary container will be used if outside contamination of the primary container occurs.
- (c) If waste items can puncture the primary container, the primary container will be placed within a secondary container, which is puncture resistant.
- (d) Contaminated sharps and needles will be immediately discarded in a closeable, puncture-resistant, leak-proof container.
- (e) The sharps container will be readily accessible to personnel and located as close as possible to the area of use preferably located centrally.
- (f) The sharps containers will be maintained upright, replaced routinely and not be overfilled at any time.
- (g) The containers will be closed prior to removal to avoid any spillage.
- (h) Reusable containers will not be emptied or cleaned manually to avoid any stick exposures to the skin
- (i) When applicable, all regulated (contaminated) waste will be stored in a secure area.

Note: OSHA does not consider typical Band-aids or feminine hygiene products to be regulated waste. Cleaners are recommended to apply Universal Precautions when disposing of feminine hygiene products to avoid any unnecessary direct skin contact. In addition, decontamination of any visible blood contamination in the receptacle may be required.

(2) Labeling:
- (a) Containers of regulated waste will be labeled with the Biohazard symbol and the wording biohazard.
- (b) The biohazard label will be fluorescent orange or orange red in color with the lettering in contrasting colors.
  - (I) The labels will be affixed so as to avoid their loss or unintentional removal.
- (c) Red bags or red containers may be substituted for the Biohazard label.
- (d) If Universal Precautions are utilized, the labeling/color-coded system is not necessary, provided the containers are recognizable and treated as containing regulated waste.
- (e) All regulated waste leaving the facility must be properly labeled or color-coded.

(3) Disposal
- (a) Disposal of regulated waste must be done at a state approved landfill or medical incinerator.
- (b) Disposal of regulated waste at a sanitary landfill is not permissible unless the waste is first deemed noninfectious.
- (c) Employees should not mix regulated (hazardous) waste with other waste.
- (d) All regulated waste shall be transported per state specific requirements.
- (f) All shipments will be manifested accordingly.

9.0 Exposure Evaluation and Follow-Up

A. The job supervisor will immediately provide a post-exposure evaluation and follow-up for

employees who have had an occupational exposure to blood or other potentially infectious materials.

B. The following protocol will be followed by the supervisor providing post-exposure evaluations and follow-up:

(1) All employees shall immediately report an occupational exposure to their supervisor.

(2) In addition, all employees who render first aid where blood or other potentially infectious materials were evident (regardless of whether an exposure incident occurred) shall immediately report the incident to their supervisor.

(3) Confidential medical evaluation and follow-up of the incident with a licensed health care professional will be made available.

Note: The supervisor will record the event on the OSHA 300 Log of Occupational Injuries and Illnesses and OSHA 301 Supplementary Record of Occupational Injuries and Illnesses (or equivalent: First Report of Injury), if applicable.

C. The Project Manager will document the circumstances under which the exposure occurred (or potential exposure in cases where first aid was provided), including routes of exposure, the HBV or HIV status of the source patient(s), if known, and the employees hepatitis B vaccine status.

(1) A copy of the OSHA Bloodborne pathogens standard and the above information collected upon review of the incident will be provided to the health care professional.

D. The Project Manager will notify the source patients of the incident and attempt to obtain written consent to collect and test the source's blood to determine the presence of HBV and/or HIV infections.

(1) If the source individual is known to be infected with HBV or HIV, testing of the source individual is not required.

(2) Results of the source individual=s testing will be made available to the exposed employee.

(3) All applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual will be available.

(4) The exposed worker's blood will be collected as soon as feasible and tested upon written consent being obtained for determination of HBV and/or HIV status.

(5) In addition, the company may be required to provide repeat HIV testing to the exposed employee on a periodic basis thereafter depending on the health care professional's opinion.

E. Follow-up of the exposed worker will include counseling, medical evaluation of any acute illness that occurs, post exposure prophylaxis and other post exposure methods according to recommendations for standard medical practices.

F. The health care professional will submit a written opinion to the Project Manager documenting the employee was informed of the evaluation results and the need for any further follow-up and whether the hepatitis B vaccine was received.

G. The Project Manager will provide a copy of the health care professional's written opinion within 15 days of completed evaluation.

10.0 Training:

A. Training will be provided to all identified employees with potential occupational exposures to blood or other potentially infectious materials.

B. This training will be conducted during normal work hours by a trainer knowledgeable on the subject matter.

C. The training requirements include the following:

(1) Training will be provided before an initial assignment to a task involving a potential occupational exposure, and annually thereafter (within 1 year of previous training).

(2) Additional training will be provided by the company when any new tasks or modifications of procedures affect the employee's occupational exposure.

D. The training program shall include the following components:

(1) Copy of the OSHA Bloodborne Pathogens standard.

(2) Routes of exposure and symptoms of bloodborne pathogens.

(3) Methods for identifying tasks which may involve exposure to blood or other potentially infectious materials.

(4) Overview of engineering controls, work practices and personal protective equipment.

(5) Information on hepatitis B vaccine.

(6) Emergency procedures and notification requirements.

(7) Incident reporting.

(8) Post exposure evaluation and follow-up.

(9) Explanation of levels and color coding system requirements.

(10) Typical labels and signs identifying infectious materials will be discussed. (Refer to 29CFR1910.1030 and training manual for specific examples)

11.0 Record Keeping:

A. Exposure records are required to be maintained for 30 years.

B. Training records shall be maintained at each respective employee's facility and a copy sent to the Corporate Health and Safety Department for retention (for a minimum of 3 years), which should include the following:

(1) Date of the training session(s).

(2) Summary of the training topics discussed.

(3) Name and qualifications of trainer.

(4) Names and titles of all employees who attended the training session.

12.0 Exposure Control Plan

A. A written exposure control plan is required to be maintained for all employees that reasonably anticipate exposure as part of their normal job function as specified in 29CFR1910.1030. Those employees listed in (B) below will be provided a copy of the exposure control plan.

B. The listing of employees included in (A) above is as follows:

None at this time

C. The noted exception to (B) above is that all employees trained in First Aid/CPR will receive additional instruction/certification regarding bloodborne pathogens.

13.0 Medical Records

A. Medical records are required to be maintained for each employee with occupational exposure as specified in 29 CFR 1910.1020 - Access to Employee Exposure and Medical Records.

B. Medical records are to remain confidential, sent directly to the Health and Safety Department for retention and shall be maintained for the duration of employment plus 30 years.

C. Medical records are to be made available to employees at their request and other as outlined in 29CFR1910.1020(h). Compliance with 29CFR1910.1020(h) will be maintained regarding transfer of exposure records should the need arise.

D. The medical records relative to the bloodborne pathogen's standard shall include the following:

(1) Employee name and social security number.

(2) Hepatitis B and vaccination status and dates.

(3) Results from evaluations and follow-up procedures.

(4) The copy of the health care professional's written opinion.

(5) Copy of the information provided to the health care professional by the Home office.

1.0 PURPOSE

A. This procedure defines and specifies the specific safety standards and policies that govern the safe entry into all confined spaces at Company sites.

B. This procedure complies with the Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1910.146.

2.0 RESPONSIBILITIES

A. The **Safety Officer** is responsible for ensuring that all elements of this procedure have been implemented and followed.

(1) The Safety officer will usually not oversee or coordinate confined space entries, but the Safety Officer will retain the ultimate responsibility to ensure compliance with all Federal, State, and Local Regulations and to the Corporate Policy and Program.

B. The **Project Manager** is responsible for assigning and initiating confined space entries; however, the project manager may not necessarily be the supervisor in charge at the entry site.

(1) The Project Manager is responsible for coordinating all confined space activities with the clients and any potential sub-contractor.

C. The **Entry Supervisor** will be directly responsible for specific site entries. It is extremely important to ensure that procedures are correctly followed.

3.0 Duties of Entry Supervisors

A. All entry supervisors must:

(1) Discuss the confine space entry with the Project Manager or the property owners Site Supervisor.

(2) Discuss any entry requirements relative to the Corporate Program.
- (a) The strictest procedure will be applicable.
- (b) All site personnel with be informed of any modifications to the Corporate Program.

(3) Know all the hazards and potential hazards associated with a confined space, including the mode, signs or symptoms, and consequences of exposure if there are chemical hazards.

(4) Verify that:
- (a) Appropriate entries on the entry permit have been made
- (b) All tests specified by the permit have been conducted
- (c) All procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.
- (d) Terminate the entry and cancel the permit as required.
- (e) Verify that rescue services are available and that the means for summoning them are operable.
- (f) Secure the confined space entry location and post the entry permit.
- (g) Remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations.

4.0 Duties of attendant(s)

A. All attendants must:

(1) Know the hazards they may come in contact with during entry, including the mode, signs or symptoms, and consequences of exposure.

(2) Be aware of the possible behavior effects experienced by authorized entrants as a result of their exposure to a hazard.

(3) Continuously maintain an accurate count of authorized entrant(s) in the permit space and ensure that the means used to identify authorized entrants is consistent and accurately identifies those in the permit space.

(4) Remain outside the permit space during entry operations until relieved by another attendant.

(5) Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.

(6) Notify entry supervisor and rescue in case of an emergency.

5.0 Duties of the entrant(s)

A. All entrants must:

B. Know the hazards they may come in contact with during entry, including the mode, signs or symptoms, and consequences of exposure.

C. Use equipment as recommended by manufacturers.

D. Communicate with the attendant as necessary to enable the attendant to:

(1) Monitor entrant status and

(2) Alert entrants of the need to evacuate the space as required.

E. Alert the attendant whenever:

(1) Warning signs, symptoms of exposure, or dangerous situations are evident, or

(2) A prohibited condition is detected.

F. Exit the permit space as quickly as possible whenever:

(1) An order to evacuate is given by the attendant or the entry supervisor,

(2) Warning signs, symptoms of exposure, or dangerous situations are evident, or

(3) A prohibited condition is detected.

6.0 General procedures

A. The Safety Officer is responsible for ensuring that the following tasks have been accomplished:

(1) All permit-required confined spaces are evaluated prior to project acceptance.

(2) New confined spaces will be evaluated as they are discovered, constructed, or contracted to enter.

(3) All permit-required confined spaces have been grouped into one of seven classifications:
- (a) Tanks and vessels
- (b) Sewer pits
- (c) Air handling units
- (d) Ducts
- (e) Boilers
- (f) Excavations
- (g) Other

(4) Newly constructed, or confined spaces contracted to enter will be listed into these categories as appropriate.

(5) Every point of entry into permit-required confined spaces has been identified and illustrated to all personnel through labeling and training.
- (a) Labels or signs stating "Do Not Enter":
- (b) "Permit-Required Confined Space" is required on all points of entry to confined spaces.

(6) Entry into confined spaces will be prohibited unless there is no other means of performing the necessary work.
- (a) All entries must be authorized through the means described in this procedure.
- (b) All unauthorized entries will be handled through a formal disciplinary procedure.

(7) All personnel involved in confined space entry will have been trained to perform the tasks that are required. At a minimum, this training will include:
- (a) Discussion on the hazards that may be encountered
- (b) How to control the hazards
- (c) Air monitoring procedures
- (d) Ventilation requirements
- (e) Emergency rescue procedures to be implemented if necessary.
- (f) Lockout procedures
- (g) Fall protection

B. All confined space entries will have been authorized by means of a confined space entry permit.

(1) This permit, which will have been completed by the entry supervisor, indicates that, at a minimum, all hazards at the space will be temporarily controlled.

C. Entry into a confined space will be absolutely prohibited when:

(1) Flammable concentration is 10% of the lower explosive level (LEL) or greater

(2) Oxygen content is less than 19.5% or greater than 23.5%.

(3) Carbon Monoxide concentration is above 35 ppm.

(4) Hydrogen Sulfide concentration is above 10 ppm.

(5) Atmosphere is determined to be immediately dangerous to life and health.

(6) The entrants have a potential exposure at or above the OSHA Permissible Exposure Levels (PEL) or the ACGIH Threshold Limit Value (TLV).

Note 1: Entry under these above noted conditions may be required to lower exposures for other trades and subsequent work or modification to the confined space. Entry under these conditions requires special permits and personal protective equipment to protect the entrant from exposure.

Note 2: Emergency rescue services are an exception provided that rescue personnel are properly trained and use all of the proper personal protective equipment (PPE).

7.0 Training

A. The following requirements pertain to entry personnel:

(1) Entry supervisors must be trained with regard to the roles and responsibilities of all employees involved in confined space entries.
   (a) Entry supervisors must be trained in hazard identification techniques and the means to control and/or eliminate hazards when they are identified.
   (b) Entrants must be trained on the requirements of this procedure as well as the specific entry and self-rescue techniques required at each confined space.
   (c) Attendants must be trained on the duties of the attendant as described in this procedure as well as any specific requirements for the various confined spaces that exist at the facility.
   (d) All personal at the facility must receive awareness training that outlines in detail the requirements provided in this procedure and the techniques required to identify a confined space.

8.0 Pre-entry planning

A. The steps personnel must take once the decision has been made to enter a confined space include the following:

(1) Potential hazards that may be encountered in each of the seven families of confined spaces are described in this procedure.

(2) In addition to knowing what these potential hazards are, the entry supervisor must also take time to assess the condition of the confined space for any of the following hazards:
(a) Toxicity,
(b) Flammability
(c) Asphyxiating gases or vapors,
(d) Oxygen deficiency or enrichment,
(e) Engulfment hazards
(f) Entrapment hazards
(g) Electrical hazards,
(h) Explosive hazards,
(i) Mechanical hazards,
(j) Chemical hazards, and
(k) Physical hazards (e.g., slippery surfaces, sharp edges, or low ceilings).

B. The pre-entry meeting must include a discussion of the techniques that will be used to render the confined space safe for entry.

(1) Specifically, these techniques include analysis of ventilation requirements, lockout of energy sources, isolation of piping, installation of illumination, and performance of air testing.

(2) All persons participating in confined space entry must be involved in the preparation of the confined space entry permit.

(3) A pre-entry meeting must be held between all members of the entry team to discuss:
(a) How the entry will take place;
(b) What exactly will be done in the confined space?
(c) What hazards, if any, will be created as a result of the work performed;
(d) What PPE is required?
(e) How entrant(s) will exit the space; and
(f) What activities personnel will be responsible for should an emergency arise.

(4) At the conclusion of the pre-entry meeting, team members will have a thorough understanding of what will happen during the entry and what to do should an emergency arise.

C. Equipment needs must be anticipated.

(1) All equipment required for the entry must be obtained in advance.

(2) All equipment being used during the entry must be inspected prior to the entry to ensure proper performance.

9.0 Preparation for entry

This section describes the steps necessary for personnel to prepare the confined space and ensure that it is safe for entry.

A. All sources of energy, including electrical, pneumatic, mechanical, and hydraulic, etc., must be de-energized and locked out in accordance with the Lockout Policy.

(1) At a minimum, each entrant must apply their lock to the energy disconnect.
(2) To prevent water, natural gas, or any hazardous material from entering the confined space during the entry operation, the space must be completely isolated from any inlet and outlet

piping.

(3) The piping must be isolated in one of two ways:
- (a) **Double Block and Bleed** - In this method, two valves in the pipe entering the confined space are locked closed.
  - (I) A third valve, which is located between the two locked valves, is opened to allow venting to the atmosphere, away from the confined space.
  - (II) This third valve must be locked in the open position and checked to ensure that it is not blocked or plugged in any way.
- (b) **Blanking** - In this method, a full-pressure blind flange is placed in the pipe as close to the confined space as possible.
  - (I) This blind flange must be:
    - (i) Bolted into place,
    - (ii) Compatible with the material in the pipe, and
    - (iii) Able to withstand the full pressure load of the pipe.

(4) Lockout of a single valve *is not* an acceptable means of isolating the confined space from chemicals and other hazardous material.

B. The confined space should be cleaned of any scale or build-up (especially grease and oils in pits) prior to entry.

(1) Flammable solvents must not be used because these may produce a hazardous atmosphere within the confined space.

(2) If possible, standing water or sewer water must be pumped from the confined space to avoid an engulfment hazard and the potential for the production of a hazardous atmosphere due to biological activity.

(3) If the confined space cannot be cleaned without entry, donning of all appropriate PPE may be required.

C. Environmental Testing will be conducted to assess the nature of the atmosphere within the confined space prior to and during entry.

(1) A monitor that is capable of analyzing the presence of all gases must be used to determine the nature of the atmosphere within the confined space.

(2) The atmosphere in confined spaces must be tested for the following in the order listed:
- (a) Oxygen level (percent of atmosphere)
- (b) Flammable gas/vapor level (percent of LEL)
- (c) Toxic gas/vapor level (e.g., hydrogen sulfide or carbon monoxide [ppm])

(3) Safe levels for entry are provided in the definition of “Hazardous Atmosphere” (see Glossary).
- (a) Entry into the confined space will not be permitted if the atmosphere is hazardous.

(4) The gas monitoring equipment has a documented preventive maintenance schedule, calibration, and maintenance log.
   (a) Prior to use, the entry team will ensure the calibration of the monitor.

(5) The procedure for testing the atmosphere is provided as follows:
   (a) Lower or extend the gas monitor probe to the furthest point from the entryway.
   (b) Start the monitoring pump to begin the flow of gas to the monitor.
   (c) Follow the manufacturer's instructions on the proper length of time to allow the pump to run for the given length of tubing.
   (d) Move the sample probe 3 feet closer to the entryway once the furthest point has been properly monitored and sample again at this point.
   (e) Continue sampling in this manner until the confined space's atmosphere is fully tested.

D. Ventilation will be required if results of environmental testing reveal that the confined space contains a hazardous atmosphere, or if it is determined that activities within the confined space will produce a hazardous atmosphere.

(1) If after pre-entry preparations have been performed and the potential remains for a hazardous atmosphere to accumulate in the confined space, continuous ventilation is required.

(2) If all sources that could contribute to a potential hazardous atmosphere have been eliminated during pre-entry activities, then ventilation may be necessary for only a short period.

(3) Ventilation will be accomplished by the addition of a blower and flexible duct assembly.

(4) Air will be drawn from a safe location and delivered to the bottom of the confined space to facilitate ventilation of the entire space.

(5) The ventilation of the confined space will be performed as follows:
   (a) A determination will be made to ventilate the confined space.
   (b) A flexible duct will be extended to the bottom of the confined space.

   Note: When entering a manhole, the saddle vent must be used to allow ventilation to continue while the entrant is entering the space.

   (c) The blower will be started and ventilation begun.
   (d) Ventilation will be allowed to continue for at least 30 minutes prior to entry or testing.
   (e) The blower will be shut down and environmental testing will be repeated.
   (f) The blower will be started and allowed to operate until the atmosphere is no longer hazardous or until entry is complete.

E. Entrants are prohibited from entering dark confined spaces; therefore, lighting is a requirement and must be part of the pre-entry equipment needs.

(1) Temporary lighting must:
   (a) Be properly grounded; if used in wet or damp spaces, the light must have a ground fault circuit interrupter.
   (b) Be equipped with guards that prevent contact with the bulb.

(c) Have an OSHA approved heavy-duty electrical cord with insulation that is in good condition.
(d) Be suspended by a rope or cord other than the electrical cord.
(e) Preferably, low voltage lighting (less than 50 volts) will be used.

F. Personal Protection and Pre-entry activities may dictate the use of PPE to prevent entrant contact with any of the hazards that have been identified.

(1) Standard PPE worn at the site includes:
(a) Safety glasses with side shields.
(b) Steel-toed shoes.
(c) Work uniform.

(2) When necessary, the following equipment may also be required:
(a) Hard hat if an overhead hazard exists.
(b) Hearing protection if excessive noise exists.
(c) Gloves if a chance of laceration or chemical contact hazard exists.
(d) Face protection if a flying object hazard exists.
(e) Respiratory protection if an atmospheric hazard exists.
(f) Chemical Protective Clothing as needed

(3) Prior to wearing any PPE, entrants must be properly trained to choose, inspect, don, and doff the equipment.

(4) Respiratory protection equipment must be worn only by those medically fit and trained in the specifics of respirator use.

10.0 Entry

A. This section provides information to ensure compliance with regulations.

B. Permit System

(1) Entry of personnel into confined spaces at the Site is expressly prohibited without a completed and signed confined space entry permit.

(2) A confined space entry permit can only be issued by an authorized entry supervisor and must accompany all pre-entry activities.

(3) The confined space entry permit (Tab 8 of this Policy) will be completed in the following manner:
(a) Information at the top of the form will be completed as requested.
(b) An explanation as to why and how long the space will be entered.
(c) The actual and potential hazards of the space will be described, as well as the steps necessary to control the hazards.
(d) Entrants and attendants will complete the section specified.
(e) Environmental testing will be performed and the results will be provided as requested. Employees have the right to observe testing results or to request retesting to verify results.
(f) Based on the results of environmental testing and initial ventilation, a decision will be made whether continuous ventilation will be required to prevent the accumulation of hazardous material in the atmosphere.

(g) If continuous ventilation is used, then continuous monitoring is required. The results from the continuous monitoring will be logged in the space provided in the permit.

(h) The appropriate boxes in the Rescue and Personal Protective Equipment section must be checked appropriately.

(i) The entry supervisor must sign one of the two statements indicating that the confined space is permit-required and is safe for entry, or that the hazards of the confined space have been eliminated and the confined space can be reclassified to being non-permit required.

(j) The entry supervisor will cancel the permit when all entrants have exited.

(4) The entry permit must be displayed at or near the point of entry during the duration of the entry.

(5) All entry permits will be filed and retained for at least 1 year.

11.0 Reclassification

A. There are a number of confined spaces at the Site that have the potential to be reclassified.

B. A space classified as a permit-required confined space may be reclassified as a non-permit confined space under the following circumstances:

(1) If the permit space poses no actual or potential atmospheric hazards.

(2) If there is only one hazard within the space and it can be eliminated without entry into the space.

(3) The only hazard is a potential atmospheric hazard that can be controlled by ventilation and air monitoring.

C. If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed as a permit-required entry.

D. A non-permit required confined space is not subject to any of the requirements of OSHA *Permit-Required Confined Spaces* (29 CFR 1910.146).

(1) Special rescue arrangements, continuous monitoring, and confined space attendants are not necessary.

(2) Entrants to permit-required and non-permit required confined spaces will be equally trained.

E. It must be stressed that forced ventilation does not constitute elimination of a hazardous atmosphere.

F. A confined space with a hazardous atmosphere controlled by forced ventilation is still considered a permit-required confined space.

G. If during entry into a reclassified confined space a hazard arises, all entrants must exit the space.

12.0 Rescue

A. At least one person trained in First Aid/CPR shall be immediately available during entry.
B. Effective means of communication between entrant(s) and attendant shall be available at all times during entry.
C. An approved safety harness and lifeline shall be used. The free end of the lifeline shall extend outside the space and be secured.
D. At least one employee shall stand by outside the space ready to give assistance in case of an emergency. At least one additional employee shall be within sight or call of the stand by employee.
E. Rescue Teams shall be coordinated based on the size and configuration of the permit-required confined space to be entered. Proper Hazard Assessment and JSA shall be utilized to make this determination. Rescue Teams and Rescue Plans shall be documented in the Site Specific Health & Safety Plan.
F. Entry operations in excess of 5 feet vertical will require the use of mechanical retrieval devices and approved harnesses. Devices utilized shall render the user in the upright position.

Confined Space Entry Permit

In the event of an emergency call 9-1-1

SECTION 1

Date Permit Issued:	Is this a permit-required space? Yes ☐ No ☐ (If no permit required skip section #4)
Location of Confined Space (What area, floor, etc.):	
Description of confined space:	
Description of work to be performed:	

Material or Chemicals located and/ or brought into the confined spaces

	MSDS Yes ☐ No ☐		MSDS Yes ☐ No ☐
	MSDS Yes ☐ No ☐		MSDS Yes ☐ No ☐
	MSDS Yes ☐ No ☐		MSDS Yes ☐ No ☐

Air monitoring device information

Make/ Model:	Date of Calibration:

Pre-entry Atmospheric monitoring results

Oxygen (19.5%-23%) _____%	Carbon monoxide (< 35PPM) _____PPM	Flammables (<10% of LEL) _____ %	Other _____

SECTION 2

Other potential hazards

N/A	Yes	
☐	☐	Chemical exposures
☐	☐	Corrosive Substances
☐	☐	Carbon Monoxide
☐	☐	Potential Flammable/ Explosive Dust
☐	☐	O_2 Deficient
☐	☐	O_2 Enriched
☐	☐	Flammable Gas
☐	☐	Temperature Extremes
☐	☐	Slip/ Trip/ Fall
☐	☐	Vermin/ Animal
☐	☐	Limited Egress
☐	☐	Noise/ Vibration
☐	☐	Structural Collapse
☐	☐	Small Internal Size
☐	☐	Visual/ Lighting
☐	☐	Plumbing Lines
☐	☐	HVAC (Heating, Ventilation and Air conditioning)
☐	☐	Radiation (ionizing or non ionizing)
☐	☐	Pressurized Equipment
☐	☐	Mechanical Equipment
☐	☐	Electrical Hazards
☐	☐	Biohazards
☐	☐	Asbestos
☐	☐	other: _____

Controls needed for hazards

N/A	Yes	
☐	☐	Barricade/ Signs
☐	☐	Lock out/ Tag out
☐	☐	Double block and bleed
☐	☐	Lighting
☐	☐	Air purifying respirator
☐	☐	Supplied Air Respirator/ SCBA
☐	☐	Hearing Protection
☐	☐	Mechanical fresh air ventilation
☐	☐	Natural Ventilation
☐	☐	Protective clothing
☐	☐	Safety Glasses/ Face shield
☐	☐	Hard hat/ head protection
☐	☐	Ground fault interrupter (GFCI)
☐	☐	Harness/ Life lines/ Tripod
☐	☐	Gloves/ Hand Protection
☐	☐	Continuous air monitoring
☐	☐	Fire extinguisher. Type: _____
☐	☐	Two way communication equipment
☐	☐	Eye wash/ Emergency Shower
☐	☐	Hot work Permit
☐	☐	First Aid kit
☐	☐	other: _____
☐	☐	other: _____
☐	☐	other: _____

Additional Information:

SECTION 3

Continuous Atmospheric monitoring results (Tests must be recorded at least once per hour)
Remember to test at different levels (e.g. low, medium, and high)

Time	Sampled By (Initials)	$\%0_2$ (19.5-23%)	%LEL (<10%)	CO (PPM) (<35PPM)	Other	Notes:

List of all authorized personnel (Please Print Neatly)	Time In	Time Out	Time In	Time Out	Time In	Time Out	Time In	Time Out	Time In	Time Out

SECTION 4 (IF PERMIT REQUIRED CONFINED SPACE)

Post authorized permit at job site until completed.

Qualified Entry Supervisor.
I certify that all of the requirements of the confined space entry program have been met. I have ensured that all applicable hazards have been identified and sufficiently controlled.

Permit authorization		**Time Authorized Between** (What time is the permit authorized between)
Name:	Signature:	Start: _____ AM☐ PM☐ End: _____ AM☐ PM☐
Permit Cancellation		**Time Canceled**
Name:	Signature:	Actual Time Canceled: _____ AM☐ PM☐

In the event of an emergency Call 9-1-1

The Entry Supervisor is required to submit the completed permits to the Safety Administrator for 3 years.

1.0 General Instructions

A. The Occupational Safety and Health Act of 1970 require all places of employment to furnish a safe and healthy place for their employees to work.

B. The U. S. Department of Labor, Occupational Safety and Health Administration (OSHA) have promulgated Safety and Health Regulations to enforce the Act.

2.0 Responsibilities

A. Supervisors and Foremen to ensure that all employees on the job or project are:

(1) Briefed on the hazards at the job site.

(2) Trained in accordance with current OSHA training requirements.

(3) Engineering controls and safety equipment are operating and used.

(4) Personal Protective Clothing and Equipment is provided for the level of hazards at the job site.

(5) Insure OSHA Health and Safety Regulations and safe work practices are followed

B. Employees are responsible for:

(1) Following OSHA regulations, safety procedures and guidelines for the job site.

(2) Wearing the personal protective clothing and safety equipment provided for the project.

(3) Reporting any discrepancies in the safety procedures.

3.0 Importance of Safety - from the Company Point of View

A. The company has always recognized that every employee should have safe and healthful working conditions because the employee and the company reap benefits.

B. The company benefits when an employee is able to remain on the job, accident free and to perform the work without interruptions.

(1) There are no delays in work schedules or added costs due to employees and supervisors having to look after the welfare of an injured employee.

(2) Properties are not damaged, thus eliminating costly repairs or replacements.

(3) Insurance costs are kept to a minimum, resulting in substantial savings.

C. The employee benefits by being able to earn competitive wages for as long as his services are needed on the job.

(1) On full wages, a safe employee can more easily obtain the necessities and luxury items to provide a happier life for his dependents and himself.

(2) A healthy and whole employee can enjoy the luxuries of life.

5.0 Disciplinary Policy and Procedures

A. In the event that an employee fails to follow the OSHA Health and Safety Regulations and the Corporate Health and Safety Program the company has the right to impose disciplinary actions to protect employees from injury or death, client's facilities from damage and the company from liability.

(1) The enforcement of Health and Safety policies and regulations is protecting:
- (a) The employee from injury or death.
- (b) Reduce the losses and damage to equipment and tools.
- (c) Control cost associated with losses due to accidents and injuries.
- (d) Protect the client's facilities and personnel while conducting operations on the client's facility.
- (e) To protect the company and its management form prosecution and lawsuits from accidents, deaths and injuries to employees or other persons.

B. Management, Supervisors and Foremen are responsible in managing and enforcement of company policies and health and safety policies.

(1) Health and Safety violations constitute the failure to follow:
- (a) Federal and State health and safety regulations in accordance with:
  - (I) 29 CFR 1910 (OSHA)
  - (II) 29 CFR 1926 (COSHA)
  - (III) 40 CFR 260-265 (RCRA)
  - (IV) T8CALOSHA3203/1509
- (b) Corporate Health and Safety Policies.
- (c) Project specific safety guidelines and client facility safety and health guidelines.
- (d) Written or verbal directions from the project supervisor or foreman.
- (e) Commonly known rules or laws such as:
  - (I) Traffic laws
  - (II) Theft
  - (III) Battery

(2) The commitment of the company management and supervisors to safe projects and jobs is paramount to the company's continual growth.
- (a) This will be accomplished by.
  - (I) Employee training
  - (II) Project safety briefings
  - (III) Inspection and audits of projects and programs
  - (VI) Retraining as required
  - (V) Disciplinary actions when required

C. Disciplinary Procedures:

(1) When the management or supervisory personnel is notified or becomes aware of a health and safety violation, the following steps will be followed:

(2) Conduct an investigation (in writing) of the incident, accident, injury or near miss incident.
- (a) Interview all participant and observers.
- (b) Get signed statement from each participant and observers.
- (c) Take pictures if possible.
- (d) In case of a death or major property damage, do not disturb the scene, as it contains important and sensitive evidence and may be considered a crime scene.

(3) Review the violation of the health and safety policy with the effected employee.
- (a) Conduct this review /counseling session away from other employees
- (b) Where all possible, have another supervisor present to witness the discussion.
- (c) Explain:
  - (I) The violation.
  - (II) Its effects and ramifications on employees and the company.
  - (III) How to come into compliance or meet the health and safety standards.
- (d) Conduct any training review that may be required.
- (e) Inform the employee of any disciplinary actions that will be taken in conjunction with this violation.
- (f) Have employee sign the counseling / disciplinary form.
  - (I) If employee refuses to sign the counseling / disciplinary form, have the supervisor that witnessed the counseling session counter sign with you.

D. Disciplinary Action:

(1) The company may take any of the following disciplinary actions depending on the severity or frequency of the violation.
- (a) Verbal Warning (in writing)
- (b) Retraining prior to return to work.
- (c) One day off (first violation)
- (d) Three days off (second violation)
- (e) Termination

(2) Termination may be used at the discretion of the company management to protect the employees, equipment, clients and property from unsafe acts and losses.

(3) Management reserves the right to impose disciplinary action based on specific factors involved with specific incidents. This may or may not coincide with the policy stated in 5.0(D)(1) above.

E. Audits

(1) Physical safety audits of projects and job site will be conducted by corporate officers, Supervisors and foreman.
- (a) These audits will evaluate overall compliance with Federal, State and corporate safety and health regulations and standards.
- (b) Violations or non-compliance with safety regulations and/or standards by any supervisors and/or employees will be enforced as noted above in this section.

1.0 Policy:

A. This policy covers all workers in proximity to any part of an electrical power circuit in the course of their work, and the minimum standards for the protection of employees and the prevention of electrical shock.

2.0 Purpose:

A. Electricity has long been recognized as a serious workplace hazard, exposing employees to such dangers as electric shock, electrocution, fires, and explosions.

B. The following practices are intended to prevent work-related injuries from the electrical hazards present on our jobsites.

3.0 Procedure:

A. No employees are allowed to work near any part of an electric power circuit that the employee could contact in the course of work, unless the employee is protected against shock by de-energizing the circuit and grounding it or by guarding it effectively by insulation or other means.

B. Project supervision must insure barriers or other means of guarding to ensure workspace of electrical equipment will not be used as a passageway during the time when energized parts of electrical equipment might be exposed.

C. Walkways and similar working spaces must be kept clear of electric cords.

4.0 Live Electrical Wiring:

A. Employees will not work on live circuits above 50 volts.

B. If, at some time in the future, an employee will work on an energized circuit, they will be appropriately trained to become a qualified employee.

C. The training must include:

(1) Use of precautionary techniques.

(2) Electrical Personal Protective Equipment (PPE).

(3) Insulating and Shielding materials i.e., blankets and mats,

D. Insulated tools.

(1) The required use of insulated tools does not provide an excuse for taking short cuts of safe work procedures.

E. Working live is the absolute last resort that is pre-approved by the Operations Manager.

(1) Employees will not work under live high voltage (greater than 600 volts) electrical wires. If work is to be performed, the lines will be deenergized and grounded. Minimum clearance distances are listed in the table in Section 12.0 of this chapter. The distances listed cover clearances for employees and equipment used in the vicinity of overhead lines.

(2) Employees will not work in energized electrical rooms, vaults, pits, or enclosures.

5.0 Training:

A. All employees will be trained on the:

(1) Hazards of electricity

(2) How to identify potentially live parts.

(3) Minimum safe approach distances.

(4) Safe clearance distances.

(5) Lockout/Tagout

(6) General Work Rules

B. Site Supervisors will also be trained in:

(1) Examination, Installation, and Use of Equipment

(2) Grounding of Equipment Connected by Cord and Plug

(3) Guarding

(4) Grounding of Equipment Connected by Cord and Plug

(5) GFCI's

6.0 Lockout and Tagging of Circuits:

A. Only Authorized Employees will perform the Lockout/Tagout procedures.

(1) Locks and Tags must be placed on controls that are to be deactivated during the course of work on energized or de-energized equipment or circuits.

(2) Equipment and circuits that are de-energized must be rendered inoperative.

(3) Refer to the Lockout Tagout Program for the proper procedures to follow.

7.0 Examination, Installation, and Use of Equipment:

A. Electrical equipment must be free from recognized hazards that are likely to cause death or serious physical harm to employees.

B. All electrical work will comply with governing electrical codes.

C. All electrical equipment will be installed in a neat and workmanlike manner.

D. All electrical equipment will be firmly secured to the surface on which it is mounted.

E. The Operations Manager and Site Supervisor will determine the Safety of equipment by the following:

(1) Suitability for installation and use in conformity with provision of the standard.

(2) Listing may evidence suitability of equipment for an identified purpose, by labeling or by certification for that identified purpose.

(3) Mechanical strength and durability.
(a) For parts designed to enclose and protect other equipment, this includes the adequacy of the protection thus provided.

(4) Electrical insulation

(5) Heating effects under conditions of use.

(6) Arcing effects.

(7) Classification by type, size, voltage, current capacity and specific use.

(8) Other factors that contribute to the practical safeguarding of employees who use or are likely to come in contact with the equipment.

(9) Make a complete check and test of the circuit before energizing any equipment for the first time.

8.0 Guarding:

Live parts of electrical equipment operating at 50 volts or more must be guarded against accidental contact by proper insulation, barriers, or insulating blankets.

9.0 Grounding of Equipment Connected by Cord and Plug:

A. Exposed non-current carrying metal parts of cord and plug connected equipment that may become energized must be grounded in the following situations:

(1) When in a hazardous (classified) location.

(2) When operated at over 150 volts to ground, except when guarded motors and metal frames of electrically heated appliances if the appliance frames are permanently and effectively insulated from ground.

(3) When using one of the types of equipment listed below:
(a) Hand held motor-operated tools.
(b) Cord-and-plug-connected equipment used in damp or wet locations, by employees standing on the ground or metal floors.
(c) Tools likely to be used in wet and/or conductive locations.
(d) Portable hand lamps.

B. Exemptions:

(1) Tools likely to be used in wet and/or conductive locations need not be grounded if supplied through an isolation transformer with an ungrounded secondary of not over 50 volts.

(2) Listed or labeled portable tools and appliances protected by a system of double insulation, or its equivalent.
(a) In this case, equipment must be distinctively marked to indicate that the tools or appliance uses a system of double insulation.

10.0 Ground Fault Circuit Interrupter (GCFI):

A. All 120-volt, single-phase, 15 and 20 ampere receptacle outlets on our sites, which are not part or the permanent wiring of the building or structure and which are used by our employees, shall have approved ground fault circuit interrupters for personal protection.

B. Where GFCI receptacles are not available, plug in GCFIs will be used by our employees.

C. Receptacles on a two-wire, single-phase portable or vehicle mounted generator rated not more than 5kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, a GFCI is not required.

11.0 Minimum Approach Distances:

A. The Minimum Approach Distances will be determined by the nominal voltage in accordance with the following Table:

Voltage	**< 300**	**300 – 750**	**750 - 2K**	**2K - 15K**
Distance (feet)	**Avoid Contact**	**1**	**3**	**7**

This table is to be referenced and applied by Qualified employees only. Refer to the complete S-5 chart as printed in 29CFR1910.333.

Core States Construction Services, Inc, nor Core States Group, Inc. employs QUALIFIED ELECTRICAL WORKERS, as defined by 29CFR1910.333.

12.0 Safe clearance distances:

A. The minimum safe clearance for vehicles and equipment around high voltage electrical lines will be determined by the following Table:

Voltage	**50 KV OR BELOW**	**>50 KV**
Distance (feet)	**10’**	**10’ plus 4” for every 10KV over 50KV**

This table applies to Unqualified employees only.

This table will be utilized by Core States Construction Services, Inc. and Core States Group, Inc. employees. Refer to Section 4.0 for additional procedures for working in the vicinity of energized overhead power lines.

13.0 Illumination:

A. Employees will only work in areas with adequate illumination.

B. Illumination must be provided for all working spaces around service equipment, switchboards, panel-boards, and motor control centers.

C. As a general rule, the illumination, without the aid of a flashlight, must be sufficient to allow employees to read manufactures name or mark on all electrical equipment.

D. Confined spaces are especially dangerous.

(1) All confined spaces will be illuminated prior to entry.

(2) Only low voltage lighting will be brought into a confined space without the expressed approval of the Project Manager.

14.0 General Work Rules

A. Use of applicable accident prevention signs to warn of temporary or permanent hazards; tags attached to parts or the structure and equipment to warn of existing or immediate hazards; padlocks for the purpose of locking out equipment; barricades as an obstruction to deter passage of persons or vehicles.

B. All tools and equipment will be inspected for faults and defects prior to use daily.

C. All power tools, equipment and cords will be protected by GFCI's.

D. Electrical circuits will be de-energized and locked out in accordance with the Lockout-Tagout Program prior to performance of any work on the circuit.

(1) In the event that the circuit cannot be de-energized and tagged, no employee will be permitted to work on or in close proximity to any part of an energized electrical circuit such that he might accidentally come in contact with or come within arcing distance of an energized part or component of the circuit unless the employee is protected against electric shock by guarding with insulating material appropriate for the voltage and component involved. Only "Qualified" persons are permitted to work on equipment or circuits that have not been deenergized.

(2) If any exposed or concealed electric power circuit is located so that the performance of the work may bring any person, tool or machine into physical or electrical contact, warning signs will be posted and maintained in al areas where such circuits exist.

(a) Employees will be informed or that location, the hazards involved and the protective measures to be taken.

E. Barricades and warning signs will be provided to ensure that work space for electrical equipment is not used as a passageway during periods when energized parts of electrical equipment are exposed.

F. All fixed and portable electrical service equipment will be contained in covered weatherproof boxes.

(1) Covers will be kept closed

(2) Boxes will be protected from exposure to weather, traffic and combustible materials.

(3) All equipment will be rigidly mounted on a panel or frame and be properly grounded.

(4) All switches, circuit breakers, etc. will be clearly marked to identify voltage and purpose.

(5) All switches will be clearly marked to indicate whether they are open or closed.

G. Non-conducting elevated platforms or rubber mats will be provided to protect employees operating switches from coming in contact with damp floors or earth.

H. Sufficient space will be provided and maintained in the area of electrical equipment to permit ready and safe operation and maintenance of such equipment.

(1) When parts are exposed, the minimum clearance for the workspace will not be less than a radius of 3 feet wide, and there will be clearance sufficient to permit at least a 90^{o} opening of all doors or hinged panels on equipment up to 600 volts.

I. All extension cords will be OSHA Approved of the three-wire grounded heavy-duty type and will be used only in continuous lengths without splices, except suitable molded or vulcanized splices may be used where properly made.

(1) The splice insulation will be equal to the insulation of the cable being spliced.

(2) Cords will be strung overhead or otherwise kept clear of working spaces, walkways or other locations in which they are readily exposed to damage.

(3) Cords are not to be fastened with staples, hung from nails or suspended by bare wire.

(4) Worn or frayed extension cords will not be used.

J. All portable ladders must have non-conductive side rails.

K. Conductive items of jewelry or clothing must not be worn.

(1) This includes eyeglass frames.

L. If long dimensional conductor objects (pipes, conduit, or ducts) are handled, the minimum safe approach distances and safe clearance distances must be increased by the length of the object.

M. All electrical circuits will be considered to be dangerous.

(1) Even electric shock from low voltages has caused workmen to fall from ladders and scaffolds.

N. Treat "**dead lines"** as though they are "**HOT"**.

(1) Use appropriate test equipment to verify that the circuit is not energized.

MJ VanDamme Trucking, Inc.
Excavation/Trenching Program
In accordance with 29 CFR 1926 Subpart P

1.0 Policy:

A. The following policy will be utilized to prevent injury and death associated with possible cave-ins and other related hazards.

2.0 Purpose:

A. Excavation and trenching are required for numerous reasons in the construction industry.

(1) Typical projects include building basements, installing foundations, laying pipes for various drain, sewer, water, phone, electric, and gas lines.

(2) This program will assist in identifying and correcting hazardous conditions and practices related to excavation and trenching.

3.0 Competent Person:

A. An individual must be designated who is capable of identifying or predicting hazards.

B. Able to monitor the excavation

C. Knowledge of unsafe or unsanitary working condition.

D. Knowledge of soil types.

E. Has the authorization to take prompt corrective measures to eliminate them.

4.0 Training:

A. All workers shall be trained in the hazards associated with each excavation and the control measures taken to protect themselves.

5.0 Surface encumbrances:

A. Structures, rocks, trees, telephone poles, fire hydrants, etc. must be removed or structurally supported prior to employees beginning work.

6.0 Underground installations (electrical, sewer, water, etc.):

A. Must be located and marked prior to excavation

(1) Property owners and/or utility companies should be notified at least 48 hours prior to excavating.

B. Be protected, disconnected, supported, or removed while the trench is open.

7.0 Access and Egress from trench:

A. Trenches 4 feet or more in depth must be provided with a means of egress and access.

B. Spacing between ladders, stairs, or ramps should be no more than 25 feet laterally from the point employees are working.

C. Ladders must be secured and extend 36 inches above the landing or lip of excavation.

D. Structural ramps

(1) Used solely by employees
(a) Must be designed by a competent person

(2) Used by equipment
(a) Must be designed by a competent person qualified in structural design (Registered Professional Engineer)

(3) Components must be:
(a) Connected together
(b) Uniform in thickness
(c) Provided with cleats or other surface treatments to prevent slipping/tripping if ramps are used instead of steps.

8.0 Exposure to vehicular traffic:

A. Employees must be provided with and MUST wear warning vests or highly visible garments when exposed to traffic.

B. Stop/slow signs shall be used to signal or reroute traffic.

9.0 Stability of adjacent structures:

A. Support systems such as shoring, bracing, or underpinning must be used to support structures that may be unstable due to excavation operations.

B. Excavating below the base or footing of a foundation or wall is not permitted unless the following conditions are met:

(1) Support system is provided to ensure the stability of the structure; or

(2) The excavation is in stable rock; or

(3) The operation is approved by a Registered Professional Engineer.

C. Support systems must be provided for sidewalks, pavements, and other structures that may have their structural integrity compromised by the excavation operations.

10.0 Protection of employees from loose rock and soil:

A. Employees must be protected from being struck by materials falling or rolling from the edge and face of the trench.

B. Spoils and equipment must be set back at least 2 feet from the edge of the trench and/or the edge of the trench and/or a retaining device must be installed.

11.0 Fall protection:

A. Bridges and walkways must be equipped with standard guardrails and toeboards.

B. Employees shall not be permitted underneath raised loads.

C. Employees are required to stand away from equipment that is being loaded.

D. Hard hats shall be worn at all times

12.0 Remotely located excavations:

A. Must be backfilled, covered, or barricaded (wells, pits, shafts, etc.)

B. Barricades shall be constructed to restrict entry into areas that contain safety hazards, abnormal conditions, or in which operations are being performed.

13.0 Warning system for mobile equipment:

A. All mobile equipment shall require a backup alarm or similar system to notify employees of vehicular movement.

B. Prevention of vehicles from falling into trenches can be accomplished by providing:

(1) Barricades

(2) Hand or mechanical signals

(2) Stop logs

(4) Grading away from the excavation

14.0 Hazardous atmospheres:

A. Workers shall be protected from exposure to harmful levels of airborne/atmospheric contaminants.

(1) Refer to confined space policy for guidelines to follow.

15.0 Water accumulation:

A. Water accumulation must be controlled to prevent cave-ins.

(1) Employees are not permitted to work in trenches where water accumulation exists, unless:

(2) Special support systems or shield systems are used to protect employees from cave-ins

(3) Pumps or well points will be used and monitored by a competent person to prevent water accumulation

B. Safety harnesses and lifelines are used to protect employees

C. Surface water must be diverted and controlled

(1) Trenches must be inspected after each rain storm by the competent person.

16.0 Inspections:

A. Daily prior to starting work and as needed throughout the shift.

B. After every rainstorm

C. After other hazard increasing occurrence (i.e. inclement weather)

D. Inspect the trench for indications of a possible cave-in:

(1) Fissures

(2) Tension cracks

(3) Undercutting

(4) Water seepage

(5) Bulging at the bottom

(6) Adjacent areas (i.e. spoil piles, structures)

E. Protective systems and their components (uprights, wales, shields, sheeting, hydraulics) before and during entry into excavation.

F. Check for indication of a hazardous or potentially hazardous atmosphere.

17.0 Soil Classifications:

A. Excavated soil shall be classified based on site and environmental conditions.

B. A visual and manual test shall be performed to classify soil type.

C. The tests may only be completed by a competent person

D. Unconfined compressive strength can be determined by using a pocket penetrometer, shearvane (shear test), or thumb penetration test.

E. Soil Types:

(1) Stable Rock

(2) Type "A"
(a) Cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (tsf) or greater
(b) Examples: Clay, silty clay, sandy clay, clay loam, hardpan, cemented soils.

(c) No soil will be considered TYPE "A" if it is fissured, subjected to vibration, previously disturbed, part of a sloped layered system sloping into the trench at a slope greater than 4 feet horizontally (H): 1 foot vertically (V), or seeping water.

(3) Type "B"
- (a) Cohesive soil with an unconfined compressive strength greater than 0.5 tsf but less than 1.5 tsf.
- (b) Examples: Angular gravel, silt, silt loam, previously disturbed soils unless classified Type "C", dry unstable rock, sloped layered systems sloping into the trench at a slope less than 4H:1V.

(4) Type "C"
- (a) Cohesive soil with an unconfined compressive strength of 0.5 tsf or less.
- (b) Examples: Granular sands, sand loamy sand, submerged, soil with freely seeping water, or any soil not otherwise classified Type "A" or "B".

18.0 Protection Systems:

A. All employees must be protected from cave-ins by shields, sloping, or shoring except:

(1) When excavations are made in stable rock that is not fractured

(2) When excavations less than 5 feet deep where there is no indication of possible cave-in, as determined by a competent person.

B. Trench Shields

(1) Must have the strength to resist all intended or expected loads.
- (a) It must not be overloaded

(2) Workers must be protected from cave-ins when they are entering and exiting trench shields.
(3) Lateral or hazardous movement should be restricted.

(4) Workers are not permitted in shields when they are being installed, removed, or moved vertically.

(5) Workers may remain in trench shields if the shields are moved horizontally and not lifted.

(6) Removal of materials to a depth of 2 feet below the bottom of the support system is permitted if the system is designed to resist loads at the full depth of the trench.

C. Sloping and Benching Systems

(1) Must be selected and constructed by the employers or their designers using one or more of four alternative methods.
- (a) Trenches may be sloped at an angle of 34 degrees or 1.5 feet horizontally:1 foot vertically, or use another configuration described for Type "C" soil.
- (b) Trench systems may have sloping and benching configurations using the following:
  - (I) Soil and rock must be classified based on:
    - (i) Site and environmental conditions
    - (ii) The composition of the soil
    - (iii) Acceptable visual and manual tests for classifying soils.
- (c) Select sloping or benching configuration based on soil type.
  - (I) Designs using other tabulated date, such as tables and charts, may be used to select proper sloping and benching configurations.
  - (II) This must contain the following:

(i) Identity of the RPE who approved the data must be stamped on the data.
(ii) The tabulated data must be in written form, describing detailed information on its use and limitations.
(iii) Tabulated data must be at the jobsite during construction of the protective system

(III) After construction of the protective system, the tabulated data may be kept off site but must be available for inspection.

(d) Sloping and/or benching designs prepared and approved by the RPE may be used if the following conditions are met:
(I) Identity of the RPE who approved the data must be stamped on the sloping and/or benching designs.
(II) Designs must identify the project
(III) The configurations must be determined safe for the project
(IV) Design must be at the jobsite during construction of the sloping and/or benching configuration
(V) After construction of the sloping configuration, the design may be kept off site, but must be available for inspection.

(e) Excavations greater than 20 feet in depth shall be designed by a RPE and the tabulated data and design must be available for inspection.

D. Design of support systems:

(1) Trench shield and other protective systems must be selected and constructed by one or more of the alternative methods. Design of field-erected trench boxes to be by a RPE.

(2) A competent person may design timber shoring if designed per OSHA regulations 1926, subpart P, appendices A and C.
(a) Similarly, appendix A and D may be used for hydraulic shoring if the manufacturer's tabulated data is not available or cannot be used.

(3) Designs using pre-manufactured protective systems (shoring, shields, or other) and components must be prepared using the manufacturer's tabulated data.
(a) Changes to designs may only be approved by the manufacturer and a copy of the approval must be on site.

(4) Designs using other tabulated data, such as tables and charts, may be used to design support systems, shield systems, or other protective systems providing the following is known
(a) There must be enough information to make an accurate selection of the protective system.
(b) Identity of the RPE who approved the data must be stamped on the data.
(c) The tabulated data must be in written form, describing detailed information on its use and limitations.
(d) Tabulated data must be at the jobsite during construction of the protective.

(5) Materials and equipment used for protective systems shall be:
- (a) Free from damage or defects and maintained in good condition.
- (b) Be inspected by a competent person and removed from use if determined unsafe. If determined unsafe by a competent person the materials must be evaluated and approved by an RPE before being returned to service.

(6) Installation of support systems shall meet the following:
- (a) Supported members of the system must be securely connected together, and on overloaded.
- (b) Employees must be protected from cave-ins and other hazards during installation and removal.
- (c) Precautions must be taken to prevent cave-in during removal of structural supports. Removal must start from the bottom.
- (d) Observe structure for indications of failure during removal of support systems, and backfill as removal of support systems progresses.

(7) Additional requirements for support systems:
- (a) Removal of materials to a depth of 2 feet below the bottom of the support system is permitted if:
  - (I) The system is designed to resist loads at the full depth of the trench.
  - (II) There are no indications of the possible collapse of soil from behind or below the bottom of the support system.
  - (III) Support systems must be installed as the excavation of the trench proceeds.
  - (VI) Employees are not permitted to work on the faces of sloped or benched excavations above other employees, unless the employees at the lower levels are protected from being struck by materials or equipment.

1.0 Policy:

A. This Policy sets forth requirements for the use of fall protection systems and the protection of employees from death or injury from falls.

2.0 Scope:

A. Supervisors will determine if the walking/working surfaces on which its employees are to work have the strength and structural integrity to support employees safely.

B. Employees shall be allowed to work on those surfaces only when the surfaces have the requisite strength and structural integrity.

3.0 Definitions:

Anchorage means a secure point of attachment for lifelines, lanyards or deceleration devices.

Body belt (safety belt) means a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.

Body harness means straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

Buckle means any device for holding the body belt or body harness closed around the employee's body.

Connector means a device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or dee-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

Controlled access zone (CAZ) means an area in which certain work (e.g., overhand bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems and access to the zone is controlled.

Dangerous equipment means equipment (such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment, and other units) which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.

Deceleration device means any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

Deceleration distance means the additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

Equivalent means alternative designs, materials, or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.

Failure means load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

Free fall means the act of falling before a personal fall arrest system begins to apply force to arrest the fall.

Free fall distance means the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.

Guardrail system means a barrier erected to prevent employees from falling to lower levels.

Hole means a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.

Infeasible means that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.

Lanyard means a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

Leading edge means the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction.

Lifeline means a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Low-slope roof means a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

Lower levels mean those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.

Mechanical equipment means all motor or human propelled wheeled equipment used for roofing work, except wheelbarrows and mop carts.

Opening means a gap or void 30 inches (76 cm) or more high and 18 inches (48 cm) or more wide, in a wall or partition, through which employees can fall to a lower level.

Personal fall arrest system means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.

Positioning device system means a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

Rope grab means a deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.

Roof means the exterior surface on the top of a building. This does not include floors or formwork which, because a building has not been completed, temporarily becomes the top surface of a building.

Roofing work means the hoisting, storage, application, and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.

Safety-monitoring system means a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.

Self-retracting lifeline/lanyard means a deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

Snaphook means a connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object. Snaphooks are generally one of two types:

(A) The locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection; or

(B) The non-locking type with a self-closing keeper which remains closed until pressed open for connection or disconnection. As of January 1, 1998, the use of a non-locking snaphook as part of personal fall arrest systems and positioning device systems is prohibited.

Steep roof means a roof having a slope greater than 4 in 12 (vertical to horizontal).

Toeboard means a low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.

Unprotected sides and edges means any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.

Walking/working surface means any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

Warning line system means a barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area.

Work area means that portion of a walking/working surface where job duties are being performed.

4.0 Training:

A. All Employees exposed to fall hazards will be to recognize fall hazards and the procedures to be followed in order to minimize these hazards.

B. Fall protection training as a minimum will consist of the following:

(1) Nature of fall hazards in the work area;

(2) Correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;

(3) Use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used;

(4) Safety monitoring system when this system is used;

(5) The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;

(6) The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection;

(7) Fall protection plans;

(8) Personal fall protections systems.

(9) Hole covers.

(10) Guard rail systems.

(11) Leading edge protection.

C. Certification of training.

(1) Employees will be trained and issued a certification of training prior to working under condition that require fall protection.

(2) A copy of the latest training certification shall be maintained in the training file.

(3) Retraining
(a) When the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill, the employer shall retrain each such employee.
(b) Circumstances where retraining is required include, but are not limited to, situations where:
(I) Changes in the workplace render previous training obsolete; or
(II) Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
(III) Inadequacies in an affected employee's knowledge or use of fall

protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

5.0 Fall Protection Requirements:

A. Unprotected sides and edges

(1) Walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet (1.8 m) or more above a lower level shall be protected by the use of guardrail systems, safety net systems, or personal fall arrest systems.

B. Leading edges.

(1) Leading edge 6 feet (1.8 m) or more above lower levels shall be protected by guardrail systems, safety net systems, or personal fall arrest systems.
(a) Exception:
(I) When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer shall develop and implement a fall protection plan.

(2) Walking/working surface 6 feet (1.8 m) or more above a lower level where leading edges are under construction, shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system.

(3) If a guardrail system is chosen to provide the fall protection, and a controlled access zone has already been established for leading edge work, the control line may be used in lieu of a guardrail along the edge that parallels the leading edge.

C. Hoist areas.

(1) Hoist area shall be protected from falling 6 feet (1.8 m) or more to lower levels by guardrail systems or personal fall arrest systems.

(2) If guardrail systems, [or chain, gate, or guardrail] or portions thereof, are removed to facilitate the hoisting operation (e.g., during landing of materials), and an employee must lean through the access opening or out over the edge of the access opening (to receive or guide equipment and materials, for example), that employee shall be protected from fall hazards by a personal fall arrest system.

D. Holes

(1) Employees will be protected from falling through holes (including skylights) more than 6 feet (1.8 m) above lower levels, by personal fall arrest systems, covers, or guardrail systems erected around such holes.

(2) Employees will be protected from tripping in or stepping into or through holes (including skylights) by covers.

(3) Employees will be protected from objects falling through holes (including skylights) by covers.

E. Formwork and reinforcing steel.

(1) Employees working on the face of formwork or reinforcing steel shall be protected from

falling 6 feet (1.8 m) or more to lower levels by personal fall arrest systems, safety net systems, or positioning device systems.

F. Ramps, runways, and other walkways.

(1) Ramps, runways, and other walkways higher than 6 feet (1.8 m) or more to lower levels shall be protected by guardrail systems.

G. Excavations.

(1) Excavations 6 feet (1.8 m) or more in depth shall be protected by a guardrail systems, fences, or barricades when the excavations are not readily seen because of plant growth or other visual barrier;

(2) The edge of a well, pit, shaft, and similar excavation 6 feet (1.8 m) or more in depth shall be protected by guardrail systems, fences, barricades, or covers.

H. Dangerous equipment.

(1) When employees are less than 6 feet (1.8 m) above dangerous equipment they will be protected from falling into or onto the dangerous equipment by guardrail systems or by equipment guards.

(2) Employee 6 feet (1.8 m) or more above dangerous equipment shall be protected from fall hazards by guardrail systems, personal fall arrest systems, or safety net systems.

G. Roofing work

(1) Low-slope roofs.
(a) Employees working on low-slope roofs, with unprotected sides and edges 6 feet (1.8 m) or more above lower levels shall be protected by:
(I) A guardrail systems,
(II) Safety net systems,
(III) Personal fall arrest systems, or
(IV) A combination of warning line system and guardrail system, warning line system and safety net system, or
(V) Warning line system and personal fall arrest system, or
(VI) Warning line system and safety monitoring system.

(2) Steep roofs.

(a) Employees working on a steep roof with unprotected sides and edges 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems with toeboards, safety net systems, or personal fall arrest systems

7.0 Competent Person Qualifications, Duties, and Safety Monitoring:

A. A competent person will be designated to monitor the safety of other employees and comply with the following requirements:

(1) Be competent to recognize fall hazards;

(2) Installation of fall protection systems,

(3) Authority to make modifications to system as needed,

(4) Warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner;

(5) On the same walking/working surface and within visual sighting distance of the employee being monitored;

(6) Close enough to communicate orally with the employee; and

(7) Have no other responsibilities which could take the monitor's attention from the monitoring function.

(8) Inspect fall protection system prior to use.

(9) Equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-slope roofs.

(10) Employees working in a controlled access zone shall be directed to comply promptly with fall hazard warnings from safety monitors.

8.0 Safe Working Practices and Procedures:

A. "Guardrail systems".

(1) Guardrail systems and their use shall comply with the following provisions:

(a) Top edge height of top rails, or equivalent guardrail system members, shall be 42 inches (1.1 m) plus or minus 3 inches (8 cm) above the walking/working level.

(b) When conditions warrant, the height of the top edge may exceed the 45-inch height, provided the guardrail system meets all other criteria of this paragraph.

Note: When employees are using stilts, the top edge height of the top rail, or equivalent member, shall be increased an amount equal to the height of the stilts.

(2) Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members shall be installed between the top edge of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21 inches (53 cm) high.
- (a) Midrails, when used, shall be installed at a height midway between the top edge of the guardrail system and the walking/working level.
- (b) Screens and mesh, when used, shall extend from the top rail to the walking/working level and along the entire opening between top rail supports.
- (c) Intermediate members (such as balusters), when used between posts, shall be not more than 19 inches (48 cm) apart.
- (d) Other structural members (such as additional midrails and architectural panels) shall be installed such that there are no openings in the guardrail system that are more than 19 inches (.5 m) wide.

(3) Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds (890 N) applied within 2 inches (5.1 cm) of the top edge, in any outward or downward direction, at any point along the top edge.
- (a) When the 200 pound (890 N) test load is applied in a downward direction, the top edge of the guardrail shall not deflect to a height less than 39 inches (1.0 m) above the walking/working level.

(4) Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding, without failure, a force of at least 150 pounds (666 N) applied in any downward or outward direction at any point along the midrail or other member.

(5) Guardrail systems shall be so surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.

(6) The ends of all top rails and midrails shall not overhang the terminal

(7) Top rails and midrails shall be at least one-quarter inch (0.6 cm) nominal diameter or thickness to prevent cuts and lacerations.
- (a) If wire rope is used for top rails, it shall be flagged at not more than 6-foot intervals with high-visibility material.

(8) When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section shall be placed across the access opening between guardrail sections when hoisting operations are not taking place.

(9) When guardrail systems are used at holes, they shall be erected on all unprotected sides or edges of the hole.

(10) When guardrail systems are used around holes used for the passage of materials, the hole shall have not more than two sides provided with removable guardrail sections to allow the passage of materials.
- (a) When the hole is not in use, it shall be closed over with a cover, or a guardrail system shall be provided along all unprotected sides or edges.

(11) When guardrail systems are used around holes which are used as points of access (such as ladderways), they shall be provided with a gate, or be so offset that a person cannot walk directly into the hole.

(12) Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge.

(13) Manila, plastic or synthetic rope being used for top rails or midrails shall be inspected as frequently as necessary to ensure that it continues to meet the strength requirements

B. Safety net systems

(1) Safety net systems and their use shall comply with the following provisions:
- (a) Safety nets shall be installed as close as practicable under the walking/working surface on which employees are working, but in no case more than 30 feet (9.1 m) below such level.
- (b) When nets are used on bridges, the potential fall area from the walking/working surface to the net shall be unobstructed.

(2) Safety nets shall extend outward from the outermost projection of the work surface as follows:

Vertical distance from working level to horizontal plane of net	Minimum required horizontal distance of outer edge of net From the edge of the working surface
Up to 5 feet	8 feet.
More than 5 feet up to 10 feet	10 feet.
More than 10 feet	13 feet.

(3) Safety nets shall be installed with sufficient clearance under them to prevent contact with the surface or structures below when subjected to an impact force equal to the drop test.
- (a) Safety nets and their installations shall be capable of absorbing an impact force equal to that produced by the drop test.
- (b) Safety nets and safety net installations shall be drop-tested at the jobsite after initial installation and before being used as a fall protection system, whenever relocated, after major repair, and at 6-month intervals if left in one place.
- (c) The drop-test shall consist of a 400 pound (180 kg) bag of sand 30 + or - 2 inches (76 + or - 5 cm) in diameter dropped into the net from the highest walking/working surface at which employees are exposed to fall hazards, but not from less than 42 inches (1.1 m) above that level.

(4) Defective nets shall not be used.
- (a) Safety nets shall be inspected at least once a week for wear, damage, and other deterioration.
- (b) Defective components shall be removed from service.
- (c) Safety nets shall also be inspected after any occurrence which could affect the integrity of the safety net system.

(5) Materials, scrap pieces, equipment, and tools which have fallen into the safety net shall be removed as soon as possible from the net and at least before the next work shift.

(6) The maximum size of each safety net mesh opening shall not exceed 36 square inches (230 cm) nor be longer than 6 inches (15 cm) on any side, and the opening, measured center-to-center of mesh ropes or webbing, shall not be longer than 6 inches (15 cm).

(a) All mesh crossings shall be secured to prevent enlargement of the mesh opening.

(7) Each safety net (or section of it) shall have a border rope for webbing with a minimum breaking strength of 5,000 pounds (22.2 kN).

(8) Connections between safety net panels shall be as strong as integral net components and shall be spaced not more than 6 inches (15 cm) apart.

C. Personal fall arrest systems.

(1) Personal fall arrest systems and their use shall comply with the provisions set forth by OSHA.

(2) All personal fall protection devices and arrest systems issued to employee will be tested and certified by ANSI or ASTM Testing and Standard program and labeled as such on the device.

(3) Connectors shall be drop forged, pressed or formed steel, or made of equivalent materials
(a) Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system.

(4) Dee-rings and snaphooks shall have a minimum tensile strength of 5,000 pounds (22.2 kN).
(a) Dee-rings and snaphooks shall be proof-tested to a minimum tensile load of 3,600 pounds (16 kN) without cracking, breaking, or taking permanent deformation.
(b) Only locking type snaphooks shall be used.

(5) Full body harness and shock absorbing lanyard will be used by all employee requiring fall protection.
(a) Allow 3.5 feet for the shock absorber, plus length of the lanyard, and employee's height when calculating the heigh of the tie off point.

(6) Personal fall arrest systems, when stopping a fall, shall:
(a) limit maximum arresting force on an employee to 1,800 pounds (8 kN) when used with a body harness;
(b) be rigged such that an employee can neither free fall more than 6 feet (1.8 m), nor contact any lower level;
(c) bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet (1.07 m); and,
(d) have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet (1.8 m), or the free fall distance permitted by the system, whichever is less.

(7) The attachment point of the body belt shall be located in the center of the wearer's back.
(a) The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head.
(b) Harnesses and components shall be used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.

(8) Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.

(9) The employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.

(10) Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.

(11) Personal fall arrest systems shall not be attached to guardrail systems, nor shall they be attached to hoists

D. Lifelines and Lanyards

(1) On suspended scaffolds or similar work platforms with horizontal lifelines which may become vertical lifelines, the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.

(2) Horizontal lifelines shall be designed, installed, and used, under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two.

(3) Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds (22.2 kN).
(a) When vertical lifelines are used, each employee shall be attached to a separate lifeline.

(4) Lifelines shall be protected against being cut or abraded.

(5) Self-retracting lifelines and lanyards which automatically limit free fall distance to 2 feet (0.61 m) or less shall be capable of sustaining a minimum tensile load of 3,000 pounds (13.3 kN) applied to the device with the lifeline or lanyard in the fully extended position.

(6) Self-retracting lifelines and lanyards which do not limit free fall distance to 2 feet (0.61 m) or less, ripstitch lanyards, and tearing and deforming lanyards shall be capable of sustaining a minimum tensile load of 5,000 pounds (22.2 kN) applied to the device with the lifeline or lanyard in the fully extended position.

(7) Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body belts and body harnesses shall be made from synthetic fibers.

E. Anchorages

(1) Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds (22.2 kN) per employee attached, or shall be designed, installed, and used as follows:
(a) as part of a complete personal fall arrest system which maintains a safety factor of at least two; and
(b) under the supervision of a qualified person.

F. Warning line systems.

(1) The warning line shall be erected around all sides of the roof work area.

(2) When mechanical equipment is not being used, the warning line shall be erected not less than 6 feet (1.8 m) from the roof edge.

(3) When mechanical equipment is being used, the warning line shall be erected not less than 6 feet (1.8 m) from the roof edge which is parallel to the direction of mechanical equipment operation, and not less than 10 feet (3.1 m) from the roof edge which is perpendicular to the direction of mechanical equipment operation.

(4) Points of access, materials handling areas, storage areas, and hoisting areas shall be connected to the work area by an access path formed by two warning lines.

(5) When the path to a point of access is not in use, a rope, wire, chain, or other barricade, equivalent in strength and height to the warning line, shall be placed across the path at the point where the path intersects the warning line erected around the work area, or the path shall be offset such that a person cannot walk directly into the work area.

(6) Warning lines shall consist of ropes, wires, or chains and supporting stanchions erected as follows:

(7) The rope, wire, or chain shall be flagged at not more than 6-foot (1.8 m) intervals with high-visibility material;

(8) The rope, wire, or chain shall be rigged and supported in such a way that its lowest point (including sag) is no less than 34 inches (.9 m) from the walking/working surface and its highest point is no more than 39 inches (1.0 m) from the walking/working surface;

(9) After being erected, with the rope, wire, or chain attached, stanchions shall be capable of resisting, without tipping over, a force of at least 16 pounds (71 N) applied horizontally against the stanchion, 30 inches (.8 m) above the walking/working surface, perpendicular to the warning line, and in the direction of the floor, roof, or platform edge;

(10) The rope, wire, or chain shall have a minimum tensile strength of 500 pounds (2.22 kN), and after being attached to the stanchions, shall be capable of supporting, without breaking, the loads applied to the stanchions as prescribed in paragraph (f)(2)(iii) of this section; and

(11) The line shall be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.

(12) No employee shall be allowed in the area between a roof edge and a warning line unless the employee is performing roofing work in that area.

(13) Mechanical equipment on roofs shall be used or stored only in areas where employees are protected by a warning line system, guardrail system, or personal fall arrest system.

G. Hole and wall opening covers.

(1) Covers located in roadways and vehicular aisles shall be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over the cover.

(2) All other covers shall be capable of supporting, without failure, at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.

(3) All covers shall be secured when installed so as to prevent accidental displacement by the wind, equipment, or employees.

(4) All covers shall be color coded or they shall be marked with the word "HOLE" or "COVER" to provide warning of the hazard.

H. Protection from falling objects.

(1) Toeboards, when used as falling object protection, shall be erected along the edge of the overhead walking/working surface for a distance sufficient to protect employees below.

(2) Toeboards shall be capable of withstanding, without failure, a force of at least 50 pounds (222 N) applied in any downward or outward direction at any point along the toeboard.

(3) Toeboards shall be a minimum of 3 ½ inches (9 cm) in vertical height from their top edge to the level of the walking/working surface.
(a) They shall have not more than 1/4 inch (0.6 cm) clearance above the walking/working surface.
(b) They shall be solid or have openings not over 1 inch (2.5 cm) in greatest dimension

(4) Where tools, equipment, or materials are piled higher than the top edge of a toeboard, paneling or screening shall be erected from the walking/working surface or toeboard to the top of a guardrail system's top rail or midrail, for a distance sufficient to protect employees below.

(5) Guardrail systems, when used as falling object protection, shall have all openings small enough to prevent passage of potential falling

8.0 Fall protection plan:

A. It is not a standard practice of Core States Construction Services, Inc. or Core States Group, Inc. to engage in the work covered by 29CFR1926.502(k). This option is available only when engaged in leading edge work, precast concrete erection work, or residential construction when it can be demonstrated that it is infeasible or it creates a greater hazard to use conventional fall protection equipment.

B. Because it is not a standard practice of the company to engage in the work covered by 29CFR1926.502(k), written fall protection plans are not an option available and controlled access zones will not be utilized.

C. In the event that the need for a fall protection plan should arise, contact your supervisor for assignment to the appropriate qualified person. The guidelines listed below will apply in situations that warrant the need for fall protection plans and controlled access zones.

D. The fall protection plan must conform to the following provisions.

(1) The plan shall be prepared by a qualified person and developed specifically for the site where the leading edge work, precast concrete work, or residential construction work is being performed and the plan must be maintained up to date. The qualified person selected will be determined by the region in which the work is being performed. Contact Dick Cote, President, for assignment to a qualified person. (Default: Art Sodermark, President, Platinum Engineering & Safety, Inc.)

(2) Any changes to the fall protection plan shall be approved by a qualified person.

(3) A copy of the fall protection plan with all approved changes shall be maintained at the job site.

(4) The implementation of the plan shall be under the supervision of a competent person.

(5) The plan shall document the reasons why the use of conventional fall protection systems (guardrail systems, personal fall arrest systems, or safety nets systems) are infeasible or why their use would create a greater hazard.

(6) The plan shall include a written discussion of other measures that will be taken to reduce or eliminate the fall hazard for workers who cannot be provided with protection from the conventional fall protection systems.
   (a) For example, it shall discuss the extent to which scaffolds, ladders, or vehicle mounted work platforms can be used to provide a safer working surface and thereby reduce the hazard of falling.

(7) The plan shall identify each location where conventional fall protection methods cannot be used.
   (a) These locations shall then be classified as controlled access zones.

(8) Where no other alternative measure has been implemented, the safety monitoring system will be implemented.

(9) The plan will include a statement which provides the name or other method of identification for each employee who is designated to work in controlled access zones.
   (a) No other employees may enter controlled access zones

9.0 Control Access Zones:

A. When used to control access to areas where leading edge and other operations are taking place the controlled access zone shall be defined by a control line or by any other means that restricts access.

B. When control lines are used, they shall be erected not less than 6 feet (1.8 m) nor more than 25 feet (7.7 m) from the unprotected or leading edge, except when erecting precast concrete members.

(1) The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.

(2) The control line shall be connected on each side to a guardrail system or wall.

(3) The controlled access zone shall be defined by a control line erected not less than 10 feet (3.1 m) nor more than 15 feet (4.5 m) from the working edge.

(4) Additional control lines shall be erected at each end to enclose the controlled access zone.

C. Control lines shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:

(1) Each line shall be flagged or otherwise clearly marked at not more than 6-foot (1.8 m) intervals with high-visibility material.

(2) Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m) [50 inches (1.3 m) when overhand bricklaying operations are being performed] from the walking/working surface.

(3) Each line shall have a minimum breaking strength of 200 pounds (.88 kN).

D. On floors and roofs where guardrail systems are in place, but need to be removed to allow leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

10.0 Accident Investigation:

A. In the event an employee falls, or some other related, serious incident occurs, (e.g., a near miss) the employer shall investigate the circumstances of the fall or other incident to determine if the fall protection plan needs to be changed (e.g. new practices, procedures, or training) and shall implement those changes to prevent similar types of falls or incidents

11.0 Fall Protection Equipment:

A. All fall protection devices and equipment will meet current ANSI and ASTM Codes and standards for the manufacture and testing of fall protection in accordance with NIOSH requirements.

B. All fall protection equipment and systems will be certified and the NIOSH, ANSI or ASTM Certification or Testing Number attached to the unit.

C. Equipment or devices not certified and tested under these standards are unacceptable and will not be purchased or used.

1.0 Purpose:

A. Prevent injuries or loss of life due to fires.

B. Prevent loss or damage of property due to fires.

2.0 Definitions:

"Flashpoint" means the minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture with air near the surface of the liquid.

"Combustible liquid" means any liquid having a flashpoint at or above 100 deg. F. (37.8 deg. C.) Combustible liquids shall be divided into two classes as follows:

A. **"Class II liquids"** shall include those with flashpoints at or above 100 deg. F. (37.8 deg. C.) and below 140 deg. F. (60 deg. C.), except any mixture having components with flashpoints of 200 deg. F. (93.3 deg. C.) or higher, the volume of which make up 99 percent or more of the total volume of he mixture.

B. **"Class III liquids"** shall include those with flashpoints at or above 140 deg. F. (60 deg. C.) Class III liquids are subdivided into two subclasses:

C. **"Class IIIA liquids"** shall include those with flashpoints at or above 140 deg. F. (60 deg. C.) and below 200 deg. F. (93.3 deg. C.), except any mixture having components with flashpoints of 200 deg. F. (93.3 deg. C.), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.

D. **"Class IIIB liquids"** shall include those with flashpoints at or above 200 deg. F. (93.3 deg. C.). This section does not cover Class IIIB liquids. Where the term "Class III liquids" is used in this section, it shall mean only Class IIIA liquids.

E. When a combustible liquid is heated for use to within 30 deg. F. (16.7 deg. C.) of its flashpoint, it shall be handled in accordance with the requirements for the next lower class of liquids.

"Flammable liquid" means any liquid having a flashpoint below 100 deg. F. (37.8 deg. C.), except any mixture having components with flashpoints of 100 deg. F. (37.8 deg. C.) or higher, the total of which make up 99 percent or more of the total volume of the mixture. Flammable liquids shall be known as Class I liquids. Class I liquids are divided into three classes as follows:

A. **Class IA** shall include liquids having flashpoints below 73 deg. F. (22.8 deg. C.) and having a boiling point below 100 deg. F. (37.8 deg. C.).

B. **Class IB** shall include liquids having flashpoints below 73 deg. F. (22.8 deg. C.) and having a boiling point at or above 100 deg. F. (37.8 deg. C.).

C. **Class IC** shall include liquids having flashpoints at or above 73 deg. F. (22.8 deg. C.) and below 100 deg. F. (37.8 deg. C.).

"Safety can" shall mean an approved container, of not more than 5 gallons capacity, having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure. Must also have a spark arresting screen installed.

3.0 Fire Prevention:

A. Fire prevention measures are to be taken on all projects.

B. The following are guidelines for fire prevention and do not cover all OSHA requirements.

(1) Construction Regulations, Subpart F, 1926.150 to 1926.155, constitute minimum requirements and must be adhered to.

(2) If the job consists of maintenance, modification, or additions to existing facilities, follows fire prevention regulations of the Client.

(3) See that proper precautions are taken with welding and burning operations.
(a) Use a permit system and fire watcher when necessary.

(4) Tarpaulins, salamanders, and combustible materials should be placed to avoid possibilities of fire.

(5) Oily rags and waste from flammable or hazardous materials must be kept in covered metal containers.

(6) "No Smoking" areas must be conspicuously marked and employees advised accordingly.

(7) Gasoline shall be kept in only approved containers, properly marked and vented.

(8) Large portable gasoline tanks and pumps are to be set a minimum of 50 feet from any building.

(9) Combustible materials must be properly grounded.

(10) The storage area shall be kept free of weeds, debris and other combustible material not necessary to the storage.

(11) Job housekeeping is to be enforced with waste containers emptied at the end of each days work.

(12) Flammable debris is to be accumulated only in locations which will not endanger property in the event of fire and is to be placed no closer than 20 feet to any building or structure.

(13) Accumulations of flammable debris are to be placed in suitable containers (typically sealed metal containers) in remote locations and properly disposed of on a regular basis, at least weekly.

(14) Indoor storage of material shall not obstruct or adversely affect means of exit and only with the client's permission.

(15) All materials shall be stored, handled, and piled with due regard to their fire characteristics.

(16) Electrical wiring and equipment shall be installed in compliance with the National Electrical Code, NFPA, and the requirements of OSHA Construction Regulations, Subpart K.

(17) Conduct regular periodic inspections of the entire project to assure that it remains in a fire-safe condition.

4.0 Emergency Fire Procedures:

A. Arrange with local fire departments (private, plant, municipal) to fight fires.

B. Make sure emergency phone numbers are conspicuously posted throughout the project.

C. Instruct employees in the use of fire extinguishers.

D. Fire extinguishers are to be wall-mounted (if applicable), readily visible, and regularly inspected and maintained.

E. The Supervisor will be responsible for determining the number, sizes, and types of fire extinguishers needed to each job.

F. Listed below are fire classifications and the type of extinguishers used to combat the fires:

Class A Fires -	wood, textiles and rubbish. Type of Extinguisher used: soda acid, foam, dry chemical, water barrels, buckets, and water pumps**.**
Class B Fires -	fuel, oil and flammable liquids, greases, motor vehicles, Typeof Extinguisher used: foam, dry chemical, carbon dioxide.
Class C Fires -	live electrical equipment. Type of Extinguisher used: dry chemical, carbon dioxide.

5.0 Fire Considerations:

A. A few of the fire safety features to be concerned with are exits, travel distances, emergency lighting, and alarm systems.

B. Sealing off an area and blocking entrance/exit openings conflict with OSHA, NFPA, and local fire code requirements.

C. The contract specifications may state one means of egress through a properly; however, emergency plans should be developed to include alternative exits in emergency situations and these must be familiar to all employees.

6.0 Pre-Project Survey:

A. Perform a prework survey to determine potential fire hazards, sources of ignition, hot-spots, and location of exits.

B. Coordinate this with the number of workers to be in the area, the square footage, and the types and amount of combustible/flammable materials that will remain on site.

C. Some protective clothing will burn and melt quickly.

(1) It can shrink, adhere to skin and drip as it burns.

(2) Heavy black smoke is a combustion by-product.

D. Polyethylene (it's combustible) will start to burn slowly and pick up speed as the fire progresses.

(1) Flames spread is slow and steady.

(2) Sheeting should be kept away from heat sources such as transformers, steam pipes, boilers, etc., that will be heated during removal.

(3) Polyethylene should not be allowed to contact surfaces above 150 degrees Fahrenheit.

7.0 Avoidance:

A. Ensure all sources of ignition are removed.

B. Be sure that gas and other fuel sources are cut off and that pilot lights in boilers, heaters, hot water tanks, compressors, etc., are extinguished.

C. Locate "hot spots". Quite often you will have to drape equipment instead of sealing off to prevent overheating (i.e., computers, terminal boards, switch panels, transformers).

D. Cut off supply to steam lines, electric and steam heaters, and radiators.

(1) Do not permit the polyethylene to lie against hot surfaces.

E. Do not allow lighters, matches, etc., into the work area.

F. Strictly enforce no smoking, eating, or drinking inside the work area.

G. When using an oxygen/acetylene torch to cut pipe, etc., post a fire watch with an appropriate fire extinguisher such as pressurized water.

I. Do not use CO_2 extinguisher in confined or enclosed spaces.

J. Dry chemical extinguishers are effective, but the power is a respiratory irritant.

K. Know what is on the other side of the wall and below the floor.

(1) Use sheet metal or a treated tarp to catch sparks.

(L) Lighting of exits and exit routes should be provided.

(M) Be alert for flammable vapors in industrial areas (solvents such as naphtha, toluene, xylol, etc.).

8.0 OSHA Fire Safety Standards:

A. OSHA requires a written emergency action plan and fire prevention plan.

B. The requirements are detailed in 29 CFR 1910.38. Briefly, the essential items of the plan should include:

(1) The manner in which emergencies are announced.

(2) Emergency escape procedures and emergency escape routes.

(3) Procedures for employees who must remain to operate critical plant operations which may take time to shut down.

(4) Procedures to account for all employees after evacuation.

(5) Rescue and medical duties.

(6) Names and/or job titles of people responsible for maintenance of fire prevention equipment.

(7) Names and/or job titles of people responsible for the control of fuel source hazards.
- (a) Establish a system for alerting workers of a fire or other problem that may require evacuation of the work area.
- (b) A compressed air boat horn provides an effective alarm that can be heard and does not rely on a power source.
- (c) All persons entering the work area should be familiar with the evacuation alarm signal and primary and secondary exits.

(8) A simple floor plan drawing of the work area will be posted to familiarize persons entering the work area with the site and location of exits.

(9) Site specific written emergency procedures will cover procedures to be used in case of:
- (a) Fire, with heavy smoke conditions;
- (b) Power failure;
- (c) Compressor failure with the use of air-supplied respirators;
- (d) Accident; or employee injury.

9.0 Training:

A. All employees will be trained in the use of portable fire extinguishers provided at the workplace.

(1) Training will include:
- (a) Classes of fires.
- (b) Types of portable fire extinguishers.
- (c) Company fire prevention and evacuation plane.
- (d) Alarm system.
- (e) Proper use of the fire extinguisher using the P.A.S.S. System.
- (f) When possible a hands on portable fire extinguisher exercise will be conducted to provide employees with experience with the fire extinguishers.

B. Employee portable fire extinguisher training will be conducted initially on assignment and at least annually thereafter.

C. When using a fire extinguisher, follow the “P-A-S-S” guidelines:

P: **Pull** the pin.
A: **Aim low** at the base of the fire.
S: **Squeeze** the handle.
S: **Sweep** from side to side.

10.0 Fire Extinguisher Service and Maintenance:

A. In accordance with state and federal regulations portable fire extinguishers will be serviced annually.

B. Each portable fire extinguisher will be inspected by company employees at least monthly as follows:

(1) Fire extinguisher is in proper location

(2) Not blocked by stocks or debris

(3) Fully charged

(4) Label or plate in-place and readable

(5) Seal in-place

(6) Nozzle and hose properly attached

C. Records of annual services and monthly inspections shall be retained for one year or the life of the shell, whichever is less.

11.0 Flammable Liquid:

A. This section includes the following excerpts from OSHA Regulations (Standards - 29 CFR), Flammable and combustible liquids - 1910.106.

B. “Sources of ignition":

(1) Adequate precautions shall be taken to prevent the ignition of flammable vapors.

(2) Sources of ignition include but are not limited to:
(a) Open flames;
(b) Lightning;
(c) Smoking;
(d) Cutting and welding;
(e) Hot surfaces;
(f) Frictional heat;
(g) Static,
(h) Electrical, and mechanical sparks;
(i) Spontaneous ignition, including heat-producing chemical reactions; and
(j) Radiant heat.

D. "Grounding."

(1) Class I liquids shall not be dispensed into containers unless the nozzle and container are electrically interconnected.

E. Employees are expected to correct immediately or report for corrections any fire hazards in the work area.

(1) Employees should know the locations, operation and types of extinguishers in the work area(s).

F. Employees must use only metal “safety cans” for transferring flammable liquids.

(1) The use of plastic cans and funnels is prohibited. Gas cans must be in contact with the ground or pavement during filling.

(2) Never fill a gas can that is inside or on a vehicle.

G. Employees must properly ground or bond all containers during the transfer of flammable liquids.

(1) For instance, touch the nozzle to the spout of the metal safety can during dispensing.

H. Fire extinguishers vehicles must be inspected on a daily basis by a technician prior to leaving for a job site.

(1) Inspections include the following:
- (a) Extinguishers are in their designated receptacles.
- (b) Gauges indicate adequate operating pressure.
- (c) Seals are intact and not broken.
- (d) Physical damage, corrosion, or other impairments that could hamper operation are not present.
- (e) Any extinguisher found to be, or suspected of being defective must be repaired or replaced immediately.

(2) Fire extinguishers shall be serviced by authorized personnel only.
- (a) Any employee who uses an extinguisher shall insure that it is replaced with a fully charged and sealed unit.
- (b) Any vehicle with a discharged/non-functioning fire extinguisher will be out of service until said problem is corrected.

12.0 Smoking:

A. Employees must never smoke near flammable liquids, gases or materials, or where "No Smoking" signs are displayed.

B. Lighted matches, cigars, cigarettes, tobacco, or any other burning substances must be disposed of safely in a proper receptacle.

C. **Smoking is not permitted by any employee while working on any job site or while in uniform on or near any job site.**

D. Smoking is not permitted in the vehicle while the vehicle is on site.

(1) The driving compartment of the vehicle is the only area that smoking may be allowed, but only during travel to and from site.

1.0 Policy:

A. In accordance with federal and state health and safety regulations the following medical services and first aid program is instituted for the protection of employees.

B. This policy applies to on and offsite operations, projects and personnel.

2.0 Medical facilities and first aid trained personnel:

A. Medical facilities.

(1) Prior to commencement of a project or job the project manager will note on the job site safety plan the name, location, address, and phone number to the nearest medical facility to the project.

(2) This information will be posted and briefed to all employees on the project.

B. Emergency Medical Rescue and Transportation.

(1) Prior to commencement of a project or job the project manager will note on the job site safety plan the name, location, address, and phone number to the nearest ambulance service to the project.

(2) This information will be posted and briefed to all employees on the project.

(3) If no private ambulance service is within the project area the local fire department emergency medical / rescue will be notified by calling phone # 911.

C. Onsite First Aid personnel:

(1) Due to the requirement to provide emergency medical assistance with in four (4) minutes of the injury the company will provide an First Aid / CPR certified employee or supervisor on each project.

(2) First Aid / CPR duties will be a collateral duty.

(3) Training will be certified by programs such as presented by the American Red Cross or equivalent training programs.

D. Communications:

(1) At least one operating mobile phone or cell phone will be on each job site for emergency communications.

(2) Fully charged back-up batteries will be available in case of battery failure.

3.0 First aid supplies:

A. First aid supplies will be in the form of a standard first aid kit (sealed plastic caring case) carried in each vehicle and a job site first aid kit located with the project safety equipment. Easy access to supplies should be maintained at all times.

B. The first aid kits will contain individually sealed packages of first aid supplies. Supplies will be contained within a weatherproof container. The kits will be checked prior to issue to each vehicle/project. At a minimum the following supplies will be kept in the first aid kits:

(1) Adhesive strips (band aids), assorted

(2) Triangular bandage, 40“

(3) Gauze pads, 3" x 3"

(4) Gauze bandage, 4"

(5) Large wound dressing, 5"x9"

(6) Eye pads

(7) Adhesive tape

(8) Antiseptic wipes

(9) First aid and burn cream

(10) Scissors

(11) Forceps

(12) Exam Gloves

(13) Bloodborne Pathogens kit

(14) First aid instructions

(15) Adhesive tape (rolls of ½” desired)

(16) Packages of absorbent cotton

(17) Box of spirits of ammonia amulets

(18) Eye wash kits (sealed single use plastic bottles - or proper substitutes to flush particles from the eye)

(19) Finger cots (plastic or aluminum protector for an injured finger)

(20) Bottles Merthiolate or suitable disinfectant

C. Over the counter medication will not be supplied in the first aid kits.

D. Operators of the vehicles in which the first aid kits are assigned will inspect the kits, prior to each project or at least weekly to insure that supplies are available and current.

(1) Missing, expended or damaged first aid supplies will be replaced.

(2) Damaged first aid cases will be replaced.

(3) Date sensitive first aid supplies will be replaced before the expiration date.

4.0 Emergency eye wash and showers:

(1) Where employees are exposed to corrosive materials and chemicals, portable eye wash stations and emergency showers will be provided.

(2) Eye wash stations and showers will provide at least 15 minutes of operation insure the decontamination and neutralization of the chemical from the skin and eyes.

5.0 General Procedures:

A. Injuries sustained while on duty shall be reported to your supervisor immediately.

B. Medical attention must be obtained immediately after an injury is sustained.

C. All employees, injured on the job, shall report to a doctor for treatment as soon as possible.

D. First aid kits will be installed and maintained in all company vehicles at all times.

MJ VanDamme Trucking, Inc.
Grounding Conductor Program
In accordance with 29 CFR 1926.404

1.0 Policy:

A. In accordance with current federal and state regulations all electrical tools and equipment are subjected to the grounding requirements set forth in this policy.

B. Project management and supervisors are responsible for insuring compliance with the requirements of this policy.

C. This policy applies to all off site projects and operations.

2.0 Scope:

A. The scope of this policy is to ensure that all tools and equipment is properly grounded.

B. Prevent shock or electrocution of employee due to shorts in the system, cords or tools.

C. A written description of grounding procedures will be posted on the project site.

(1) Site specific procedures will be noted and briefed to all employees.

(2) These procedures will be made available for review by employees and Federal and State Inspectors.

3.0 Grounding of Equipment Connected by Cord and Plug:

A. Exposed non-current carrying metal parts of cord and plug connected equipment that may become energized must be grounded in the following situations:

(1) When in a hazardous (classified) location.

(2) When operated at over 150 volts to ground, except when guarded motors and metal frames of electrically heated appliances if the appliance frames are permanently and effectively insulated from ground.

(3) When using one of the types of equipment listed below:
- (a) Hand held motor-operated tools.
- (b) Cord-and-plug-connected equipment used in damp or wet locations, by employees standing on the ground or metal floors.
- (c) Tools likely to be used in wet and/or conductive locations.
- (d) Portable hand lamps.

B. Exemptions

(1) Tools likely to be used in wet and/or conductive locations need not be grounded if supplied through an isolation transformer with an ungrounded secondary of not over 50 volts.

(2) Listed or labeled portable tools and appliances protected by a system of double insulation, or its equivalent.
- (a) In this case, equipment must be distinctively marked to indicate that the tools or appliance uses a system of double insulation.

4.0 Ground Fault Circuit Interrupter (GFCI):

A. All 120-volt, single-phase, 15 and 20 ampere receptacle outlets on our sites, which are not part or the permanent wiring of the building or structure and which are used by our employees, shall have approved ground fault circuit interrupters for personal protection.

B. Where GFCI receptacles are not available, plug in GFCI's will be used by our employees.

C. Receptacles on a two-wire, single-phase portable or vehicle mounted generator rated not more than 5kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces, a GFCI is not required.

5.0 Inspection:

A. All electrical cords, receptacles, plugs, tools, and equipment will be visually inspected for:

(1) Damaged or missing grounding pins or receptacles.

(2) Broken or damaged insulation.

(3) Missing guards covers or insulation.

(4) Indication of internal damage.

B. Visual Inspections will be conducted as follows:

(1) Prior to use (daily).

(2) After repair.

(3) After an incident which it can be reasonable suspected to have caused damage.

(4) If stored and not in daily use at least quarterly (every three months).

C. Cords, tools, and equipment found to be damaged or defective will be removed from service and repaired or destroyed.

(1) Cords, tools, and equipment found to be damaged or defective will tagged as "Out of Service"

(2) No tagged cord, tool, and equipment will be allowed to be used.

6.0 Responsibility:

A. Project Managers and supervisors are designated and trained to act as a Competent Persons in accordance with this standard, to insure compliance with this policy.

B. All electrical cords, receptacles, plugs, tools, and equipment will be marked near the plug with a color-coded tape to indicate compliance with the quarterly inspection.

C. Color Codes will be as follows:

(1)	Red	First quarter (January - March)
(2)	Blue	Second quarter (April - June)
(3)	Green	Third quarter (July -September)
(4)	Yellow	Fourth quarter (October - December)

D. Electrical cords, receptacles, plugs, tools, and equipment found with out of date coding will be removed from service until inspected and coded.

7.0 Repair:

A. If the damage to an electrical cord, receptacle, plug, socket, tool or system cannot be made to meet the original insulation requirements and specifications (like new) it must be removed from service and destroyed.

8.0 Site Specific Grounding Procedures:

A. Static Electricity, Grounding and Bonding

(1) Static Electricity is often a source of ignition for an ignitable mixture.

(2) Static electricity is generated by the motion of particles, including liquids, gases, objects, vehicles, and people.

(3) The accumulation of static electricity can be prevented under many circumstances by bonding or grounding.
- (a) *Bonding: The process of connecting two or more conductive objects together by means of a conductor.*
- *(b)* *Grounding: The process of connecting one or more conductive objects to the ground, as a specific form of bonding.*

(4) Employees must connect a grounding wire to the testing vehicle and to all testing equipment in use, to eliminate any chance of a static spark that could be a source of ignition.

(5) Employees must use only approved metal containers for handling hazardous materials.
- (a) Touch the nozzle to the container while dispensing fuel in order to “bond” the container to the dispenser.
- (b) Place the container on the ground while fueling.
- (c) Never fuel a container that is in or on a vehicle.

MJ VanDamme Trucking, Inc.
Hazard Communications (HAZCOM) Program
In accordance with 29 CFR 1910.1200

Note: This section does not currently reflect any of the changes recently made to the HCS to bring it in line with the GHS. Extended compliance dates are being followed and will dictate compliance.

The provisions of this section will be followed through the next compliance date of June 1, 2015. At that time SDS sheets will be collected as per the guidelines and manufacturer's availability. Updates will be made as needed to comply with the new HCS/GHS with all changes in place no later than June 1, 2016.

As outlined in the "Training" section of this document, all employees are trained on the new labeling requirements, applicable pictograms, and the new SDS format/contents. This training was completed prior to the December 1, 2013 compliance deadline.

Additionally, all employees have been informed to retain any SDSs that are made available to the company in order that they be incorporated into the current program and/or replace existing MSDSs.

1.0 General:

A. It is the desire and intent that all employees be informed about the hazardous substances they may encounter in the workplace and learn the appropriate protective measures for working safely with these substances.

B. The Hazard Communication Program, which is outlined in this section, is intended to comply with the requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

2.0 Content:

A. This written Hazard Communication Program is a resource document which provides details on the following components of the company program:

(1) Hazard Determination,

(2) Container Labeling,

(3) Material Safety Data Sheets (MSDSs), and

(4) Employee Education and Training.

B. The document also provides the following information:

(1) Lists of hazardous chemicals found in each work area (maintained under separate cover).

(2) How employees are informed of the hazards associated with non-routine tasks.

3.0 Accessibility:

A. This document is available to all company employees or their designated representatives upon request.

B. It is also available to the Assistant Secretary for Occupational Safety and Health, and the Director of the National Institute for Occupational Safety and Health (NIOSH).

C. Multi-employer job sites.

(1) Where the company is a sub-contractor to the general contractor on a job site the Foreman will:
   (a) Issue a copy of all MSDSs for chemicals brought on to the job site.
   (b) Review and brief all employees as to the chemical hazards that they might be exposed to at the job site.
   (c) Evaluate exposure hazards and establish levels of protective clothing if required.
   (d) Insure labeling system and correct labeling information is used on each transfer label.

(2) Where the company is the General Contractor on a job site the following requirements will be met.
   (a) All sub-contractors will ensure copies of MSDSs for all chemicals brought to the job site are placed in the job site Hazard Communications Program/MSDS binder.
   (b) Each sub-contractor briefs their employees as to the levels of exposure the may encounter.
   (c) Chemical Protective equipment is worn as required.

(3) MSDSs and Labels will be written in English in accordance with current federal law.
   (a) For employees who cannot read or comprehend English the employer will insure that the information is verbally explained to the employee in the employee's own language.

(4) Off site jobs or multi-site jobs:
   (a) Where an employee must travel to multi-site jobs in a shift, a copy of the MSDSs for the chemicals on the service truck will be maintained on the truck.
   (b) In an emergency, copies from the company office can be faxed to a hospital, physician's office and/or jobsite.

(5) The written Hazard Communications Program and current Material Safety Data Sheets will be kept on file at the company office.
   (a) This program is available upon request from employees, employee representatives, and OSHA Federal and State inspectors in accordance with 29 CFR 1910.1200(e).

4.0 Employee responsibility:

A. It is the objective to ensure that all employees who handle hazardous chemicals be fully informed of the hazards involved and that they be trained to perform their jobs safely.

B. Active participation of each company employee in the program is essential to make the Hazard Communication Program a success.

5.0 Company policy and assigned responsibilities:

A. Right-To-Know Facility Coordinator:

(1) The company has assigned a facility Right-To-Know Coordinator who will be responsible for coordinating all activities pertaining to this program.

(2) The Right-To-Know Coordinator for the facility is the corporate Safety Officer.

B. Labels, MSDSs, and Employee Training

(1) Company programs for Hazard Determination, Labels, MSDSs, and Employee Training are described in separate sections of this manual under the respective subject headings.

(2) All MSDS and labeling systems will be written in English in accordance with Federal Law.
(a) The company will provide interpretation of the labels and MSDS information to employees who cannot understand English in their native language.

C. List of Hazardous Substances

(1) It is company policy to develop a list of hazardous chemicals used in each work area. This list will be developed as a result of the facility inventory.

(2) MSDSs obtained from suppliers for each product will be consulted in order to identify products which are hazardous.

D. Hazards of Non-Routine Tasks and Unlabeled Pipes.

(1) Prior to performing non-routine tasks, an employee shall review with his supervisor the potential hazards of the task and the proper safety and handling procedures.

(2) The MSDSs for each hazardous material used should always be consulted prior to performing the non-routine task.

(3) The employee's supervisor will be responsible for informing him/her on the hazards of materials used in non-routine tasks prior to performing the task.

E. Accessibility:

(1) Upon request, this Hazard Communication document will be made available to employees or their designated representatives within 15 working days of the request.

(2) The written program is located at 301 Avenue A., Gwinn, M.I. 49841

(3) Employees can request to see the written program by contacting their supervisor during normal working hours.

F. List of Hazardous Chemicals

(1) A list of hazardous chemicals can be obtained by contacting the Corporate Safety Officer.

6.0 Management of chemicals:

A. Products Manufactured by the Company:

(1) The company does *not* manufacture products and are thus exempt from the requirements of the Standard under Section (b) (4) or Section (b) (5) of the Standard.

B. Products Purchased/Raw Materials:

(1) The company will rely on the hazard evaluations performed by the chemical manufacturer/importer of all raw materials or products purchased.

(2) MSDSs obtained from suppliers on all chemicals purchased shall be used in determining the Health and Physical hazards of materials.

C. Incoming Containers:

(1) It is policy to require that suppliers of chemical products label their materials in accordance with the Standard.

(2) At a minimum, the following information should be listed on containers of hazardous substances:
(a) Identity of the material.
(b) Hazard warnings.
(c) Name and address of manufacturer or importer.

(3) No container will be accepted unless it is properly labeled with the required information.

(4) The department and name of the person responsible for ensuring that incoming containers are labeled with the required information is corporate Safety Officer.

(5) If a container is received without the required information, the manufacturer will be notified to provide properly labeled containers.

D. In-House Transfer Containers:

(1) Transfer containers will be compatible with the product.

(2) Transfer containers will be labeled with an NFPA or HMIS III HAZCOM Label.

7.0 Material safety data sheets:

A. MSDSs shall be obtained from manufacturers and/or distributors for *all* materials present at the facility.

B. The manufacturers and/or distributors shall be contacted a second time if the MSDS is not received or is found to be inadequate.

C. The responsibility for obtaining, maintaining, updating, distributing, and reviewing MSDSs is assigned to Purchasing Officer.

D. MSDSs for hazardous materials shall be placed in binders at each job site and shall be readily available to employees during each work shift.

8.0 Training:

A. Training is provided upon initial assignment to employees in accordance with current OSHA requirements.
B. As of the date of the most recent revision of this document, all employees have received training on the new label requirements, pictograms, and SDS format.

MJ VanDamme Trucking, Inc.
Hearing Conservation Program
In accordance with 29 CFR 1910.95

1.0 Policy and Purpose:

A. The purpose of the Hearing Conservation Program is to minimize the risk of occupational hearing impairment from hazardous noise levels that may exist in the work environment.

B. Each Site/project will implement a comprehensive Hearing Conservation Program in accordance to the guidelines herewith.

C. It is understood that hearing protection devices are not substitutes for engineering and/or administrative methods aimed at reducing exposure potential for people working in areas where noise levels are elevated.

D. Devices of this type are employed as an interim means of protection while feasible measures for control are developed which will eliminate health risks posed for people working in high noise areas.

2.0 Definitions:

Action Level: An 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of fifty percent.

Audiogram: A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.

Audiologist: A professional, specializing in the study and rehabilitation of hearing, who is certified by the American Speech-Language-Hearing Association or licensed by a state board of examiners.

Baseline Audiogram: The audiogram against which future audio grams are compared.

Criterion Sound Level: A sound level of 90 decibels.

Decibel (dB): Unit of measurement of sound level.

Hertz (Hz): Unit of measurement of frequency, numerically equal to cycles per second.

Medical Pathology: A condition or disease affecting the ear, which should be treated by a physician specialist.

Noise Dose: The ratio, expressed as a percentage, of (1) the time integral, over a stated time or event, of the 0.6 power of the measured SLOW exponential time-averaged, squared A-weighted sound pressure and (2) the product of the criterion duration (8 hours) and the 0.6 power of the squared sound pressure corresponding to the criterion sound level (90 dB).

Noise Dosimeter: An instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose.

Otolaryngologist: A physician specializing in diagnosis and treatment of disorders of the ear, nose and throat.

Representative Exposure: Measurements of an employee's noise dose or 8-hour time-weighted average sound level that the employers deem to be representative of the exposures of other employees in the work place.

Sound Level: Ten times the common logarithm of the ratio of the square of the measured A-weighted sound pressure to the square of the standard reference pressure of 20 micropascals. Unit: decibels (dB). For

use with this regulation, SLOW time response, in accordance with ANSI S1.4-1971 (R1976), is required.

Sound Level Meter: An instrument for the measurement of sound levels.

Standard Threshold Shift: A standard threshold shift (SIS) will be considered when there is a change in hearing threshold relative to the baseline audiogram equal to or greater than a 10dB average of 2,000, 3,000 and 4,000 H_2 in either ear.

Time-Weighted Average Sound Level: That sound level, which if constant over an 8-hour exposure, would result in the same noise dose as is measured.

3.0 Overview:

A. Permanent hearing loss may result from prolonged exposure to excessive noise.

B. There are occupations within the company's operations where the noise exposures are such that occupational hearing loss could result.

C. This irreversible hearing loss occurs slowly over a period of years, at a rate dependent upon the length and severity of exposure and individual acoustic susceptibility.

D. Noise induced hearing loss can also result from acoustic trauma (e.g., an explosion).

E. With this type of exposure, the eardrum may be ruptured and the middle and inner ear damaged.

F. Non-occupational factors including aging, hobbies and social activities that involve exposure to excessive noise may also result in, or contribute to, permanent hearing loss.

G. The Hearing Conservation Program may also help reduce non-occupational hearing loss by influencing employees to exercise caution in all activities that involve high noise levels.

4.0 Program Administration:

A. The Operations Manager is responsible for the overall administration of the hearing conservation program.

(1) Such administration involves coordinating the cooperative efforts of the several disciplines within the organization, as well as the day to day implementation and evaluation of the program.

B. A professional audiologist will be utilized to provide surveillance/oversight of the hearing conservation program as required.

5.0 Program Elements:

A. The basic program elements of Hearing Conservation Program include:

(1) Noise Monitoring

(2) Audiometric Testing

(3) Evaluation of Audiometric Tests

(4) Employee Notification

(5) Use of Hearing Protection

(6) Education and Training

(7) Record Keeping

(8) Access to Information and Records

B. Each of the Program Elements is discussed separately.

6.0 Noise Monitoring:

A. The client's established noise areas will be reviewed, and proper hearing protection will be selected.

(1) In suspected high noise areas, noise monitoring will be conducted.
(a) Qualified industrial hygienists will conduct the noise level surveys and any additional studies that may be required.

(2) Monitoring results will be maintained on file.
(a) Recommendations for feasible engineering and administrative controls, including the utilization of appropriate hearing protection, will be made as a result of these surveys.
(b) All efforts toward compliance to these recommendations will be documented and maintained on file.
(c) Affected employees or their representatives are to be provided the opportunity to observe any noise measurements conducted in their work place.

B. Audiometric Testing

(1) Before an employee's first exposure that equals or exceeds an 8-hour time-weighted average (TWA) of 85 decibels, a baseline audiogram will be established against which subsequent audio grams can be compared.

(2) All employees who work in areas where noise levels equal or exceed an 8-hour time-weighted average (TWA) of 85 decibels for more than 10 days per year will be given annual audio grams.

(3) All baselines, annual, and confirmation audio grams will be preceded by at least 14 hours without exposure to work place noise.
(a) Hearing protectors may be used as a substitute for this requirement.

(4) The audiometric testing will be conducted at the clinic as part of the annual physicals.

(5) The audiometric report will include documentation on:

(6) Audiometric tests were pure tone, air conduction, hearing threshold examinations, with test frequencies including 500, 1000, 2000, 3000, 4000 and 6000 Hz.

(7) All audiometric testing was conducted by a technician who is certified by the Council for Accreditation in Occupational Hearing Conservation.
- (a) The technician must be responsible to an audiologist, otolaryngologist or physician. Recertification will be done within five (5) years of previous certification.

(8) Audiometric tests were conducted with audiometers that meet the specifications of and are maintained in accordance with American National Standard Specification for Audiometers, S3.6-1969.

(9) The functional operation of the audiometer was checked before each day's use by testing a person with known, stable hearing thresholds, and by listening to the audiometer's output to make sure that the output is free from distorted or unwanted sounds.
- (a) Deviation of 10 decibels or greater requires an acoustic calibration.
- (b) The technician may perform this check on oneself.

(10) Audiometer calibration was checked annually, which included an exhaustive calibration in accordance with the American National Standard Specification for Audiometers.
- (a) A certified industrial hygienist performs this activity on an annual basis.

C. Evaluation of Audiometric Tests and Employee Notification

(1) Each employee's annual audiogram will be compared with that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift (STS) has occurred.
- (a) This comparison will be done by the computerized consulting audiologists.

(2) If the comparison of the annual test to the baseline indicates that an employee may have suffered a standard threshold shift, a confirmation test (retest) is to be obtained.
- (a) This test must be done within 30 days of the annual test.

(3) The audiologist responsible for the surveillance of the audiometric testing program will review all annual audiometric data, all problem audio grams, and all those audio grams showing STS.
- (a) He will determine whether there is a need for further evaluation.

(4) Computerized reports will be produced and utilized by the consulting audiologist in the evaluation of this hearing conservation program.

(5) A standard threshold shift (STS) will be considered when there is a change in hearing thresholds relative to the baseline audiogram equal to or greater than a 10-dB average of 2000, 3000 and 4000 Hz in either ear.

(6) The following steps are to be taken when a standard threshold shift occurs:

(a) The employee will be informed of this fact in writing, within 21 days of the determination.

(I) Notification letters will be generated from the consulting audiologists for distribution.

(b) Employees not using hearing protection will be fitted with hearing protectors, trained in their use and care and required to use them.

(c) Employees already using hearing protectors will be refitted and retrained in their use and provided hearing protectors offering greater attenuation if necessary.

(d) Following a review of audiogram data by the consulting audiologist, employees will be referred for a clinical audiological evaluation if additional testing is necessary or if it is suspected that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.

(I) The initial examination would be at Company's expense.

(e) Employees are to be informed of the need for an ontological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected by the consulting audiologist.

(I) The examination would be at the employee's own expense.

7.0 Use of Hearing Protection:

A. Hearing protectors will be made available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to employees.

(1) Such protectors will be replaced as necessary.

B. For those employees found to have an 8-hour time-weighted average exposure greater than 90 decibels, the wearing of hearing protection will be mandatory.

C. It will be mandatory that hearing protection is worn by any employee who is exposed to a time-weighted average (TWA) of 85 decibels or greater who has experienced a standard threshold shift.

D. A variety of suitable hearing protectors will be provided for employees to select from.

(1) This would include at least one type of muff and two types of plugs.

E. The company will evaluate hearing protector attenuation for the specific noise environment in which the protector will be used.

F. Hearing protectors must attenuate employee exposure at least to an 8-hour time-weighted average of 90 decibels.

G. For employees who have experienced a standard threshold shift, hearing protectors must attenuate employee exposure to an 8-hour time-weighted average of 85 decibels or above.

H. For those employees who have an 8-hour time-weighted average exposure that exceeds 105 decibels (or a 12-hour TWA exposure that exceeds 102 decibels), the utilization of double hearing protectors (earplugs and muffs) is required.

8.0 Education and Training:

A. A training program will be instituted for all employees included in the Hearing Conservation Program and will be repeated annually.

B. The training program will be updated to be consistent with changes in protective equipment and work process.

C. Training program criteria includes informing each employee of the following:

(1) An explanation of the contents of the noise standard and the Hearing Conservation Program.

(2) Instruction in the nature of the noise hazards and the effects of noise on hearing.

(3) A description of specific work areas, processes, machinery or other equipment producing hazardous noise exposures.

(4) An explanation of the engineering and administrative control measures being used to reduce noise exposures.

(5) Instruction in the selection, use, sanitary care, maintenance, and limitations of hearing protection devices.

(6) An explanation of the purpose of the noise monitoring program and audiometric testing, and an explanation of the monitoring and testing procedures.

9.0 Record Keeping:

A. Records required pursuant to the Hearing Conservation Program will be retained for the following periods:

(1) Noise exposure measurement records for two (2) years.

(2) Audiometric test records will be retained indefinitely.

10.0 Access to Information and Records:

A. Copies of the OSHA noise standard will be made available upon request to affected employees or their designated representative.

(1) A copy of the standard will also be posted in the workplace.

B. Access to or request for records pertaining to the Hearing Conservation Program will be provided to employees or designated representatives upon written request addressed to the Director, Safety and Compliance.

MJ VanDamme Trucking, Inc.
Lockout/Tagout Program
In accordance with 29 CFR 1910.147

1.0 Policy:

A. Control of hazardous energy covers the servicing and maintenance of machines and the equipment in which the unexpected energizing or start-up of the machine to equipment, or release of any stored energy, could cause injury to employees.

(1) All supervisors will be trained regarding the requirements and provisions of this lockout procedure.

(2) Each supervisor is responsible to train the employees under his supervision regarding the requirements and provisions of this lockout procedure.

(3) Each supervisor will effectively enforce compliance of the lockout procedure.

(4) Each supervisor will assure that locks and lockout devices required for compliance are provided for his employees.

(5) Prior to any servicing or maintenance work, the supervisor will determine and instruct the employees of the steps to be taken to assure they are not exposed to injury due to unintended machine motion or release of energy.

2.0 Purpose:

A. This program is to assure that the employees are protected from unintended machine motion or unintended release of energy which could cause injury when they set up, adjust, repair, service, install or perform work on equipment, machinery or processes.

B. This procedure applies to all employees performing any of the aforementioned tasks.

C. Equipment that may require Lockout:

(1) On Site Systems:
- (a) Electrical Systems
- (b) Pump Systems
- (c) Valves
- (d) Pipe systems
- (e) Tanks

(2) Site Equipment – Including heavy equipment, lift equipment, and power tools.

D. All company employees are authorized employees under this standard.

E. Sub-contractors are listed as affected employees.

3.0 Definitions:

"AFFECTED EMPLOYEE" - An employee whose job requires him to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him to work in an area in which such servicing or maintenance is being performed.

"AUTHORIZED EMPLOYEE" - A person who locks or implements a tagout system procedure on machines or equipment to perform the servicing or maintenance on that machine or equipment. An authorized employee and affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine or equipment which must be locked or tagged out.

"CAPABLE OF BEING LOCKED OUT" - An energy isolating device will be considered to be capable of being locked out if it is designed with a hasp or other attachment through which a lock can be affixed or if it has a locking mechanism built into it. Other energy isolating devices will also be considered to be capable of being locked out if lockout can be achieved without the need to dismantle, rebuild or replace the energy isolating device or permanently alter its energy control capability.

"ENERGIZED" - Connected to an energy source or containing residual or stored energy.

"ENERGY ISOLATING DEVICE" - A mechanical device that will physically prevent the transmission or release of energy, including but not limited to the following: a manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently; a slide gate; a slip blind; a line valve; a block; and any similar device used to block or isolate energy. The term does not include a push button, selector switch and other control circuit type device.

"ENERGY SOURCE" - Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy.

"HOT TAP" - A procedure used in the repair, maintenance and service activities which involves welding on a piece of equipment (pipeline, vessel, or tank) under pressure in order to install connections or appurtenances. It is commonly used to replace or add sections or pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

"LOCKOUT" - The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

"LOCKOUT DEVICE" - A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment.

"NORMAL PRODUCTION OPERATION" - The utilization of a machine or equipment to perform its intended production function.

"SERVICING AND/OR MAINTENANCE" - Workplace activities such as constructing, installing, setting up, inspecting, adjusting, modifying and maintaining and/or servicing machines or equipment. The activities include cleaning, lubricating and unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

"SETTING UP" - Any work performed to prepare a machine or equipment to perform its normal production operation.

"TAGOUT" - The placement of a tagout device on an energy isolating device in accordance with an

established procedure to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

"TAGOUT DEVICE" - A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

4.0 Requirements:

A. The power of any equipment, machine or process to be set up, adjusted, services, installed or where maintenance work is to be performed and the unintended motion or release of energy would cause personal injury, such a power source will be locked out by each employee doing the work.

B. The source of energy, such as springs, air, hydraulic and steam will be evaluated in advance to determine whether to retain or relieve the pressure prior to starting work.

C. Safety locks are for the personal protection of the employees and are to be used for locking out the equipment.

(1) These may be obtained from the office.

(2) Locks will be case hardened steel locks manufactured by American Lock or Master Lock with a 2" shank.

D. Personal locks will be tagged with the employee's name and number.

(1) The locks or tags will be durable to the environment, recognized as standard in color, shape and size for the procedure and be substantial enough so they cannot be accidentally or easily removed.

E. One key of every lock issued will be retained by the employee to whom it was issued and only other key to the lock may be retained by the supervisor on the job.

F. Employees will request assistance from their supervisor if they do not know how or where to lockout equipment and direct any questions to his attention.

5.0 Application of Control:

The established procedures for the application of energy control (the lockout and tagout procedures) shall cover the following elements and action and shall be done in the following sequence:

1. Preparation for Shutdown. Before an authorized or affected employee turns off a machine or equipment, the authorized employee shall have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy.

2. Machine or equipment shutdown. The machine or equipment shall be turned off or shut down using the procedures established for the machine or equipment. An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.

3. Machine or equipment isolation. All energy isolating devices that are needed to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s).

4. Lockout or tagout device application.
   (i) Lockout or tagout devices shall be affixed to each energy isolating device by authorized employees.
   (ii) Lockout devices, where used shall be affixed in a manner to that will hold the energy isolating devices in a "safe" or "off" position.
   (iii) Tagout devices, where used, shall be affixed in such a manner as will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited.

      (A) Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment shall be fastened at the same point at which the lock would have been attached.
      (B) Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

5. Stored energy.
   (i) Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe.
   (ii) If there is a possibility of reaccumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

6. Verification of isolation. Prior to starting work on machines or equipment that have been locked out or tagged out, the authorized employee shall verify that isolation and deenergization of the machine or equipment have been accomplished.

6.0 Preparation for Lockout

A. The supervisor will make a survey to locate and identify all isolating devices to be sure which switches, valves or energy isolating devices apply to the equipment to be locked or tagged out.

   (1) More than one energy source may be involved.

B. Authorized employees will know:

   (1) The type and magnitude of the energy and hazards

   (2) The type and location of energy isolating means
      (a) Methods of isolation - locks, tags, other

   (3) Types of stored energy and methods to dissipate or restrain

   (4) Release methods for stored energy and possibility of reaccumulation.

C. Notify all affected employees that a lockout/tagout system is going to be utilized and the reason.

7.0 Lockout/Tagout Procedures:

A. If the machine, equipment or process is operating, shut it down by normal stopping procedures.

(1) The main disconnect switches will be turned off and locked in the off position.

(2) A machine connected to a 110 volt source of power by a plug-in cord will be considered locked out if the plug is disconnected and under the control of the employee at all times.

B. After locking out the power source, the employee will try the machine, equipment or process controls to be sure no unintended motion will occur or test the machine, equipment or process with appropriate test equipment to determine that the energy isolation has been effective.

C. **BE SURE TO RETURN OPERATING CONTROLS TO NEUTRAL OR OFF AFTER THE TEST**.

D. The equipment is now locked out.

8.0 Removal of Locks and Restoring Power:

A. Power may be turned on when it is required to perform tests or adjustments.

(1) All of the rules pertaining to removing locks and restoring power will be followed.
- (a) Clear away all tools and equipment from with in the system.
- (b) Notify all authorized and affected employees working on the system.
- (c) Remove lockout/tagout devices and locks.
- (d) Energize and proceed with testing.
- (e) De-energize and reapply lockout/tagout controls on system.

(2) The machine, equipment or process will again be locked out if it is necessary to continue work after the test or adjustment is complete.

(3) The project foreman or lead man will verify that all locks and tags are applied to the system prior to work continuing.

B. When work continues to the next shift, the employee on the outgoing shift removes his lock and the employee on the new shift places his lock on the device.

C. Upon completion of the work, each employee will remove his lock, rendering the machine operable when the last lock is removed.

D. The employee responsible for removing the last lock, before doing so, will assure that all guards have been replaced, the machine, equipment or process is cleared for operation and the appropriate personnel are notified that power is to be restored.

E. Re-energization procedure:

(1) All of the rules pertaining to removing locks and restoring power will be followed.
- (a) Clear away all tools and equipment from within the system.
- (b) Notify all authorized and affected employees working on the system.
- (c) Remove lockout/tagout devices and locks.
- (d) Operate the energy isolating device to restore energy.

9.0 Multiple Lockout/Tagout (Group Lockout):

A. If more than one individual is required to lockout equipment, each will place his own personal lockout device on the energy isolating device.

(1) When an energy isolating device cannot accept multiple locks, a multiple lockout device (hasp) may be used.

B. In group lockout, the facility may lock all energy sources on the system and place a single lock. The key for this single lock is placed in a lockout box or lockout cabinet which allows the use of multiple locks to secure it.

(1) After inspection of the system and lockouts by the project foremen or lead man (authorized employees).
(a) Each employee will then use his lock to secure the box or cabinet.
(b) As each employee no longer needs to maintain his lockout protection, that employee removes his lock from the box or cabinet.

C. At all times each employee working on the system will be afforded protection equal to the protection provided by a personal lockout/tagout device.

D. Shift change:

(1) During shift change the following procedure will be used to ensure the continuity of the lockout/tagout procedures.
(a) The on-coming shift of authorized employees will place their locks and tags on the lockout devise, lock box or lockout cabinet.
(b) Then the off going shift of authorized employees will remove their locks and tags on the lockout devise, lock box or lockout cabinet.
(c) The on coming sift will verify that the system is locked out prior to working on the system.

10.0 Emergency Lock Removal:

A. If a lock is not removed at the proper time and needs to be cut off, the supervisor of the authorized employee who locked out the equipment will be responsible for removing the lock.

B. Verify that the authorized employee is not in the facility.

C. Every attempt must be made to contact the authorized employee prior to removal of the device.

D. The authorized employee must be informed of the removal before his next work shift.

11.0 Outside Personnel:

A. Whenever outside servicing personnel are to be engaged in activities covered by the scope and application of this standard the on-site employer and the outside employer will inform each other of their respective lockout procedures.

(1) The on-site employer will ensure that his personnel understand and comply with the restrictions and prohibitions of the outside employer’s energy control procedures.

12.0 Training and Communications:

A. Training will be provided to ensure that the purpose and procedures of the energy control program are understood by the employees and that the knowledge and skill for the safe application, usage and removal of energy controls is required of the employees.

B. Training will include:

(1) Each authorized employee will recognize the applicable hazardous energy source, the type and magnitude of the energy available, and the method and means for the energy isolation.

(2) Affected employees will be instructed in the purpose and use of the energy control procedure.

(3) All other employees will be instructed about the procedure and any prohibitions relating to attempts to restart or energize equipment or machines that are locked or tagged out.

(4) When tagout systems are used, employee training will also include the following:
- (a) Tags are essentially warning devices affixed to energy isolating devices and do not provide the physical restraint provided by locks.
- (b) When a tag is attached to an energy isolating means, it is not to be removed without the authorization of the authorized person who attached it.
- (c) It is never to be bypassed, ignored or otherwise defeated.
- (d) Tags must be legible and understandable by all authorized employees, affected employees and all other employees in the work area to be effective.
- (e) Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.
- (f) Since tags can evoke a false sense of security, their meaning needs to be understood as part of the overall energy control program.
- (g) Tags must be securely attached to isolating devices so that they cannot be detached accidentally or inadvertently during use.

13.0 Employee Retraining:

A. Employee retraining will be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in the equipment, machines or processes that present a new hazard or when there is a change in the energy control procedure.

B. Additional retraining will be provided whenever a periodic inspection reveals a deviation from or inadequacy in the employee's knowledge or use of the energy control procedure.

C. The retraining will re-establish employee's proficiency and introduce new or revised control methods and procedures.

D. A record of employee retraining including employee name and date of retraining will be kept when any of the above conditions exist.

14.0 Periodic Inspections:

A. The Supervisor will conduct periodic inspections to ensure that the energy control procedure and the requirements of the standard are being followed. Annually inspections will be performed and documented.

B. The inspection will be performed by an authorized employee other than the one utilizing the procedure.

C. The inspection will be designed to correct any deviations of inadequacies observed.

D. Where lockout is used, the inspection will include a review with each authorized and each affected employee of his responsibility under the energy control procedure being inspected.

E. Where tagout is used, the inspection will include a review with each authorized and each affected employee of his responsibility under the energy control procedure being inspected and the elements contained in the TRAINING AND COMMUNICATION section regarding tagout systems.

F. The supervisor will certify that the periodic inspection has been made.

(1) It will identify the machine or equipment inspected, the date, the name of the employee included in the inspection and the name of the person inspecting.

1.0 Scope:

A. This policy sets the standards for operations of Aerial Platforms and Man lifts.

2.0 Operations

A. Only trained personnel are to operate any lifts.

B. All personnel must wear personal fall protection when using any lift with a hydraulic boom when the travel is controlled from the basket or platform.

3.0 Operators

A. Know the lift, how to operate it, the purpose of all controls, the location and normal readings of gauges and dials.

(1) Know the rated workload, safe speed ranges, braking, steering, turning radius, and operating clearances.

B. Read and understand the DANGER, WARNING, CAUTION, and other signs on the machine.

(1) Read and understand the Operator's Manual before using the machine. If there is no manual with the machine, get one.

C. Prior to starting the workday, inspect the machine and report all deficiencies.

(1) Do not operate the machine until deficiencies are corrected and all systems are in good operational condition.

D. Check the ground or floor level in the area you will be traveling across for holes, debris (especially if it can puncture the tires), drop-off, wet/oil spots, or rough areas, Repair/clean bad areas prior to traveling across them.

E. Check overhead prior to raising the platform.

(1) Be especially careful around power lines.

F. If using a lift with a combustion engine, make sure there is enough ventilation.

G. Never allow an unqualified individual to operate the lift.

H. Never position a lift over the top of another individual.

I. Always tie-off inside the basket, not to adjacent structures.

(1) **YOU MUST TIE-OFF METAL TO METAL**.

(2) Never attempt to exit a lift unless the basket is fully lowered, or is resting on a structure able to support it if a failure occurred.

(3) Always keep both feet flat on the floor of the platform - **DO NOT CLIMB ON THE RAILING.**

J. When traveling in the raised position use extreme caution. Always keep your attention in the direction of travel.

K. Insure that all outriggers, stabilizers, etc. are extended prior to raising the platform.

L. When lowering the platform, make sure that all personnel are clear below.

M. Never use ladders, planks, steps, or other devices to provide additional reach.

4.0 Standard Operating Procedures:

A. Manufactures Operators manual for each lift unit operated will be incorporated in to this policy by reference.

B. Each operator is to review the manufactures operating procedures and safety area prior to operating the lift equipment.

C. Daily, weekly and annual Inspection will be conducted in accordance with manufactures guideline and documented.

5.0 Training

A. The employer will certify the operator has been trained in the safe operation of the lift and mobile equipment they are assigned to operate.

6.0 Manufacturers Standard Operating Procedures:

A. Manufacturers Standard Operating Procedures are incorporated by reference for each lift used or operated by the company.

MJ VanDamme Trucking, Inc.
Scaffolding User Program
In accordance with 29 CFR 1926.454

1.0 Policy:

A. The Scaffolding Users Program has been established to provide guidelines for the safe use of scaffolding by all employees.

B. The company does not own nor assemble any scaffolding equipment.

(1) For work sites where work cannot be done safely from the ground or from solid construction, a scaffolding subcontractor will be employed.

C. The construction and maintenance of the scaffolding structure by the subcontractor will be in compliance with the OSHA Scaffolding Standard 29CFR1910.28.

D. The subcontractor will provide a "Qualified" person to design the appropriate scaffolding.

(1) The Operations Manager will provide the "Qualified Person" the designated use and appropriate load factors for the scaffold.

(2) The Site Supervisors have been trained as a "Competent Person" to inspect the scaffolding on a daily basis.

(3) The safety performance and regulatory history for a scaffolding company will be used in the evaluation of subcontractors.

2.0 Purpose:

A. To eliminate or minimize the potential for injury to personnel and/or damage to property as a result of scaffolding usage.

B. To comply with insurance and regulatory agency requirements.

3.0 Procedures:

A. The Company will utilize only scaffolding rented from reputable scaffolding companies who will erect and certify their scaffolding for all projects requiring scaffolding construction.

B. The Operations Manager and all supervisors will be trained as Competent Persons

C. All employees will receive proper training from the Operations Manager or site supervisor regarding hazards associated with scaffolding use.

4.0 Training:

A. Training will include hazards such as:

(1) Safe access

(2) Material handling

(3) Falls, falling objects, and fall protection

(4) Electrical,

(5) Load capacity and load balance.

B. Training will be provided at each new job site.

C. Training will be repeated whenever:

(1) There are changes or modifications to a scaffolding system.

(2) The operating procedures (work activities, loading, access, etc.) are modified or changed.

(3) The work site conditions change.

5.0 Inspections:

A. A Competent Person will conduct inspections of all scaffolding systems.

B. The inspections will take place prior to use of the scaffolding and be repeated on a daily basis

C. When an inspection reveals unsafe equipment or conditions the equipment (or condition) will be tagged.

(1) Employees must not use tagged equipment.

(2) Use of tagged equipment will result in disciplinary action.

D. The tag will identify the unsafe equipment or condition via a written description of the observed problem and will be physically attached.

E. Employees will not use scaffolding that has been tagged due to an unsafe condition until the condition is corrected.

F. Employees will be instructed to comply with all instructions provided on the tag.

(1) If employees do not comply with tagged out equipment, etc. they will be disciplined accordingly.

G. Modifications to a scaffolding system will only be performed by a Qualified Competent Person.

(1) Only scaffolding erection and rental company personnel are considered are Qualified to erect alter or modify scaffolding systems.

(2) Disciplinary action for unqualified modifications to scaffolding will be in accordance with the company Disciplinary Program.

F. The competent person will inspect the scaffolding to assure:

(1) Ground has not settled, base plates are centered on sills and screw jacks are in contact with each frame leg

(2) Scaffold was not dangerously modified.

(3) All bracing is in place.

(4) Scaffold is plumb.

(5) Scaffold members are properly installed and fastened.
- (a) The scaffold is properly tied if required.
- (b) All platform units are in place and fastened if required.
- (c) Guardrail components are in place on all ends and open sides of the scaffold.
- (d) Safe access to scaffold and to platform has not been removed or obstructed.
- (e) Platform gates close freely and are not wired open.
- (f) Overhead protection is available if workers are above the work platform.
- (g) Energized electrical power lines have not been placed within the allowable distance from the scaffold assembly.
- (h) Any missing or defects corrected, prior to employee use.

MJ VanDamme Trucking, Inc.
Hot Work Permit Control System Program
In accordance with 29 CFR 1910.252

1.0 Policy:

A. To provide guidelines for control of hot work (cutting, welding, heating, etc.) in critical fire areas.

2.0 Purpose:

A. To eliminate or minimize the potential for injury to personnel and/or damage to property as a result of fire or explosion.

B. To identify critical fire areas requiring a permit prior to the performance of hot work.

C. To comply with insurance and regulatory agency requirements.

3.0 Definition:

Hot Work: Activity that produces a source of ignition (e.g., welding, burning/cutting, heating, brazing, lancing, etc.).

Critical Fire Area: Any area/operation/process equipment where:

(1) Ordinary combustibles, flammable liquids, gases, dusts, oils, lubricants, etc. are in sufficient amount, concentration or arrangement that they may be ignited by the hot work.

(2) Property value or business interruption potential is determined to be significant.

NOTE: A permit is <u>always</u> required for hot work in critical fire areas.

Non-Critical Fire Area: Any area/operation/process where combustible loading and/or property value or business interruption potential is determined to be insignificant.

(1) A permit is not usually required for hot work in these areas (e.g., maintenance shop, outdoor grounds, etc.).

4.0 Procedure:

A. Hot Work Permit System:

(1) Review the client facility Hot Works Permit Program/ procedure for Implementation of hot work permit.

(2) Critical Fire Area Identification/Designation:
(a) Each Project will review to identify all critical fire areas and develop a listing of their location.
(b) Typical examples of some critical fires areas are:

Fuel Storage Areas
Hydraulic Oil Systems (Flammable)
Electronic Equipment Rooms
Flammable Process Materials
Service Stations
Underground Tanks and Vaults
Fuel Pumping Islands

B. Hot Work Permit Procedure:

(1) Supervision involved with hot work will:
- (a) Review scope of the hot work with affected parties.
- (b) Assure that a permit has been issued in critical fire areas.
  - (I) If a supervisor is uncertain whether or not a hazardous condition exists, a permit should be issued.
- (c) It is supervisions responsibility to ensure that fire or health hazards which may develop during the course of hot work activity does not result in the work area changing from non-critical to critical (i.e., toxic or explosive vapors may develop as a result of the hot work).
  - (I) Should this occur, the responsible supervisor must notify all concerned and work will not continue until a new or revised permit is issued.
- (d) Upon completion of the work notify the individual who issued the permit and ensure that a final inspection is conducted, and the area declared "fire safe" prior to removal of the permit form from the work area.

(2) Individual responsible for issuing permit will:
- (a) Visually inspect the proposed work area.
  Insure that all combustible materials and flammable liquids are at least 30 feet away from the hat works project.
- (b) Record all potential fire and safety hazards observed.
- (c) Determine whether toxic and/or explosive vapors, fumes, dusts, etc., are present in a quantity sufficient to create a fire or safety hazard.
  - (I) Where entry into a confined space is involved, refer to appropriate local procedures.
- (d) Specify measures required to control potential hazards and review these requirements with person(s) requesting the permit.
- (e) After the necessary requirements have been met, sign, date and post the permit in or near the work area.
- (f) The hot work permit will be valid for only one (1) work shift.
  - (I) At the start of a new work period, the area will be reevaluated, and a new permit will be issued and posted.
- (g) Conduct a final inspection of the area approximately thirty (30) minutes after completion of the work.
  - (I) When the area is considered "fire safe", remove the permit form.
- (h) Maintain a file of completed permits from the preceding 12 months for review by insurance, regulatory agency and other authorized person(s).

(3) Hot Work Permit Form:
- (a) The company Hot work Permit, Form will be used on all projects except where the client facility requires the use of their form.
  - (I) An equivalent form may be utilized with prior approval of the Corporate Safety/Health Department.

(4) Hot works area will be monitored for Lower Explosive Limit (LEL) to ensure that the flammable gases (vapors) are below 10% of the LEL.
- (a) Monitoring equipment will calibrated in accordance with manufactures specifications.
- (b) Only employees trained on the monitoring equipment will take LEL readings.
- (c) All LEL monitoring results will be recorded on the hot works permit.

(5) Any changes to the hot works area not allowed in the permit requires the immediate revoking of the permit

5.0 Non-company Hot Work Permits:

A. Hot work performed by non-company employees (contractors, service representatives, etc.) must be performed in accordance with this procedure.

B. The company official directly responsible for activities on non-company personnel will be responsible for notifying these individuals of the hot work permit requirements and for assuring compliance with this policy.

6.0 Fire Watch

A. Fire watch is a dedicated employee whose sole responsibility is to provide early warning and fire protection during the hot works procedure.

B. Fire Watch Procedures:

(1) Monitor hot works operation for any signs of uncontrolled fire.

(2) Know where all fire-fighting equipment is located.

(3) Know the procedure for alerting the facility and fire department in case of an uncontrolled fire.

(4) Post fire hose and/or fire extinguishers within reach of fire watch station.

(5) Never leave fire watch station unless relieved by another fire watch.

(6) Maintain fire watch for 30 minutes after the completion of the hot work project is completed.

(7) Inspect the hot works area before closing the permit.

7.0 Education and Training:

A. The Hot Work Permit Control System policy will be reviewed with all supervision annually.

B. This procedure will be reviewed annually with employees who perform tasks involving hot work.

8.0 Management Controls:

A. The Facility Hot Work Permit Control procedure will contain provision for specific audits of actual work in progress to assure its effectiveness.

B. Audit(s) will be conducted to assure that annual reviews are held, and training of employees is effective.

9.0 Site Specific Hot Works Procedures:

A. "Hot Work" is any work that can produce a source of ignition, such as heat or sparks.

(1) Some examples are welding; brazing, cutting, grinding, chipping, and use of any power tools or open flame.

(2) Concrete saw cutting, and use of any internal combustion engine, such as a generator, compressor, car or truck, shall also be considered to be "Hot Work."

B. Extreme caution should be used while performing "Hot Work" in order to prevent fires or explosions.

C. Follow all instructions for proper use of the equipment.

(1) Maintain a clean work environment to minimize the chances of combustion.

(2) Follow standard good housekeeping procedures, and place 2 fire extinguishers on opposite sides of the work area.

(3) Wear appropriate Personal Protective Equipment for the procedure, such as goggles and gloves.

(4) Eliminate any source of flammable vapors, such open vent, vapor, or fill pipes.

(5) Close all manhole covers, lids, and caps.

D. "Hot Work" should only be conducted in a safe atmosphere.

(1) The locations near the pumps, dispensers, and vents of tanks have a potential hazardous atmosphere.

(2) If "Hot Work" is required in such an area, then the atmosphere must be tested with a combustible gas indicator (also called Oxygen/LEL meter).

E. While testing the atmosphere, first the Oxygen level must be within 19.5% and 23.5%.

(1) Then the LEL reading must be confirmed less than 10%.

(2) Continuous fresh air ventilation may be used to ensure that a safe atmosphere exists.

(3) Beware that other considerations such as confined space entry may also apply.

F. Don't conduct "Hot Work" if flammable liquids are present, either free-standing liquid or saturated soil.

(1) Instruct the Operations Manager of the condition and wait for the flammable liquids to be properly cleaned up.

G. For "Hot Work" done in potential hazardous atmospheres, record all conditions on the following "Hot Work" permit. (Some customers require a special "Hot Work" permit be utilized.)

10.0 Fire Extinguisher:

A. All extinguishers will be UL/Factory Mutual/NFPA approved appliances

B. Extinguishers will be at least 20 lb. units for the class of fires expected at the site.

C. Extinguishers will be inspected and services in accordance with current OSHA regulations.

(1) Serviced annually

(2) Inspected monthly or prior to placement on hot works project

D. All fire watch personnel will be trained in the firefighting appliance that they will be required to use

References

National Fire Protection Association -AFire Prevention in Use of Cutting and Welding Processes,@ NFPA Number 51-B-1984.

"Hot work" PERMIT

Site Address: _____ Work Order #: _____

Date: _____ Time: _____ Duration of Job: _____

1. Foreman or Leadman: _____
2. Other Helpers (write "None" if none): _____
3. Description of work to be performed: _____
4. Specific location of work to be performed: _____
5. Has lockout/tagout procedure been utilized: _____
6. Has work location been properly barricaded and prepared: _____
7. Are there any hazards other than potential hazardous atmosphere? _____
8. **Atmospheric Tests** (of each confined space) (tests conducted by entry supervisor):

   Acceptable limits: Oxygen (19.5%-23.5%), L.E.L (< 10%), Other (_____)

   Model of Gas Detector: _____ Bump Test O.K.? _____

Confined Space/Project	Time	Oxygen %	L.E.L. %	Other ( )
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

IF THE NATURAL VENTILATION PROVIDES A SAFE ATMOSPHERE, AND ANY OTHER POTENTIAL HAZARDS HAVE BEEN ELIMINATED, THEN HOT WORK MAY PROCEED.

9. Does natural ventilation provide a safe atmosphere? _____

IF CONTINUOUS FORCED VENTILATION WILL PROVIDE A SAFE ATMOSPHERE, AND ANY OTHER POTENTIAL HAZARDS ARE ELIMINATED, THEN HOT WORK MAY PROCEED WITH USE OF A VENTILATION SYSTEM.

10. Is continuous forced ventilation provided to establish safe atmosphere? _____

WE HAVE REVIEWED THE "HOT WORK" PROCEDURES PRIOR TO AND FOLLOWING THE JOB, AND UNDERSTAND OUR ROLES:

_____ _____
Foreman/Leadman (Entry Supervisor) Other technicians or helper

1.0 General:

A. Based on existing site conditions, it is anticipated that work shall be conducted in modified Level "D" PPE.

(1) The Site Supervisor in consultation with the Operations Manager, or his designee, shall determine appropriate initial PPE use and any upgrades based upon the monitoring of site conditions to ensure that safe work practices are followed.

(2) The initial hazard assessment and any follow ups will be documented, signed, and dated. Levels of PPE shall be determined based on criteria established in these standard operating procedures. Selection of PPE and the reasons for selection will be provided to employees and included in employee training (see Training below).

(3) All activities in the support zone will be performed under Level D protection, as described in the USEPA "Standard Operating Safety Guides."

B. All PPE will be supplied by the company

2.0 Respiratory Protection:

A. A respiratory protection program shall be established in accordance with OSHA standard 29 CFR 1910.134.

B. All required respiratory protection devices shall be provided and maintained in accordance with ANSI Z88.2-1980.

(1) Each worker shall be assigned a designated respirator.

(2) The respiratory protection program will establish procedures for ensuring the daily cleaning, maintenance, and replacement of filters.

(3) The program will also ensure that the respirator issued provides the least possible face piece of leakage and that the respirator is fitted properly.

(4) If an average reading above background or greater is indicated on the PID during the field investigation, Level C respiratory protection will be required.

C. Level C protection includes full-faced, air-purifying respirators equipped with combination cartridges for removing organic vapors, dusts, mists, and fumes.

(1) The following guidelines will be followed when using Level C respiratory protection:
- (a) Air-purifying cartridges will be replaced at the end of each shift or when breakthrough occurs.
- (b) Only employees who have had a pre-issue qualitative fit test will be allowed to work under Level C respiratory protection.
- (c) Only employees, who have passed a medical examination, including a pulmonary function test, will be allowed to use Level C respiratory protection.
- (d) Excessive facial hair (e.g., beards) that prohibits a proper seal between the respirator and face will not be allowed.

D. Level B respiratory protection will be required in areas where respiratory exposures exceed the ability of an air purifying respirator to remove the contaminants or in IDLH atmospheres.

(1) Prior to the commencement of activities at the site, the Site Supervisor will conduct an initial investigation by taking atmosphere sampling (monitoring) with an direct reading instrument to determine the appropriate level of protection.

(2) During this initial investigation, the Site Supervisor will be required to wear Level B respiratory equipment if IDLH Condition are known to exist or suspected.

3.0 Dermal Protection/Protective Clothing:

A. In addition to normal work clothes, any personnel entering the exclusion zone or contamination reduction zone shall wear the following protective clothing and equipment:

(1) Hard hat (OSHA Standard 29 CFR 1910.135),

(2) Face and eye protection (OSHA Standard 29 CFR 1910.133),

(3) Disposable Tyvek coveralls (regular and impervious materials),

(4) Disposable gloves (waterproof and resistant to site chemicals and oils),

(5) Boots (waterproof and resistant to site chemicals and oils) with steel toe and shank (OSHA Standard 29 CFR 1910.136), and

(6) Cold weather gear, if applicable.

B. Any work involving an intrusive field activity (e.g., Tank removal/repair, soil sampling or monitoring well installation) or the handling of contaminated liquids or soils will require the following protective clothing:

(1) Hard hat

(2) Safety goggles (unless full-faced respirators are required)

(3) Disposable Tyvek coveralls

(4) Disposable PVC inner gloves

(5) Chemical-resistant outer gloves

(6) Neoprene boots with steel toe and shank and overboots.

(7) Sleeves taped to gloves and cuffs taped to boots during handling of contaminated liquids or soils.

C. Upgrading or downgrading protective equipment will be the decision of the Site Supervisor and will be based on an assessment of the exposure potential determined from sampling and screening results.

4.0 Protection from Physical Hazards:

A. The physical hazards that employees will encounter range from the naturally occurring (i.e., irregular terrain) to use of heavy equipment and working near open excavations.

(1) The safety concerns of all activities will be reviewed at the beginning of each workday during the safety session.

B. The naturally occurring hazards related to tripping or footing will primarily be a result of the topography of the site and the materials that may be found on the ground surface.

(1) All personnel will be reminded that safety is their number one responsibility.

(2) Because the use of protective equipment will limit mobility and vision, each person will be instructed to pay special attention to his or her surroundings and to move with caution around the property.

C. The use of heavy equipment offers several special hazards.

(1) These primarily are related to noise level and limited vision by the operator.

(2) Site personnel will be advised that the equipment operator has limited vision and hearing.

(3) While working in areas immediately adjacent to such equipment, it will be the responsibility of each person to ensure that the equipment operator can see him or her.

(4) Contact will be confirmed by hand signals.

(5) The Site Supervisor will also enforce the buddy system.

D. Excavations, which may cause special hazards, will be isolated using barriers.

(1) Special signs and flags will also be used to aid site personnel in locating these hazardous areas.

(2) Trenches will be shored if the excavation exceeds the OSHA-mandated depth of 5.0 feet.

5.0 First Aid Provisions and Emergency Equipment:

A. A person certified in CPR and first aid shall be on site it all times.

(1) The size and number of first-aid kits shall be sufficient for a maximum number of people, including visitors, on the site at one time.

(2) The kits shall be equipped as per the recommendations of the physician.

(3) A portable emergency eyewash station with a 15-minute free-flow capacity shall also be on site.
   (a) The portable eye wash units must be protected from freezing and shall be located close to the work area, outside of the change room.
   (b) The emergency eyewash units shall meet the requirements specified in ANSI Z358.1-1981.

B. The Site Supervisor shall determine the type and number of fire extinguishers on site.

(1) At least one 20-pound, type ABC fire extinguishers shall be located at the entrance to the work area, with additional units located in on-site laboratories, offices, and each active workstation.

(2) All fire extinguishers will be inspected and maintained according to manufacturers' recommended procedures.

6.0 Training:

A. Employees will be properly trained for all PPE that they may be required to wear.

B. Examples of the training content will include:

(1) When PPE is necessary

(2) What PPE is to be worn?

(3) Limitations of the PPE

(4) How to properly don, adjust, etc., the PPE

(5) The selected PPE will be properly fitted to the individual employee

(6) Proper care and maintenance of the PPE

(7) PPE used must be maintained in a clean, sanitary, and operable condition for proper protection

(8) Proper cleaning and maintenance of PPE will be demonstrated

(9) Defective or damaged PPE will be removed from service

(10) Useful life of the PPE

(11) Proper disposal of the PPE

C. Additional training will be conducted based on the specific PPE and any relevant regulations covering training for the PPE

D. Employees will be retrained:

(1) If workplace changes are encountered

(2) If the type of PPE changes

(3) When employees are observed not using PPE properly

(4) According to the relevant governmental standards

E. The Operations Manager will keep a record of the training including the employee's name, the date(s) of training, and the training subject.

7.0 Employee Owned Equipment:

A. All required PPE will be supplied by the company.

B. Employee owned PPE will not be used without the consent of the Site Supervisor and the Operations Manager.

C. The employees preferred use of their own PPE will be documented in the project logbook; along with any stated reason the employees are not wearing the company supplied equipment.

D. If the Site Supervisor and the Operations Manager permit the use of an employee owned equipment, both the Site Supervisor and the Operations Manager will be held responsible for the adequacy of the PPE and the proper inspection, cleaning, maintenance, and storage.

E. The employee will be held jointly responsible for the proper use, storage, cleaning, and maintenance of the PPE.

F. Improper use of PPE by employees, subjects them to the company disciplinary program, which could lead to discharge.

MJ VanDamme Trucking, Inc.
Respiratory Protection Program
In accordance with 29 CFR 1910.134

1.0 Purpose:

A. When it is not feasible to render the atmospheric environment acceptable, it may be necessary to protect employees from contact with airborne contaminants.

B. Personal protective equipment will be provided and used:

(1) Where it is not possible to enclose or isolate the process or equipment, provide ventilation, or use other control measures; or

(2) Where there are short exposures to hazardous airborne concentrations of contaminants.

2.0 Policy:

A. It is understood that respiratory protection devices* are not substitutes for engineering and/or administrative methods aimed at reducing exposure potential for people working with toxic airborne substances.

B. Indeed, devices of this type are employed as an interim means of protection while feasible measures for control are developed which will eliminate health risks posed for people working with toxic substances or during emergencies and other situations in which the exposure risk is unknown.

* NOTE: So called dust masks are respirators and included within the scope of this program.

3.0 Program Administration:

A. Safety Officer is responsible for the overall administration of the Respiratory Protection Program.

(1) Assistance shall be sought from the Corporate Staff as needed.

(2) The Administrator's specific responsibilities include:
- (a) Formulating and making necessary changes in the Respiratory Protection Program.
- (b) Acting in an advisory capacity on all matters pertaining to this program.
- (c) Making certain the program complies with federal, state and local regulations and ordinances.
- (d) Periodic monitoring and advising appropriate projects of potential hazards arising out of any current or proposed process or operation.
- (e) Specifying controls necessary to minimize employee exposure to potentially harmful air contaminants and specifying the design and quality of the respiratory protective equipment.
- (f) Periodically measuring program effectiveness by conducting frequent random inspections to assure that respirators are properly selected, used, cleaned, and maintained.
- (g) Making a copy of this program and the OSHA standard available for employee review.

B. Supervisors are responsible for compliance to the Respiratory Protection Program as follows:

(1) Supervisors shall maintain a work environment that insures the maximum safety and health for their employees.

(2) Shall furnish their employees with the proper personal respiratory protective equipment, instruct them in its proper use, and enforce the wearing of such equipment.

(3) When filter / cartridge changes are necessary (as indicated by ESLI) supervisors will ensure that changes are made in clean, uncontaminated areas and atmospheres.

(4) Employees are responsible for compliance to the Respiratory Protection Program as follows:

(5) Shall make maximum use of all prescribed respiratory protective equipment and follow established practices and procedures.

(6) The employees are responsible for maintaining the respirators in optimal condition.

(7) The company will send employees to an Occupational Medical Specialist (MD) to provide surveillance and oversight of the Respiratory Protection Program as required.

(8) The hospital will provide and retain the questionnaires filled out by the employees, in accordance with the OSHA standard.

(9) Subsequent to the medical evaluation the employee will have the opportunity to discuss any findings regarding the medical review with the health care practitioner.

4.0 Program Elements:

A. The basic elements of the Respiratory Protection Program include:

(1) Industrial hygiene monitoring

(2) Selection and issuance of respirators

(3) Medical aspects of respirator usage

(4) Training

(5) Fit testing

(6) Maintenance and care of respirators

(7) Enforcement and monitoring

B. Each of the elements will be discussed separately.

5.0 Industrial Hygiene Monitoring:

A. In areas of established or suspected respiratory hazards/air contaminants, industrial hygiene surveys will be conducted.

B. The industrial hygiene surveys and any additional studies that may be required will be conducted by qualified Instrument operator, and assigned by the Operations Director.

C. When there are substantial changes in processes or materials used, additional industrial hygiene monitoring will be conducted.

D. Monitoring results shall be maintained on file, by job.

E. Recommendations for feasible engineering and administrative controls, including the utilization of appropriate respiratory protection, shall be made as a result of these surveys.

F. Affected employees or their representatives are to be provided the opportunity to observe any respiratory measurements conducted in their work place.

6.0 Selection and Issuance of Respirators:

A. The Site Supervisor, in consultation with the Operations Manager, and the qualified industrial hygienists conducting the Industrial Hygiene surveys, will make the selection and issuance of respiratory protection equipment.

B. Current respiratory selection is as follows:

(1) MSA Fullface Respirator, 7700 series.

(2) Organic Vapor Cartridge/w P100 Particulate prefilter.

C. In IDLH Conditions the following respiratory system will be used:

(1) SCBA.

(2) IDLH Conditions are noted in section 15.0.

7.0 Medical Aspects of Respirator Usage

A. Persons should not be assigned to tasks requiring use of respirator, including fit testing, unless it has been determined that they are physically able to perform the work and use the equipment as determined by the company's health care provider.

B. Pre-Placement Medical Procedures

(1) All personnel must complete the Medical Questionnaire (reference Appendix II)

(2) All personnel should have a medical examination including full size chest x-rays (14" x 17" posterior-anterior) and pulmonary function tests.

NOTE: Those employees using respirators on a voluntary basis or only occasionally may be medically screened via a medical questionnaire so long as it is reviewed and approved by the attending physician prior to implementation.

(3) Personnel with evidence of tuberculosis, either active or arrested, and/or other lung abnormalities will not be employed in areas where there is a potential risk unless medical approval is obtained.

C. Annual Medical Procedures

(1) All personnel potentially exposed to hazardous airborne contaminants should have annual pulmonary function tests.

(2) Personnel will be removed from a potential hazardous exposure if tuberculosis and/or other lung diseases are discovered.

(3) Any individual with early or simple lung abnormalities, who under medical advice is allowed to continue working in an area where potentially hazardous contamination is present, will be kept under close medical supervision.

D. Termination Medical Procedures

(1) All terminating personnel, having had potential hazardous airborne contaminants exposure, should be given a termination medical examination including full size (14" x 17") chest x-rays (posterior-anterior) and pulmonary function tests.

8.0 Medical Evaluations:

A. All medical evaluations will occur during normal working hours.

B. The medical examinations will include an allotted time to discuss the results of the medical examination with the doctor or designated person from the licensed health care provider.

C. All results, data, or information obtained from the medical exams will be treated as strictly confidential.

D. The medical records will be maintained in secure areas.

E. Information in the medical records will not be released without the signed consent of the employee.

F. The consent form will be maintained in the employee=s medical file.

9.0 Training:

A. Minimum training for both respirator user and supervisor shall include the following:

B. Instruction in the nature of the hazard, whether acute, chronic or both, with an honest appraisal of what may happen if the respirator is not used properly.

C. Explanation of why more positive control is not immediately feasible. This shall include recognition that every reasonable effort is being made to reduce or eliminate the need for respirators.

D. A discussion of why this is the proper type of respirator for the particular purpose.

E. A discussion of the respirator's capabilities and limitations.

F. Instruction and training in actual use of the respirator.
(1) This is to include having the respirator fitted properly, testing the face-piece-to-face seal and cleaning.

G. Special training (such as field training to recognize and cope with emergency situations.).

H. Respirators shall not be worn when conditions prevent a good face seal.
(1) Conditions such as growth of beard, sideburns and eyeglasses are examples.

I. Training shall be reviewed and repeated annually, and thoroughly documented.

10.0 Fit Testing:

A. It is essential that respiratory protection equipment be properly fitted to the user.

B. Fit testing for each respirator user will be administered during the employee training sessions, and thoroughly documented.

C. Qualitative Fit Test:

(1) A qualitative Fit test using banana oil or another suitable agent for cartridge respirators and irritant smoke for dust/mist/fume respirators will be performed in accordance with the testing protocols set forth by OSHA in 29 CFR 1910.134.

D. Quantitative Fit Testing:

(1) Quantitative fit testing measures the difference from the outside air verses the air inside the respirator.

(2) Quantitative fit testing will follow protocol set forth by the manufacture of the fit test interment.

NOTE: Self contained breathing apparatus or respirators for use in atmospheres immediately dangerous to life or health require quantitative fit testing/training/approval and are not included in this program.

11.0 Maintenance and Care of Respirators:

A. Inspection

(1) All respirators shall be inspected routinely before and after each use.

NOTE: Disposable respirators shall not be reused except in strict adherence to the manufacturer's instructions.

(2) A respirator that is not routinely used, but is kept ready for emergency use, shall be inspected after each use and at least monthly.

(3) A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

(4) Respirator inspection shall include a check of the tightness of connections and the condition of the face-piece, headbands, values, connecting tube, and canisters.

(5) Rubber or elastomer parts shall be inspected for pliability and signs of deterioration.
(a) Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage.

(6) Frequent and random inspections shall be conducted by a qualified individual to assure that respirators are properly selected, used, cleaned, and maintained.
(a) These inspections will be documented.

(7) Requirement if supplied air or airline respirators are used.
(a) These include the following:
(I) Compressed breathing air must meet the requirements of for Type 1-Grade AD@ breathing air. Grade AD@ air has the following characteristics:

Oxygen content	19.5 - 23.5%
Oil mist content	< 5 mg/M^3
Carbon dioxide	<1000 ppm
Carbon monoxide	<10 ppm
Odors	None noticeable

Notes: ppm = parts per million mg/M^3 = milligrams per cubic meter of air

(II) The air intakes must be situated to prevent the entry of contaminated air.
(III) The system must have suitable in-line air purifying sorbet beds and filters.
(IV) The filters must be changed on a regular basis and the changes must be documented with a dated/signed tag located on or near the filter.
(V) Compressors must be equipped with a carbon monoxide alarm.

(VI) The monitor must alarm if carbon monoxide concentrations exceed 10

ppm.

(VII) The alarm should be calibrated at regular intervals. The manufacture should be consulted to determine how often the equipment should be calibrated.

(VIII) Calibrations should be documented; a signed/dated tag or label be used.

(IX) The airline couplings for the breathing air must be incompatible with the other air or gas systems in use at the site.

(X) Supplied air components, including self contained breathing apparatus (SCBA) should be inspected quarterly.

(XI) In-line filters and monitors should be replaced and/or calibrated according to the manufacturers specifications

12.0 Cleaning and Disinfection:

A. The following procedure is recommended for cleaning and disinfecting respirators (NOTE-Disposable respirators are not to be cleaned):

(1) Remove any filters, cartridges, or canisters.

(2) Wash face-piece and breathing tube in cleaner-disinfectant or detergent solution.

(a) Anti-Bactericidal agent is generally a quaternary ammonium compound and may be available from the manufacturer of the respirator.

(b) Use a hand brush to facilitate removal of dirt.

(3) Rinse completely in clean, warm water.

(4) Air dry in a clean area.

(5) Clean other respirator parts as recommended by the manufacturer.

(7) Inspect valves, head-straps, and other parts; replace with new parts if defective.

(8) Insert new filters, cartridges, or canisters (prior to use); make sure seal is tight.

(9) Place in plastic bag or container for storage.

(10) If different from above, manufacturer's recommendations should be followed.

B. Repair

(1) Only experienced person shall do replacement or repairs with parts designed for the respirator.

(2) No attempt shall be made to replace components or to make adjustments or repairs beyond the manufacturer's recommendations.

C. Storage

(1) After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals.

(2) Respirators should be packed or stored so that the face-piece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer setting in an abnormal position.

(3) Respirators placed at stations and work areas for emergency use should be stored in compartments built for the purpose, be quickly accessible at all times, and be clearly marked.

13.0 Enforcement and Monitoring:

A. It should be carefully explained to the respirator user that he/she must wear the respiratory equipment when exposed to hazardous contaminants.

B. Wearing this equipment is a condition of employment, and failure to do so will result in discipline, up to and including discharge.

C. The Respiratory Protection Program shall be evaluated at least annually with program adjustments made as appropriate to reflect the evaluation results.

D. This evaluation should be documented.

14.0 Non-routine Use:

A. As stated previously, respirators can be worn when responding to a non-routine task.

B. The program administrator will evaluate the potential exposures prior to issuing respirators.

C. The exposures and the use of respirators will be reviewed with each potential wearer prior to assignment.

D. All workers will be fit tested subsequent to the assignment.

15.0 Potential IDLH Atmospheres:

A. A confined space gas monitor will be used to ascertain the oxygen, carbon monoxide, hydrogen sulfide, and LEL concentrations.

B. If any of the following conditions are indicated, the atmosphere will be considered IDLH:

(1) Oxygen concentration less than 19.5 percent.

(2) LEL of 10 percent, given that the LEL for a typical hydrocarbon is at or above 1.5 percent.

(3) Hydrogen sulfide concentrations of 50 ppm

(4) Carbon monoxide concentrations of 500 ppm

C. If the above conditions are met, the Operations Manager will be informed and pending his approval, employees will don either SCBAs or airlines (pressure demand) equipped with emergency escape bottles for entry purposes.

D. If entry into the IDLH atmosphere is authorized, the area will be treated comparably to a confined space entry.

(1) One attendant will be provided for each location.

(2) Entrants will be equipped with a full body harness and appropriate rescue equipment must be available.

E. If an area exceeds 10 percent of the LEL it must not be entered until properly ventilated, and then only with authorization from the Operations Manager and the application of a Hot Work Permit.

Appendix C **to 1910.134:** OSHA **Respirator Medical Evaluation Questionnaire (Mandatory)**

To the employer:

1. Answers to questions in Section 1 and to question 9 in Section 2 of Part A. do not require a medical examination.

To the employee:

1. Can you read (circle one): Yes/No

2. Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory)

The following information must be provided by every employee who has been selected to **use** any type of respirator (please print).

1. Today's date: _____
2. Your name: _____
3. Your age (to nearest year): _____
4. Sex (circle one): Male/Female
5. Your height: _____in.
6. Your weight: _____lbs.
7. Your job title: _____
8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): _____
9. The best time to phone you at this number: _____
10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
11. Check the type of respirator you will use (you can check more than one category):
    - [ ] a. *N*, R. or P disposable respirator (filter-mask, non-cartridge type only).
    - [ ] b. Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one): Yes/No

If "yes," what type(s):

Part A. Section 2. (Mandatory)

Questions I through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or no).

1.		Do you *currently* smoke tobacco, or have you smoked tobacco in the last month:	Yes/No
2.		Have you *ever had* any of the following conditions?	
	a.	Seizures (fits):	Yes/No
	b.	Diabetes (sugar disease):	Yes/No
	c.	Allergic reactions that interfere with your breathing:	Yes/No
	d.	Claustrophobia (fear of closed-in places):	Yes/No
	e.	Trouble smelling odors:	Yes/No
3.		Have you *ever had* any of the following pulmonary or lung problems?	
	a.	Asbestosis:	Yes/No
	b.	Asthma:	Yes/No
	c.	Chronic bronchitis:	Yes/No
	d.	Emphysema:	Yes/No
	c.	Pneumonia:	Yes/No
	f.	Tuberculosis:	Yes/No
	g.	Silicosis:	Yes/No
	h.	Pneumothorax (collapsed lung):	Yes/No
	i.	Lung cancer:	Yes/No
	j.	Broken ribs:	Yes/No
	k.	Any chest injuries or surgeries:	Yes/No
	1.	Any other lung problem that you've been told about:	Yes/No
4.		Do you *currently* have any of the following symptoms of pulmonary or lung illness?	
	a.	Shortness of breath:	Yes/No
	b.	Shortness of breath when walking fast on level ground or walking up a slight hill or incline:	Yes/No
	c.	Shortness of breath when walking with other people at an ordinary pace on level ground:	Yes/No
	d.	Have to stop for breath when walking at your own pace on level ground:	Yes/No
	e.	Shortness of breath when washing or dressing yourself.	Yes/No
	f.	Shortness of breath that interferes with your job:	Yes/No
	g.	Coughing that produces phlegm (thick sputum):	Yes/No
	h.	Coughing that wakes you early in the morning:	Yes/No
	i.	Coughing that occurs mostly when you are lying down:	Yes/No
	j.	Coughing up blood in the last month:	Yes/No
	k.	Wheezing:	Yes/No
	1.	Wheezing that interferes with your job:	Yes/No
	m.	Chest pain when you breathe deeply:	Yes/No
	n.	Any other symptoms that you think may be related to lung problems:	Yes/No

5. Have you *ever had* any of the following cardiovascular or heart problems?
   a. Heart attack: Yes/No
   b. Stroke: Yes/No
   c. Angina: Yes/No
   d. Heart failure: Yes/No
   e. Swelling in your legs or feet (not caused by walking): Yes/No
   f Heart arrhythmia (heart beating irregularly): Yes/No
   g. High blood pressure: Yes/No
   h. Any other heart problem that you've been told about: Yes/No

6 Have you *ever had* any of the following cardiovascular or heart symptoms?
   a. Frequent pain or tightness in your chest: Yes/No
   b. Pain or tightness in your chest during physical activity: Yes/No
   c. Pain or tightness in your chest that interferes with your job: Yes/No
   d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
   e. Heartburn or indigestion that is not related to eating: Yes/No
   f. Any other symptoms that you think maybe related to heart or circulation problems: Yes/No

7. Do you *currently* take medication for any of the following problems?
   a. Breathing or lung problems: Yes/No
   b. Heart trouble: Yes/No
   c. Blood pressure: Yes/No
   d. Seizures (fits): Yes/No

8. If you've used a respirator. have you *ever had* any of the following problems? (If you've never used a respirator, check the following space and go to question 9:
   a. Eye irritation: Yes/No
   b. Skin allergies or rashes: Yes/No
   c. Anxiety: Yes/No
   d. General weakness or fatigue: Yes/No
   e. Any other problem that interferes with your use of a respirator: Yes/No

9. Would you like to talk to the health care professional who will review this questionnaire? about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-Facepiece respirator or a self-contained breathing an apparatus (SCBA). For employees who have been selected to use other types of respirators. answering these questions is voluntary.

10. Have you *ever lost* vision in either eye (temporarily or permanently): Yes/No

11. Do you *currently* have any of the following vision problems?
   a. Wear contact lenses: Yes/No
   b. Wear glasses: Yes/No
   c. Color blind: Yes/No
   e. Any other eye or vision problem: Yes/No

12. Have you *ever had* an injury to your ears, including a broken ear drum: Yes/No

13. Do you *currently* have any of the following hearing problems?
   a. Difficulty hearing: Yes/No
   b. Wear a hearing aid: Yes/No
   c. Any other hearing or ear problem: Yes/No

14. Have you *ever had* a back injury: Yes/No

15. Do you *currently* have any of the following musculoskeletal problems?

a.	Weakness in any of your arms, hands, legs, or feet:	Yes/No
b.	Back pain:	Yes/No
c.	Difficulty fully moving your arms and legs:	Yes/No
d.	Pain or stiffness when you lean forward or backward at the waist:	Yes/No
e.	Difficulty fully moving your head up or down:	Yes/No
f.	Difficulty fully moving your head side to side:	Yes/No
g	Difficulty bending at your knees:	Yes/No
h.	Difficulty squatting to the ground:	Yes/No
i.	Climbing a flight of stairs or a ladder carrying more than 25 lbs:	Yes/No
j.	Any other muscle or skeletal problem that interferes with using a respirator:	Yes/No

Part B. Any of the following questions and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job. are you working at high altitudes (over 5.000 feet) or in a place? that has lower than normal amounts of oxygen: Yes/No

   If "yes." do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No

2. At Work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No

   If "yes." name the chemicals if you know them:

3. Have you ever worked with any of the materials, or under any of the conditions, listed below:

a.	Asbestos:	Yes/No
b.	Silica (e.g., in sandblasting):	Yes/No
c.	Tungsten/cobalt (e.g., grinding or welding this material):	Yes/No
d.	Beryllium:	Yes/No
e.	Aluminum:	Yes/No
f.	Coal (for example, mining):	Yes/No
g.	Iron:	Yes/No
h.	Tin:	Yes/No
i.	Dusty environments:	Yes/No
j.	Any other hazardous exposures:	Yes/No

   If "yes." describe these exposures:

4. List any second jobs or side businesses you have:

5. List your previous occupations:

6. List your current and previous hobbies:

7. Have you been in the military services? Yes/No

   If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No

8. Have you ever worked on a HAZMAT team? Yes/No

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No

   If "yes." name the medications if you know them:

10. Will you be using any of the following items with your respirator(s)?
    a. HEPA Filters: Yes/No
    b. Canisters (for example, gas masks): Yes/No
    c. Cartridges: Yes/No

11. How often are you expected to use the respirators) (circle "yes" or "no" for all answers that apply to you):
    a. Escape only (no rescue): Yes/No
    b. Emergency rescue only: Yes/No
    c. Less than 5 hours *per week:* Yes/No
    d. Less than 2 hours *per day.* - Yes/No
    e. 2 to 4 hours *per day.* Yes/No
    f. Over 4 hours per Day: Yes/No

12. During the period you are using the respirators, is your work effort:

    a. *Light* (less than 200 kcal per hour): Yes/No

       If "yes," how long does this period last during the average shift: hrs. mins.

       Examples of a light work effort are *sitting* while writing, typing, drafting or performing light assembly work: or *standing* while operating a drill press (1 -3 lbs.) or controlling machines.

    b. Moderate (200 to 350 kcal per hour): Yes/No

       If "Yes," how long does this period last during the average shift: hrs. mins.

       Examples of moderate work effort are *sitting* while nailing or filing; *driving* a truck or bus in urban traffic; *standing* while drilling, nailing, performing assembly work or transferring a moderate load (about 35 lbs.) at trunk level; *walking* on a level surface about 2 mph or down a 5-degree grade about 3 mph; or *pushing* a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

c. Heavy (above 350 kcal per hour): Yes/ No

If "yes," how long does this period last during the average shift: hrs. mins.

Examples of heavy work are *lifting* a heavy load (about 50 lbs.) from the floor to your waist or shoulder; *working* on a loading dock; *shoveling,- standing* while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; *climbing* stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

If "yes," describe this protective clothing and/or equipment:

14. Will you be working under hot conditions (temperature exceeding 77' F): Yes/No

15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirators):

17. Describe any special or hazardous conditions you might encounter when you are using your respirators. (for example, confined spaces. life threatening gases):

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirators):

a. Name of the first toxic substance:

Estimated maximum exposure level per shift:

Duration of exposure per shift

b. Name of the second toxic substance:

Estimated maximum exposure level per shift:

Duration of exposure per shift:

c. Name of the third toxic substance:

Estimated maximum exposure level per shift:

Duration of exposure per shift:

d. The name of any other toxic substances that you'll be exposed to while using your respirator:

19. Describe any special responsibilities you'll **have** while using your respirators) that may affect the safety and well-being of others (for example, rescue, and security):

Medical Surveillance Program

Our company has established this medical surveillance program for our construction sites to monitor worker health and fitness when they are exposed to excessive noise, respiratory hazards, or toxic substances.

Our company has established a medical monitoring program. The Corporate Safety Director is in charge of developing and maintaining this program. A copy of the program can be reviewed by employees. It is located in Company Headquarters.

Covered Situations

Different workplace situations mandate different kinds of medical monitoring. Our facility falls into the following categories:

1. Although airborne contaminant scenarios may be encountered, levels above the OSHA PEL are not expected. Our employees do not wear respiratory protection more than 30 days per year.
2. We do not conduct hazardous material emergency response.
3. Our employees are not exposed to airborne contaminant levels greater than the OSHA PEL for more than 30 days per year.

Medical Evaluations

When an employee exhibits signs or experiences symptoms associated with exposure to a hazardous chemical used in the workplace, we provide employees with the opportunity to medical attention and evaluation. Contact your supervisor when signs and symptoms are present involving exposure to hazardous substances. Appropriate medical attention will be provided regarding your condition and location.

We also provide the opportunity for medical attention to any employee who is exposed routinely above the action level or, in the absence of an action level, above the PEL for an OSHA regulated substance for which there are exposure monitoring or medical surveillance requirements. Contact your supervisor when exposure to hazardous environments has occurred. Appropriate medical attention will be provided as needed.

In certain workplace situations, medical monitoring is required. Medical examinations may be part of this program. At MJ VanDamme Trucking, Inc. examinations are given:

- Prior to job assignment and annually thereafter (or every 2 years if a physician determines that is sufficient).
- At the termination of employment.
- Before reassignment to an area where medical examinations are not required.

- If the examining physician believes that a periodic follow-up is medically necessary.

- As soon as possible for employees injured or becoming ill from exposure to hazardous substances during an emergency, or who develop signs or symptoms of overexposure from hazardous substances.

Our examining physician plays an important role in our medical monitoring program. Therefore, we provide all necessary documentation to the physician.

Our examinations are performed under the supervision of a licensed physician, without cost to the employee, without loss of pay and at a reasonable time and place.

Our company provides the examining doctor with a medical and work history with special emphasis on symptoms related to the handling of hazardous substances and health hazards and to fitness for duty including the ability to wear any required personal protective equipment under conditions that may be expected at the work site.

We give the examining physician:

- A copy of the standard and its appendices.

- A description of the employee's duties relating to his/her exposure.

- The exposure level or anticipated exposure level.

- A description of any personal protective and respiratory equipment used or to be used.

- Any information from previous medical examinations.

Following any medical exams, the company receives a written opinion from the physician that contains the results of the medical examination and any detected medical conditions that would place the employee at an increased risk from exposure, any recommended limitations on the employee or upon the use of personal protective equipment, and a statement that the employee has been informed by the physician of the results of the medical examination.

Record Keeping

At our facility, we keep detailed records of medical monitoring. These records include:

- The name and social security number of the employee.
- Any physician's written opinions, recommended limitations, and results of examinations and tests.
- Any employee medical complaints related to exposure to hazardous substances.
- A copy of the information provided to the examining physician by the employer, with the exception of the standard and its appendices.

At our facility, we establish and maintain for each employee an accurate record of exposure monitoring results and any medical consultation and examinations, including tests or physician medical opinions, in accordance with OSHA's rule governing access to employee exposure and medical records, 29 CFR 1910.1020. We accomplish this by following each opportunity for exposure monitoring, the employee will be debriefed by the company Safety Officer. Copies of records will be provided to the employee upon request. The medical records for our facility are kept in Company Headquarters. Access is limited to Corporate Officers, Safety Officer, and the Employee.

Refer to MJ VanDamme Respiratory Protection Program for detailed program information.

MJ VanDamme Trucking, Inc.
Hand & Power Tools
In accordance with 29 CFR 1926.300/29 CFR 1910.242

1.0 Policy/Purpose:

A. The written Hand & Power Tools Plan describes methods and practices for care and use of hand and power tools that can be read and understood by all managers, supervisors, and employees. The written plan is intended to be used to:

(1) Create an awareness of the hazards associated with hand and power tools.

(2) Standardize procedures for use and care of hand and power tools.

(3) Minimize the possibility of injury or harm to our employees.

(4) Demonstrate compliance with 29CFR1926.300/29CFR1910.242

2.0 Procedures:

A. All hand and power tools and similar equipment, whether furnished by the employer or the employee, shall be maintained in a safe condition.

B. When power tools are designed to accommodate guards, they shall be equipped with such guards when in use. Reciprocating, rotating, or moving parts shall be guarded if such parts are exposed to contact by the user or otherwise create a hazard.

C. Employees using hand and power tools that are exposed to hazards such as falling, flying, abrasive, and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases shall be provided with the particular PPE to protect them from the hazard.

D. All tools shall be operated and maintained in accordance with the manufacturer's recommended design and intent. Use the proper tool for the application within the correct environment.

E. Do not use tools that you are not familiar with. Proper instruction is required prior to operating any equipment to which you are not familiar.

F. Never use power cords and air hoses to raise or lower power tools.

G. When working on small items they shall be clamped to a solid working surface to prevent slipping.

H. Compressed air shall not be used for cleaning unless the operating pressure has been reduced to 30psi or less, and then only with effective chip guarding and PPE.

I. Do not overload tools.

J. At no time are employees permitted to override safety devices, guards, switches, and other manufacturer installed devices intended for safe operation of the tool. All tools will be operated with regard to the manufacturer's recommendations.

H Hand tools in poor condition that renders them unsafe shall be replaced or removed from service.

K. Pneumatic tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.

L. Fuel powered tools used in an enclosed space require monitoring of toxic gases and/or use of PPE. Use of fuel powered tools in an enclosed space should be avoided.

M. Use of powder actuated tools is prohibited. Additional training is required for employees preparing to engage in powder actuated tool use.

N. Any tool found to be in non-compliance shall be repaired, replaced, destroyed or rendered inoperable.

3.0 Training:

A. Training will be conducted upon hire and as needed to include:

(1) Proper use and care of Hand & Power Tools.

(2) Recognition and avoidance of unsafe conditions.

B. Training will be repeated whenever:

(1) There are changes or modifications to Hand & Power Tool program.

(2) New equipment is introduced to the workplace or jobsite.

(3) Employee conduct dictates additional training is required.

4.0 Inspections:

A. Inspections of hand and power tools will be completed on a periodic basis and following incidents that could affect their use.

B. When an inspection reveals unsafe equipment, the equipment will be tagged “Do not use”.

(1) Employees must not use tagged equipment.

(2) Use of tagged equipment will result in disciplinary action.

C. At no time are employees authorized to repair power tools.

MJ VanDamme Trucking, Inc.
Ladder Safety
In accordance with 29 CFR 1926.1053

1.0 Policy/Purpose:

A. The written Ladder Safety Plan describes methods and practices for care and use of ladders that can be read and understood by all managers, supervisors, and employees. The written plan is intended to be used to:

(1) Create an awareness of the hazards associated with ladders.

(2) Standardize procedures for use and care of ladders.

(3) Minimize the possibility of injury or harm to our employees.

(4) Demonstrate compliance with 29CFR1926.1053.

2.0 Procedures:

A. When ascending or descending a ladder the user must face the ladder at all times.

B. Use ladders only on stable and level surfaces. Ladder rungs and steps shall be parallel, level, and uniformly spaced, when the ladder is in position for use.

C. Do not use ladders on slippery surfaces, unless the ladder has been secured or it has slip resistant feet to prevent accidental displacement. Never use slip resistant feet as a replacement for care in placing, lashing, or holding a ladder used on a slippery surface.

D. Always keep the area around the top and bottom of a ladder clear.

E. The bottom of a ladder should be barricaded to prevent movement by unauthorized personnel, and to ensure that no one is standing in an area where they may come in contact with a falling object.

F. Ladders shall be used only for the purposes for which they were designed.

G. Place the top of a non-self-supporting ladder so that the two rails are supported equally.

H. Ladders shall not be loaded beyond the maximum intended load for which they were built nor beyond the manufacturer's rated capacity.

I. Secure all tools and equipment that are being carried up a ladder. Whenever possible maintain 3 points of contact on any ladder while ascending or descending.

J. Do not stand on the top step of self-supporting ladders. Do not use the top two rungs of non-self-supporting ladders.

K. Ladders must extend a minimum of 3 feet beyond the surface to which the user is attempting to access.

L. Non-self-supporting ladders must be deployed at an angle where the horizontal distance from the top support of the ladder to the foot is one fourth the working length of the ladder.

M. Ladders shall be kept free of oil, grease, and other slipping hazards.

N. Ladders shall not be moved, shifted, or extended while occupied.

O. Job made and single rail ladders are prohibited.

P. Cross bracing on the rear section of step ladders is not to be used for climbing unless the ladder is designed with steps on both front and rear sections.

Q. Do not overreach beyond the side rail of a ladder. At no time should the midpoint of the user's body extend past the side rail of the ladder.

3.0 Training:

A. Training will be conducted upon hire and as needed to include:

(1) Proper use and care of portable ladders.

(2) Ladder selection.

(3) Load capacity.

B. Training will be repeated whenever:

(1) There are changes or modifications to the ladder safety program.

(2) New equipment is introduced to the workplace or jobsite.

(3) Employee conduct dictates additional training is required.

4.0 Inspections:

A. A Competent Person will conduct inspections of portable ladders on a periodic basis and following incidents that could affect their use.

B. When an inspection reveals unsafe equipment, the equipment will be tagged "Do not use".

(1) Employees must not use tagged equipment.

(2) Use of tagged equipment will result in disciplinary action.

B. At no time are employees authorized to repair portable ladders.

Process Safety Management

1. **Purpose**

    a. To detail requirements for prevention or minimization of injuries and illnesses related to the consequences of catastrophic releases of toxic, reactive, flammable, or explosive materials within host employer's facilities.

2. **Scope**

    a. This section applies to all employees, worksites, and subcontractors working within a host employer's facility with covered processes.

3. **Responsibilities**

    a. Management at all levels is responsible for the anticipation, identification, application, coordination, and execution of this procedure. All employees shall be instructed in the significance of working safely in and around host employer's covered processes. To accomplish this requirement the additional roles and responsibilities are:

        i. Management

            1. Provide training for supervisors and employees

            2. Conduct inspections to identify process safety management deficiencies

            3. Advise the host employer of any hazards created by our work

            4. Document PSM training of all employees

            5. Assure each employee knows the emergency plans and alarms

        ii. Employees

            1. Report incidents, concerns, or deficiencies immediately

            2. Do not work in host employer's covered processes unless authorized and trained.

iii. Host Employer

1. The host employer's covered process work practices and rules will be adopted and adhered to. In addition state or local regulations may be more stringent than these guidelines and will be followed.

4. **Definitions**

a. Atmospheric tank - means a storage tank which has been designed to operate at pressures from atmospheric through 0.5 p.s.i.g. (pounds per square inch gauge, 3.45 Kpa).

b. Boiling point - means the boiling point of a liquid at a pressure of 14.7 pounds per square inch absolute (p.s.i.a.) (760 mm.).

c. Catastrophic release - means a major uncontrolled emission, fire, or explosion, involving one or more highly hazardous chemicals, that presents serious danger to employees in the workplace.

d. Facility - means the buildings, containers or equipment which contain a process.

e. Highly hazardous chemical - means a substance possessing toxic, reactive, flammable, or explosive properties and specified in 29 CFR 1910.119 Appendix A.

f. Hot work - means work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations.

g. Normally unoccupied remote facility - means a facility which is operated, maintained or serviced by employees who visit the facility only periodically to check its operation and to perform necessary operating or maintenance tasks. No employees are permanently stationed at the facility. Facilities meeting this definition are not contiguous with, and must be geographically remote from all other buildings, processes or persons.

h. Process - means any activity involving a highly hazardous chemical including any use, storage, manufacturing, handling, or the on-site movement of such chemicals, or combination of these activities. For purposes of this definition, any group of vessels which are interconnected and separate vessels which are located such that a highly hazardous chemical could be involved in a potential release shall be considered a single process.

i. Replacement in kind - means a replacement which satisfies the design specification.

j. Trade secret - means any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it. Appendix D contained in 1910.1200 sets out the criteria to be used in evaluating trade secrets.

5. PSM Summary

a. This discussion summarizes the OSHA final process safety management (PSM) standard. The standard mainly applies to manufacturing industries - particularly, those pertaining to chemicals, transportation equipment, and fabricated metal products. Other affected sectors include natural gas liquids; farm product warehousing; electric, gas, and sanitary services; and wholesale trade. It also applies to pyrotechnics and explosives manufacturers covered under other OSHA rules and has special provisions for contractors working in covered facilities. In each industry, PSM applies to those companies that deal with any of more than 130 specific toxic and reactive chemicals in listed quantities; it also includes flammable liquids and gases in quantities of 10,000 pounds (4,535.9 Kg) or more. Subject to the rules and procedures set forth in OSHA's Hazard Communication Standard [*29 Code of Federal Regulations (CFR)* 1926.59(i)(1) through 1926.59(i)(12)], employees and their designated representatives must be given access to trade secret information contained within the process hazard analysis and other documents required to be developed by the PSM standard.

b. The key provision of PSM is process hazard analysis - a careful review of what could go wrong and what safeguards must be implemented to prevent releases of hazardous chemicals. Covered employers must identify those processes that pose the greatest risks and begin evaluating those first. Process Hazard Analysis (PHA's) must be completed as soon as possible. PSM clarifies the responsibilities of employers and contractors involved in work that affects or takes place near covered processes to ensure that the safety of both plant and contractor employees is considered. The standard also mandates written operating procedures; employee training; pre-startup safety reviews; evaluation of mechanical integrity of critical equipment; and written procedures for managing change. PSM specifies a permit system for hot work; investigation of incidents involving releases or near misses of covered chemicals; emergency action plans; compliance audits at least every 3 years; and trade secret protection.

c. To understand PSM and its requirements, employers and employees need to understand how OSHA uses the term "process" in PSM. Process means any activity involving a highly hazardous chemical including using, storing, manufacturing, handling, or moving such chemicals at the site, or any combination of these activities. For purposes of this definition, any group of vessels that are interconnected, and separate vessels located in a way that could

involve a highly hazardous chemical in a potential release, are considered a single process.

6. General Information

a. Host Employers must complete a compilation of written process safety information before conducting any process hazard analysis required by the standard. The compilation of written process safety information, completed under the same schedule required for process hazard analyses, will help the employer and the employees involved in operating the process to identify and understand the hazards posed by those processes involving highly hazardous chemicals. Process safety information must include information on the hazards of the highly hazardous chemicals used or produced by the process, information on the technology of the process, and information on the equipment in the process. Information on the hazards of the highly hazardous chemicals in the process shall consist of at least the following:

   i. Toxicity,

   ii. Permissible exposure limits,

   iii. Physical data,

   iv. Reactivity data,

   v. Corrosivity data, and

   vi. Thermal and chemical stability data and hazardous effects of inadvertent mixing of different materials.

b. Information on the technology of the process must include at least the following:

   i. A block flow diagram or simplified process flow diagram,

   ii. Process chemistry,

   iii. Maximum intended inventory,

   iv. Safe upper and lower limits for such items as temperatures, pressures, flows or compositions, and

   v. An evaluation of the consequences of deviations, including those affecting the safety and health of employees.

c. Where the original technical information no longer exists, such information may be developed in conjunction with the process hazard analysis in sufficient detail to support the analysis.

d. Information on the equipment in the process must include the following:

   i. Materials of construction,

   ii. Piping and instrument diagrams (P & lD's),

   iii. Electrical classification,

   iv. Relief system design and design basis,

   v. Ventilation system design,

   vi. Design codes and standards employed,

   vii. Material and energy balances for processes built after May 26, 1992, and

   viii. Safety systems (e.g., interlocks, detection or suppression systems)

e. The employer shall document that equipment complies with recognized and generally accepted good engineering practices. For existing equipment designed and constructed in accordance with codes, standards, or practices that are no longer in general use, the employer shall determine and document that the equipment is designed, maintained, inspected, tested, and operated in a safe manner.

f. The compilation of the above described process safety information provides the basis for identifying and understanding the hazards of a process and is necessary in developing the process hazard analysis and may be necessary for complying with other provisions of PSM such as management of change and incident investigations.

7. Process Hazard Analysis

a. The process hazard analysis is a thorough, orderly, systematic approach for identifying, evaluating, and controlling the hazards of processes involving highly hazardous chemicals. The host employer must perform an initial process hazard analysis (hazard evaluation) on all processes covered by this standard. The process hazard analysis methodology selected must be appropriate to the complexity of the process and must identify, evaluate, and control the hazards involved in the process.

b. First, host employers must determine and document the priority order for conducting process hazard analyses based on a rationale that includes such considerations as the extent of the process hazards, the number of potentially affected employees, the age of the process, and the operating history of the process. All initial process hazard analyses should be conducted as soon as possible. All process hazard analyses must be updated and revalidated, based on their completion date, at least every 5 years.

c. The host employer must use one or more of the following methods, as appropriate, to determine and evaluate the hazards of the process being analyzed:

    i. What-if,

    ii. Checklist,

    iii. What-lf/checklist,

    iv. Hazard and operability study (HAZOP),

    v. Failure mode and effects analysis (FMEA),

    vi. Fault tree analysis, or

    vii. An appropriate equivalent methodology.

d. Whichever method(s) are used, the process hazard analysis must address the following:

    i. The hazards of the process;

    ii. The identification of any previous incident that had a potential for catastrophic consequences in the workplace;

    iii. Engineering and administrative controls applicable to the hazards and their interrelationships, such as appropriate application of detection methodologies to provide early warning of releases. Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors;

        1. Consequences of failure of engineering and administrative controls;

2. Facility siting;

3. Human factors; and a qualitative evaluation of a range of the possible safety and health effects on employees in the workplace if there is a failure of controls. OSHA believes that the process hazard analysis is best performed by a team with expertise in engineering and process operations, and that the team should include at least one employee who has experience with and knowledge of the process being evaluated. Also, one member of the team must be knowledgeable in the specific analysis methods being used.

iv. The host employer must establish a system to address promptly the team's findings and recommendations; ensure that the recommendations are resolved in a timely manner and that the resolutions are documented; document what actions are to be taken; develop a written schedule of when these actions are to be completed; complete actions as soon as possible; and communicate the actions to operating, maintenance, and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.

e. At least every 5 years after the completion of the initial process hazard analysis, the process hazard analysis must be updated and revalidated by a team meeting the standard's requirements to ensure that the hazard analysis is consistent with the current process.

f. Host employers must keep on file and make available to OSHA, on request, process hazard analyses and updates or revalidation for each process covered by PSM, as well as the documented resolution of recommendations, for the life of the process.

8. Operating Procedures

a. The host employer must develop and implement written operating procedures, consistent with the process safety information, that provide clear instructions for safely conducting activities involved in each covered process. OSHA believes that tasks and procedures related to the covered process must be appropriate, clear, consistent, and most importantly, well communicated to employees. The procedures must address at least the following elements:

i. Steps for each operating phase:

1. Initial startup;

2. Normal operations;

3. Temporary operations;

4. Emergency shutdown, including the conditions under which emergency shutdown is required, and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner;

5. Emergency operations;

6. Normal shutdown; and

7. Startup following a turnaround, or after an emergency shutdown.

ii. Operating limits:

1. Consequences of deviation, and

2. Steps required to correct or avoid deviations. Safety and health considerations:

3. Properties of, and hazards presented by, the chemicals used in the process;

4. Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment;

5. Control measures to be taken if physical contact or airborne exposure occurs;

6. Quality control for raw materials and control of hazardous chemical inventory levels; and

7. Any special or unique hazards.

8. Safety systems (e.g., interlocks, detection or suppression systems) and their functions.

iii. To ensure that a ready and up-to-date reference is available, and to form a foundation for needed employee training, operating procedures must be readily accessible to employees who work in or maintain a process. The

operating procedures must be reviewed as often as necessary to ensure that they reflect current operating practices, including changes in process chemicals, technology, and equipment, and facilities. To guard against outdated or inaccurate operating procedures, the host employer must certify annually that these operating procedures are current and accurate.

iv. The host employer must develop and implement safe work practices to provide for the control of hazards during work activities such as lockout/tagout; confined space entry; opening process equipment or piping; and control over entrance into a facility by maintenance, contractor, laboratory, or other support personnel. These safe work practices must apply both to employees and to contractor employees.

9. Employee Participation

a. Host employers must develop a written plan of action to implement the employee participation required by PSM. Under PSM, host employers must consult with employees and their representatives on the conduct and development of process hazard analyses and on the development of the other elements of process management, and they must provide to employees and their representatives access to process hazard analyses and to all other information required to be developed by the standard.

10. Training Initial Training.

a. OSHA believes that the implementation of an effective training program is one of the most important steps that a host employer can take to enhance employee safety. Accordingly, PSM requires that each employee presently involved in operating a process or a newly assigned process must be trained in an overview of the process and in its operating procedures. The training must include emphasis on the specific safety and health hazards of the process, emergency operations including shutdown, and other safe work practices that apply to the employee's job tasks. Those employees already involved in operating a process on the PSM effective date do not necessarily need to be given initial training. Instead, the host employer may certify in writing that the employees have the required knowledge, skills, and abilities to safely carry out the duties and responsibilities specified in the operating procedures.

11. Refresher Training.

a. Refresher training must be provided at least every 3 years, or more often if necessary, to each employee involved in operating a process to ensure that the employee understands and adheres to the current operating procedures of the process. The host employer, in consultation with the employees involved in

operating the process, must determine the appropriate frequency of refresher training.

12. Training Documentation.

a. The host employer must determine whether each employee operating a process has received and understood the training required by PSM. A record must be kept containing the identity of the employee, the date of training, and how the host employer verified that the employee understood the training.

13. Contractors Application.

a. Many categories of contract labor may be present at a jobsite; such workers may actually operate the facility or do only a particular aspect of a job because they have specialized knowledge or skill. Others work only for short periods when there is need for increased staff quickly, such as in turnaround operations. PSM includes special provisions for contractors and their employees to emphasize the importance of everyone taking care that they do nothing to endanger those working nearby who may work for another employer. PSM, therefore, applies to contractors performing maintenance or repair, turnaround, major renovation, or specialty work on or adjacent to a covered process. It does not apply, however, to contractors providing incidental services that do not influence process safety, such as janitorial, food and drink, laundry, delivery, or other supply services.

14. Host Employer Responsibilities.

a. When selecting a contractor, the host employer must obtain and evaluate information regarding the contract employer's safety performance and programs. The host employer also must inform contract employers of the known potential fire, explosion, or toxic release hazards related to the contractor's work and the process; explain to contract employers the applicable provisions of the emergency action plan; develop and implement safe work practices to control the presence, entrance, and exit of contract employers and contract employees in covered process areas; evaluate periodically the performance of contract employers in fulfilling their obligations; and maintain a contract employee injury and illness log related to the contractor's work in the process areas.

15. Contract Employer Responsibilities.

a. The contract employer must:

    i. Ensure that contract employees are trained in the work practices necessary to perform their job safely;

ii. Ensure that contract employees are instructed in the known potential fire, explosion, or toxic release hazards related to their job and the process, and in the applicable provisions of the emergency action plan;

iii. Document that each contract employee has received and understood the training required by the standard by preparing a record that contains the identity of the contract employee, the date of training, and the means used to verify that the employee understood the training;

iv. Ensure that each contract employee follows the safety rules of the facility including the required safe work practices required in the operating procedures section of the standard; and

v. Advise the host employer of any unique hazards presented by the contract employer's work.

16. Pre-Startup Safety Review

a. It is important that a safety review take place before any highly hazardous chemical is introduced into a process. PSM, therefore, requires the host employer to perform a pre-startup safety review for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information. Prior to the introduction of a highly hazardous chemical to a process, the pre-startup safety review must confirm the following:

i. Construction and equipment are in accordance with design specifications;

ii. Safety, operating, maintenance, and emergency procedures are in place and are adequate;

iii. A process hazard analysis has been performed for new facilities and recommendations have been resolved or implemented before startup, and modified facilities meet the management of change requirements; and

17. Mechanical Integrity

a. OSHA believes it is important to maintain the mechanical integrity of critical process equipment to ensure it is designed and installed correctly and operates properly. PSM mechanical integrity requirements apply to the following equipment:

i. Pressure vessels and storage tanks;

ii. Piping systems (including piping components such as valves);

iii. Relief and vent systems and devices;

iv. Emergency shutdown systems;

v. Controls (including monitoring devices and sensors, alarms, and interlocks); and

vi. Pumps.

b. The host employer must establish and implement written procedures to maintain the ongoing integrity of process equipment. Employees involved in maintaining the ongoing integrity of process equipment must be trained in an overview of that process and its hazards and trained in the procedures applicable to the employee's job tasks. Inspection and testing must be performed on process equipment, using procedures that follow recognized and generally accepted good engineering practices. The frequency of inspections and tests of process equipment must conform to manufacturers' recommendations and good engineering practices, or more frequently if determined to be necessary by prior operating experience. Each inspection and test on process equipment must be documented, identifying the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.

c. Equipment deficiencies outside the acceptable limits defined by the process safety information must be corrected before further use. In some cases, it may not be necessary that deficiencies be corrected before further use, as long as deficiencies are corrected in a safe and timely manner, when other necessary steps are taken to ensure safe operation.

d. In constructing new plants and equipment, the host employer must ensure that equipment as it is fabricated is suitable for the process application for which it will be used. Appropriate checks and inspections must be performed to ensure that equipment is installed properly and is consistent with design specifications and the manufacturer's instructions.

e. The host employer also must ensure that maintenance materials, spare parts, and equipment are suitable for the process application for which they will be used.

18. Hot Work Permit

a. A permit must be issued for hot work operations conducted on or near a covered process. The permit must document that the fire prevention and protection

requirements in OSHA regulations (29 CFR 1926.352) have been implemented prior to beginning the hot work operations; it must indicate the date(s) authorized for hot work; and identify the object on which hot work is to be performed. The permit must be kept on file until completion of the hot work.

19. Management of Change

a. Contemplated changes to a process must be thoroughly evaluated to fully assess their impact on employee safety and health and to determine needed changes to operating procedures. To this end, the standard contains a section on procedures for managing changes to processes. Written procedures to manage changes (except for "replacements in kind") to process chemicals, technology, equipment, and procedures, and change to facilities that affect a covered process, must be established and implemented. These written procedures must ensure that the following considerations are addressed prior to any change:

   i. The technical basis for the proposed change,

   ii. Impact of the change on employee safety and health,

   iii. Modifications to operating procedures,

   iv. Necessary time period for the change, and

   v. Authorization requirements for the proposed change.

b. Employees who operate a process, and maintenance and contract employees whose job tasks will be affected by a change in the process must be informed of, and trained in, the change prior to startup of the process or startup of the affected part of the process. If a change covered by these procedures results in a change in the required process safety information, such information also must be updated accordingly. If a change covered by these procedures changes the required operating procedures or practices, they also must be updated.

20. Incident Investigation

a. A crucial part of the process safety management program is a thorough investigation of incidents to identify the chain of events and causes so that corrective measures can be developed and implemented. Accordingly, PSM requires the investigation of each incident that resulted in, or could reasonably have resulted in, a catastrophic release of a highly hazardous chemical in the workplace.

b. Such an incident investigation must be initiated as promptly as possible, but not later than 48 hours following the incident. The investigation must be by a team consisting of at least one person knowledgeable in the process involved, including a contract employee if the incident involved the work of a contractor, and other persons with appropriate knowledge and experience to investigate and analyze the incident thoroughly. An investigation report must be prepared including at least:

   i. Date of incident,

   ii. Date investigation began,

   iii. Description of the incident,

   iv. Factors that contributed to the incident, and

   v. Recommendations resulting from the investigation.

c. A system must be established to promptly address and resolve the incident report findings and recommendations. Resolutions and corrective actions must be documented and the report reviewed by all affected personnel whose job tasks are relevant to the incident findings (including contract employees when applicable). The employer must keep these incident investigation reports for 5 years.

21. Emergency Planning and Response

a. If, despite the best planning, an incident occurs, it is essential that emergency pre-planning and training make employees aware of, and able to execute, proper actions. All employees are required to attend drills and training sessions, any employee missing these drills and training sessions will attend a makeup session when they return to the site. For this reason, an emergency action plan for the entire plant must be developed and implemented in accordance with the provisions of other OSHA rules [29 CFR 1926.35(a)]. In addition, the emergency action plan must include procedures for handling small releases of hazardous chemicals. Host employers covered under PSM also may be subject to the OSHA hazardous waste and emergency response regulation [29 CFR 1926.65(a), (p), and (q)].

22. Compliance Audits

a. To be certain process safety management is effective, host employers must certify that they have evaluated compliance with the provisions of PSM at least every 3 years. This will verify that the procedures and practices developed under the standard are adequate and are being followed. The compliance audit must be

conducted by at least one person knowledgeable in the process and a report of the findings of the audit must be developed and documented noting deficiencies that have been corrected. The two most recent compliance audit reports must be kept on file.

23. Trade Secrets

a. Host employers must make available all information necessary to comply with PSM to those persons responsible for compiling the process safety information, those developing the process hazard analysis, those responsible for developing the operating procedures, and those performing incident investigations, emergency planning and response, and compliance audits, without regard to the possible trade secret status of such information. Nothing in PSM, however, precludes the host employer from requiring those persons to enter into confidentiality agreements not to disclose the information.

Preventive Maintenance

1. **Purpose**

    a. To detail the written system for the monitoring and maintenance of workplace equipment such as preventive and predictive maintenance, to prevent equipment from becoming hazardous.

2. **Scope**

    a. This section applies to all employees, worksites, and subcontractors.

3. **Responsibilities**

    a. Management at all levels is responsible for the anticipation, identification, application, coordination, and execution of this procedure. All employees shall be instructed in the existence of the Preventative Maintenance program and its elements. To accomplish this requirement the additional roles and responsibilities are:

        i. Management

            1. Provide training for individuals responsible for Preventive Maintenance.

            2. Conduct inspections to identify deficiencies in the Preventive Maintenance program.

            3. Provide appropriate and adequate supplies on all sites.

            4. Assure documentation of the program is current and accurate.

        ii. Employees

            1. Report all incidents immediately

            2. Report suspect equipment conditions to supervision.

            3. Follow the Preventive Maintenance rules and requirements.

iii. Host Employer

iv. The host employer's Preventive Maintenance practices will be adopted and adhered to where they are more stringent that these requirements or where mandated. Our utilization of this procedure on a host employer's work site must be in compliance with the host employer's requirements as well as local, federal, and state regulations. In all cases, the most stringent requirements will be adopted and adhered to.

4. Elements of Preventive Maintenance

a. Preventive maintenance is the orderly, uniform, continuous, and scheduled action to prevent breakdown and prolong the useful life of equipment. Preventive maintenance is a shared responsibility among workers and site supervision. Advantages to be gained from preventive maintenance include safer working conditions, decreased downtime of equipment because of breakdown, and increased life of the equipment. Preventive maintenance has four (4) main components:

i. Scheduling and performing periodic maintenance functions

ii. Keeping records of service and repairs

iii. Repairing and replacing equipment and equipment parts

iv. Providing spare parts control or inventory.

5. Scheduling and Performing Periodic Maintenance

a. Maintenance schedules can be set up on either a time or use basis, whichever comes first. Factors to be considered include:

i. Age of the equipment

ii. Number of hours per day in use

iii. Past experience

iv. Manufacturers' recommendations

1. The manufacturers' recommendations provide standards that need to be maintained for the safe and economical use of the equipment.

6. Records and Documentation

a. Each piece of equipment should have a maintenance schedule established and documented. The schedule should indicate the parts to be serviced, the kind of service required, and the frequency of service. The manufacturers' recommendations should be referenced to determine the appropriate schedules. The individual conducting the maintenance should sign off on any repairs or maintenance activities.

7. Repairs and Replacements

a. Equipment repairs must be made in accordance with the manufacturers' specifications. Maintenance personnel should be aware of their limitations and recognize that their experience and expertise are not sufficient for all repairs. Those personnel assigned repair responsibilities require special safety training since many of the repairs may include testing or working on equipment with safety guards and safety devices removed. Any equipment being repaired should fall under the requirements of the lockout/tagout program.

8. Spare Parts Inventory

a. A benefit of the preventive maintenance program is that spare parts can be effectively ordered and kept on hand instead of having to order and wait which prolongs scheduled maintenance.

9. Equipment Inventory

a. Some, but not all, of the various items falling under the Preventive Maintenance program are:

i. PPE

ii. Trucks and vehicles

iii. Construction equipment

iv. Hand and Power tools

***Please add Site Specific items to complete inventory

10. Inspection and Maintenance

a. The inspection, maintenance and associated documentation are identified in the applicable procedures for the specific equipment or materials. The supervisor will assure that all of their employees who are assigned to perform work in the field are trained in accordance with these guidelines. Additionally, the supervisor will insure compliance with this training in the field.

b. Any equipment or materials identified as defective or in need of repair will be removed from service immediately and red-tagged and removed from the work area (to a secure location if possible) with signage posted "DO NOT USE". Contact and notify supervision and/or site management.

c. Equipment or materials that cannot be repaired will be destroyed and discarded.

MJ VanDamme Trucking, Inc.
FLEET MANAGEMENT POLICY

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MOTOR VEHICLE SAFETY POLICY

1. Policy

Many employees operate company owned, leased, rental or personal vehicles as part of their jobs. Employees are expected to operate vehicles safely to prevent accidents which may result in injuries and property loss. It is the policy of MJ VanDamme Trucking, Inc. (MJVD) to provide and maintain a safe working environment to protect our employees and the citizens of the communities where we conduct business from injury and property loss. The company considers the use of automobiles part of the working environment. The company is committed to promoting a heightened level of safety awareness and responsible driving behavior in its employees. Our efforts and the commitment of employees will prevent vehicle accidents and reduce personal injury and property loss claims. This program requires the full cooperation of each driver to operate their vehicle safely and to adhere to the responsibilities outlined in the Motor Vehicle Safety Program. Elements of this program include:

- Assigning responsibilities at all levels of employment.
- Vehicle use and insurance requirements.
- Employee driver's license checks and identification of high risk drivers.
- Accident reporting and investigation.
- Company Accident Review Board.
- Vehicle selection and maintenance.
- Training standards.
- Safety regulations.

2. Responsibility

Management is responsible for successful implementation and on-going execution of this program. Supervisors and employees are responsible for meeting and maintaining the standards set forth in this program.

3. Scope

This policy applies to employees who operate vehicles on company business and will be reviewed by managers and supervisors to ensure full implementation and compliance.

_____ _____

Employee Signature Date

ORGANIZATION AND RESPONSIBILITIES

1. General Manager/Safety Director:

   Responsible for directing an aggressive vehicle safety program.

2. Management will:

   A. Implement the Motor Vehicle Safety Program in their areas of responsibility.
   B. Establish measurement objectives to ensure compliance with the program.
   C. Provide assistance and the resources necessary to implement and maintain the program.

3. Supervisors will:

   A. Investigate and report all accidents involving a motor vehicle used in performing company business. Forward all accident reports to the Safety Director.
   B. Be responsible for taking appropriate action to manage high risk drivers as defined by this program.
   C. Provide driver training either internally or through external means for high risk drivers.

4. Safety Director:

   A. Issue periodic reports of losses for the General Manager's review.
   B. Review motor vehicle accident reports as part of the Company Accident Review Board.
   C. Revise and distribute changes to the Motor Vehicle Safety Program to managers, supervisors and drivers as necessary.
   D. Maintain appropriate records.

5. Drivers will:

   A. Always operate a motor vehicle in a safe manner as explained under the section titled, "Driver Safety Regulations".
   B. Maintain a valid driver's license and minimum insurance requirements on personal vehicles used in company business.
   C. Maintain assigned vehicles according to established maintenance standards.

VEHICLE USE

1. Company Owned Vehicles

   A. Passenger Cars and Light Trucks
   Employees authorized by their supervisors will be permitted to operate a passenger car. When the vehicle is driven for personal use, only the employee will be permitted to operate the vehicle. No one under the age of 21 will be permitted to operate the vehicle.

   B. Commercial Vans and Trucks
   Employees with appropriate commercial driver's license (if required by the state), authorization from their supervisor and qualified by state and Federal DOT when applicable will be permitted to operate the vehicle.

2. Personal Vehicles on Company Business

   A. Employees who drive their personal vehicles on company business are subject to the requirements of this program including:

      1. Maintaining auto liability insurance with minimum limits of $50000 for bodily injury and $50000 for property damage with combined single limit of $100000.
      2. Maintain current state vehicle inspections when required.
      3. Maintain their own vehicle in a safe operating condition when driven on company business.
      4. Proof of insurance (copy of declaration page) will be sent to the Safety Director.
      5. Acceptable Motor Vehicle Report (MVR).
      6. No 'business use' exclusion on personal insurance policy.
      7. PreTrip Inspection required and documented using standard MJVD Inspection form. Maintain inspection documents in vehicle.

3. Rental Vehicles

   A. Rental vehicles will be leased from a national provider (Example; Hertz, Avis, Enterprise).
   B. Collision damage waiver will be refused.

4. Unauthorized Use of Vehicles

   Assigned drivers and other authorized employees will not allow an unauthorized individual to operate a company vehicle. No exceptions! Disciplinary action may be taken. Additionally, if unauthorized use results in an accident, the responsible employee will be required to make restitution for the damages.

DRIVER SELECTION

1. Driver Evaluation:

   Employees will be evaluated and selected based on their driving ability. To evaluate employees as drivers, management will:

   A. Review past driving performance and work experience through previous employers reference checks. All new employees and current employees recently assigned to driving duties will be required to complete the "Application Addendum For Employment Requiring Driving".

   B. Review the employee's Motor Vehicle Record (MVR) annually (more frequently if reasons warrant).

   C. Ensure the employee has a valid driver's license.

   D. Ensure the employee is qualified to operate the type of vehicle he/she will drive.

2. Driver Qualification:

   Effective driver qualification controls are important elements of a successful motor vehicle safety program. Management developed and incorporated standards into this program, which reflect the skills necessary for satisfactory job performance while taking into consideration applicable Federal and state regulations.

   A. The company has implemented three levels of driver qualification criteria. Use of any or all of these criteria is dependent upon the nature and scope of the driving requirements.

      1. State-regulated driver qualification parameters must be met. Regulatory information will be obtained from applicable state departments of transportation and motor vehicle services.

      2. Where applicable, drivers will comply with DOT Commercial Driver License (CDL) regulations.

      3. Drivers involved in interstate or foreign commerce in vehicles with Gross Motor Vehicle Weight Rating (GMVR) of 10,001 pounds or more, designed to transport 16 or more passengers, including the driver, or used in the transportation of hazardous materials in a quantity requiring placarding under the DOT Hazardous Materials Regulations, are subject to the requirements of the DOT Federal Highway Administration's Federal Motor Carrier Safety Regulations.

4. Drivers involved in intra or interstate operations with GMVR of 26,001 pounds or more must have a CDL license and be enrolled in a DOT Drug and Alcohol Testing Program.

5. For all CDL drivers a Driver Qualification file will be maintained. The following items will be maintained in the file:
   a. Application for employment
   b. Copy of the drivers MVR (annual)
   c. Annual review of driving record
   d. Violation History/Record
   e. Medical Certificate

B. The following criteria was established to identify high risk drivers. A driver is unacceptable if the driver's accident/violation history in the past year includes one or more of the following moving violation convictions:

1. Driving under the influence of alcohol or drugs (DWI).
2. Hit and run.
3. Failure to report an accident.
4. Operating during a period of suspension or revocation.
5. Using a motor vehicle for the commission of a felony.
6. Operating a motor vehicle without the owner's authority.
7. Permitting an unlicensed person to drive.
8. Reckless driving.
9. Speeding (3 or more in a 3 year period).
10. Two preventable accidents in a 12 month period.

Drivers who are identified as high risk or in violation may be subject to several actions from management including, but not limited to:

1. Driver may be required to attend a Defensive or Safety Driving course on their own time & expense.
2. Driver may be required to operate their own personal vehicle on company business.
3. Driver may have their driving privileges suspended or revoked.

ACCIDENT RECORDKEEPING, REPORTING AND ANALYSIS

1. This company considers elimination of motor vehicle accidents as a major goal. To meet this objective, all accidents will be reported to management, investigated, documented and reviewed by the Company Accident Review Board. The investigation identifies need for:

   A. A more intensive driver training and/or remedial training.
   B. Improved driver selection procedures.
   C. Improve vehicle inspection and/or maintenance activities.
   D. Changes in traffic routes.

2. Motor vehicle accident recordkeeping procedures consist of the following components:

   A. Documentation of causes and corrective action.
   B. Management review to expedite corrective action.
   C. Analysis of accidents to determine trends, recurring problems and the need for further control measures.

3. Responsibility:

   Implementation of these procedures remains the responsibility of both the driver and manager.

   A. Driver
      Since the driver is the first person at the accident scene, he/she will initiate the information-gathering process as quickly and thoroughly as is feasible.
   B. Management
      Management will obtain accident data from the driver through the Transportation Accident Report form and/or by verbal communication. It is important for management to determine the extent of the accident, especially if it involves injury or death to the driver, passengers, or other parties.
   C. Management will immediately proceed with a formal investigation to determine the underlying causes as well as what can be done to prevent similar occurrences. The accident report will be forwarded to the insurance claims office along with any additional support data (e.g., witness statements, photographs, police reports, etc.).

4. Driver Participation In Repair Costs:

   On a case by case basis, drivers involved in preventable accidents that require vehicle repair, drivers are subject to participation in the repairs and/or repair costs of the vehicle(s) involved.

5. Preventable/Non-Preventable Accidents:

The following definitions relate to motor vehicle accidents:

A. A motor vehicle accident is defined as "any occurrence involving a motor vehicle which results in death, injury or property damage, unless such vehicle is properly parked. Who was injured, what property was damaged and to what extent, where the accident occurred, or who was responsible, are not relative factors".
B. A preventable accident is defined as "any accident involving the vehicle, unless properly parked, which results in property damage or personal injury and in which the driver failed to do everything he/she reasonably could have done to prevent or avoid the accident".

NOTE 1: A properly parked motor vehicle is one that is completely stopped and parked where it is legal and prudent to park such a vehicle or to stop to load/unload property. Vehicles stopped to load/unload passengers is not considered parked.

NOTE 2: Parking on private property will be governed by the same regulations that apply on public streets and highways. A vehicle stopped in traffic in response to a sign, traffic signal or the police is not considered parked.

C. The determination of preventability of an accident is the function of the Company Accident Review Board.

NOTE 3: See attached "Guide For Preventable and Nonpreventable Accidents" in Appendix.

EMPLOYEE ACCIDENT REPORTING PROCEDURE

Employees will take the following actions when there are injuries to persons and/or damage to other vehicles or property:

1. If possible, move the vehicle to a safe location out of the way of traffic. Call for medical attention if anyone is hurt.

2. Secure the names and addresses of drivers and occupants of any vehicles involved, their operator's license numbers, insurance company names and policy numbers, as well as the names and addresses of injured persons and witnesses. Record this information on the Accident Report form (in the reporting packet). Do not discuss fault with, or sign anything for anyone except an authorized representative of MJVD, a police officer, or a representative of MJVD insurance carrier.

3. Immediately notify the Safety Director. If any injuries were involved and the Vehicle Safety Coordinator is not available, contact your supervisor immediately.

4. You will be contacted by the Safety Director/Shop Manager to advise you how to arrange for repairs to the vehicle. Do not have the vehicle repaired until you receive authorization.

When there is theft of or damage to your vehicle only:

1. If you did not witness the damage to the vehicle, you must notify the local police department immediately.

2. Immediately notify the Safety Director or your supervisor.

3. You will be contacted by the Shop Manager to advise you how to arrange for repairs or replacement of the vehicle. Do not have the vehicle repaired until you receive authorization from the Shop Manager.

4. Send a copy of the police report along with a memo outlining any additional information to the Safety Director.

5, Document the damage.

COMPANY ACCIDENT REVIEW BOARD

All vehicle collisions should be analyzed, and a written report submitted to management for review. A determination of accident preventability should be made. Where the collision was preventable by the company driver, the driver should be counseled, given additional training, given time off without pay, placed on probation, transferred to non-driving duties, disciplined in other ways, or employment terminated according to corporate, union, and governmental guidelines.

However, this does not absolve management from improving safety of the work and driving environment. The Safety Director, drivers and management personnel should each participate in the analysis. Management deficiencies and/or lack of management action should also be part of the accident review. Management has the legal obligation not only for driver safety but the safety of the general public as well.

To determine preventability an accident review board has been established. Members consists of both management and field personnel. Their main charge, of the review board, is to determine whether the fleet accident was preventable or nonpreventable and whether or not it is chargeable to the driver.

The attached material, "Guide For Preventable and Nonpreventable Accidents", will be used as a guide for this determination. Majority vote rules.

The committee will report to the Safey Director within 3 working days the results of their review. The Safety Director will take the appropriate steps and communicate the results to the affected driver and supervisor.

VEHICLE SELECTION, INSPECTION AND MAINTENANCE

1. Introduction:

Proper selection and maintenance of equipment are important aspects of this program. Reduced operational costs and accidents from vehicle defects are the direct result of a well implemented maintenance policy.

2. Vehicle Selection:

Selection of vehicles begins with understanding the wrong equipment can result in excessive breakdowns, create hazards to personnel, incur costly delays and contribute to poor service and customer complaints. The company will purchase vehicles designed for their intended use.

3. Vehicle Inspection:

The employee responsible for the vehicle will inspect the vehicle daily pre-trip and post-trip using the Vehicle Inspection Report form (see appendix) and forward the report to the Shop Manager. The standard MJVD inspection form may be used in place of the inspection form included in this document. More frequent inspections and reports may be required based on heavy use.

If,while performing inspections, defects affecting the safe operation of the vevicle are noted the vehicle is to be tagged “out of service.” If a vehicle is placed “out of service” immediately notify the Shop Manager. At no time should an “out of service” vehicle be operated. Determinations as to return to service of any vehicle previously tagged “out of service” will be made by the Shop Manager only.

Annual vehicle inspections will be performed by the Shop Manager. The Vehicle Inspection Report Form (see appendix) will be used to conduct the annual inspection.

Roadside Inspections -- North American Standard Out-Of-Service Inspections:
Roadside Inspections are performed to ensure that both the vehicle and its driver are road worthy and can continue in service. The criteria are intended to be used in random roadside inspections to identify critical vehicle inspection items and provide criteria for placing a vehicle out-of-service A vehicle is placed out-of-service only when by reason of its mechanical condition or loading it is determined to be so imminently hazardous as to likely cause an accident or breakdown, or when such conditions would likely contribute to loss of control of the vehicles by the driver. A certain amount of flexibility is given to the inspecting official whether to place the vehicle out-of-service at the inspection site or if it would be less hazardous to allow the vehicle to proceed to a repair facility for repair. The distance to the repair facility must not exceed 25 miles.
The roadside type of inspection, however, does not necessarily mean that a vehicle has to be defect-free in order to continue in service. In order to maintain consistency across all

U.S. States, Canada and Mexico, the North American Standard Inspection Criteria was developed by the CVSA with the following levels of vehicle inspection for roadside inspections.

LEVEL I - North American Standard Inspection

The Level I inspection examines both the driver and the vehicle and includes:

- Driver's License
- Medical Examinees Certificate and Waiver (if applicable)
- Alcohol and Drugs
- Driver's Record of Duty Status as required
- Hours of Service
- Seat Belt
- Vehicle Inspection Report
- Brake System
- Coupling Devices
- Exhaust System
- Frame
- Fuel System
- Turn Signals
- Brake Lamps
- Tail Lamps
- Head Lamps
- Lamps On Projecting Loads
- Safe Loading
- Steering Mechanism
- Suspension
- Tires
- Van And Open-Top Trailer Bodies
- Wheels And Rims
- Windshield Wipers
- Emergency Exits On Buses
- HM Requirements (as applicable)

LEVEL II - Walk-Around Driver/Vehicle Inspection

The Level II inspection is a walk-around inspection that examines the driver and the vehicle. It includes everything that can be inspected without physically getting under the vehicle. As a minimum, Level II inspections must include examination of:

- Driver's License
- Medical Examinees Certificate and Waiver (if applicable)
- Alcohol and Drugs
- Driver's Record of Duty Status as required
- Hours of Service
- Seat Belt
- Vehicle Inspection Report
- Brake System
- Coupling Devices
- Exhaust System

• Frame
• Fuel System
• Turn Signals
• Brake Lamps
• Tail Lamps
• Head Lamps
• Lamps On Projecting Loads
• Safe Loading
• Steering Mechanism
• Suspension
• Tires
• Van And Open-Top Trailer Bodies
• Wheels And Rims
• Windshield Wipers
• Emergency Exits On Buses
• HM Requirements (as applicable)

LEVEL III - Driver-Only Inspection

Level III is a driver-only inspection which will include examination of the following

• Driver's License
• Medical Certification and Waiver, (if applicable)
• Driver's Record Of Duty Status As Required
• Hours Of Service
• Seat Belt
• Vehicle Inspection Report
• Hazardous Materials Requirements (as applicable)

LEVEL IV - Special Inspections

Inspections under this heading typically include a one-time examination of a particular item. These examinations are normally made in support of a study or to verify or refute a suspected trend.

LEVEL V - Vehicle-Only Inspection

The Level V is an inspection that includes each of the vehicle inspection items specified under the North American Standard Inspection (Level I), without a driver present, conducted at any location.

LEVEL VI - Enhanced NAS Inspection for Radioactive Shipments

An inspection for select radiological shipments, which include

• Inspection Procedures
• Enhancements To The Level I Inspection
• Radiological Requirements
• Enhanced Out-Of-Service Criteria

What Happens After The Inspection?

First, if there are actionable violations, such as operating the vehicle without a valid license or a headlight out; anything that would warrant a ticket anyway; the driver and/or

carrier may receive a citation. The penalty will depend on the jurisdiction of the law enforcement making the stop.
Second, if the vehicle is deemed to be unsafe to continue, it may be placed Out-of-Service, meaning it cannot continue to be operated until the items have been corrected.
Third, the data collected from the inspection will be input into the Safety Measurement System.
Third, Should a Roadside Inspection occur, contact your supervisor. Should the vehicle be placed “out of service” immediately contact the Shop Manager for instructions as to repair and/or towing.

4. Vehicle Maintenance:

Vehicle maintenance can take the form of three distinct programs: preventive maintenance, demand maintenance, and crisis maintenance. While all three types have their role in the Motor Vehicle Safety Program, the most cost effective control is preventive maintenance. The groundwork for a good preventive maintenance program starts with management. A review of manufacturer's specifications and recommendations for periodic preventive maintenance should be integrated with the actual experience of the vehicles. An annual inspection of each fleet vehicle will be performed by the Shop Manager every 12 months at a minimum.

A. Preventive maintenance (PM) is performed on a mileage or time basis. Typical PM includes oil/filter changes, lubrication, tightening belts and components, engine tune-ups, brake work, tire rotation, hose inspection/replacement and radiator maintenance. Next Preventive Maintenance mileage is posted on the windshield of each company vehicle.

B. Demand maintenance is performed only when the need arises. Some vehicle parts are replaced only when they actually fail. These include light bulbs window glass, gauges, wiring, air lines, etc. Other "demand maintenance" items involve vehicle components that are worn based on information from the vehicle condition report. These include tires, engines, transmissions, universal joints, bushings, batteries, etc. Since these situations are identified through periodic vehicle inspection, they can actually be classified within the PM program. Indicate the need for maintenance on the pretrip inspection form. Turn form in to Shop Manager or contact your supervisor.

C. Crisis maintenance involves a vehicle breakdown while on the road. While situations of this type may happen regardless of the quality of the PM program, it is an expensive alternative to not having an effective preventive maintenance program at all. Crisis maintenance situations should be minimized through proper PM procedures. Contact your supervisor regarding procedure to get the vehicle to a safe location. Shop Manager will make arrangement for field repair or towing.

5. Recordkeeping:

This company's vehicle selection, inspection and maintenance program is only as good as its recordkeeping procedures. Employees will forward all vehicle maintenance records for maintenance performed each quarter to the Shop Manager.

DRIVER TRAINING

1. Drivers hired by this company to operate a motor vehicle will have the basic skills and credentials necessary to perform this function as confirmed through the driver selection process.

2. New employees, contractor, and temporary hires will receive a copy of this program as part of their initial orientation. A formal orientation program is established to help assure all drivers are presented with the company policy, understand their responsibilities and are familiarized with their vehicle. Areas that must be addressed, with the driver, include:

   a. Understand, review and given a copy of the Fleet Safety Program.
   b Understand and sign the Vehicle Assignment Agreement.
   c. Review individual Motor Vehicle Report (MVR).
   d. Understand accident reporting & emergency procedures.
   e. Review operation and controls of vehicle being assigned.
   f. Inspect vehicle using Vehicle Inspection Form.
   g. Road Test as required.

3. <u>License Suspension</u>:

   Drivers must notify the Human Resources Director if their license is suspended or revoked.

4. <u>Remedial Training</u>:

   Drivers may be required to attend a safe driving school (National Safety Council Defensive Driving course of equivalent) or an alcohol/drug abuse program on their own time and at their own expense if a review of the driver's MVR indicates:

   A. One or more violation convictions within any one-year period, or

   B. A conviction for driving while under the influence of alcohol or drugs.

   Also, depending on the severity of the conviction, the employee's driving privileges may be revoked and/or may result in employment termination.

DRIVER SAFETY REGULATIONS

1. Safety Belts:

   The driver and all occupants are required to wear safety belts when the vehicle is in operation or while riding in a vehicle. The driver is responsible for ensuring passengers wear their safety belts. Children under four years of age or under 40-pounds in weight must be secured in a DOT approved child safety seat.

2. Impaired Driving:

   The driver must not operate a vehicle at any time when his/her ability to do so is impaired, affected, influenced by alcohol, illegal drugs, prescribed or over-the-counter medication, illness, fatigue or injury.

3. Traffic Laws:

   Drivers must abide by the federal, state and local motor vehicle regulations, laws and ordinances.

4. Vehicle Condition:

   Drivers are responsible for ensuring the vehicle is maintained in safe driving condition. Drivers of daily rentals should check for obvious defects before leaving the rental office/lot and, if necessary, request another vehicle of the first vehicle is deemed unsafe by the employee. Drivers are encouraged to rent vehicles equipped with air bags and ABS brakes, where available.

5. Cellular Telephones, Walkmans and Pagers:

   A. Employees are prohibited from using any hand held device while operating a motor vehicle.
   C. All texting while driving is prohibited.

6. Motorcycles:

Employees are prohibited from using motorcycles when traveling on company business.

7. General Safety Rules:

Employees are not permitted to:

A. Pick up hitchhikers.
B. Accept payment for carrying passengers or materials.
C. Use any radar detector, laser detector or similar devices.
D. Push or pull another vehicle.
E. Transport flammable liquids or gases unless a DOT or Underwriters' Laboratories approved container is used, and only then in limited quantities.
F. Use of burning flares will be discouraged. The preferred method is the use of reflective triangles.
G. Assist disabled motorists or accident victims beyond their level of medical expertise. If a driver is unable to provide the proper medical care, he/she must restrict his/her assistance to calling the proper authorities. Your safety and well being is to be protected at all times.

8. Company and Personal Property:

Employees are responsible for company property such as computers, work papers and equipment under their control. The company will not reimburse the employee for stolen personal property.

HOURS OF SERVICE LOG POLICY

A driver's hours of service are regulated by Federal, State, and Local agencies and are part of the Federal Motor Carrier Safety Administration, (FMCSA) regulations, specifically contained in 49 CFR Part 395.1 thru 395.38.

M.J. VanDamme Trucking, Inc is strongly committed to being in full compliance with the current Federal Hours of Service, (HOS) Regulations. All company operations personnel, company-employed drivers, or any other individuals whose main duty is operating commercial motor vehicles under the authority of the company are subject to this Hours of Service Log Policy.

Per FMCSA CFR Part 395.3:
No motor carrier shall permit or require any driver used by it to drive a property-carrying commercial motor vehicle, nor shall any such driver drive a property-carrying commercial motor vehicle, regardless of the number of motor carriers using the driver's services, if the driver is in violation of the hours of service regulations.

All drivers that have a working ELD Unit installed in their assigned vehicle, SHALL log in, and are required to use the Hours of Service (E-LOG) portion of the system. If the ELD unit is inoperable, drivers are required to use the forms provided by M.J. VanDamme Trucking Inc. to keep track of their HOS (i.e. timecards, trip sheets, and a paper log if the driver operates a CMV vehicle outside of short haul parameters).

No Paper log* is required if you meet the following criteria:

**If you are operating a truck equipped with an ELD M.J. VanDamme Trucking requires those drivers to log in and use the ELD system whether "short" or "long" haul.*

There are 4 key components required to meet the FMCSA definition for short haul.
You must:

- Start and return to same location within 12 hours of duty time
- Drive no more than 11 hours
- Have 10 consecutive hours off between shifts
- Not exceed a 100- air mile radius from your starting location

To fall under the short haul definition all 4 of the components must be met.
No break of any length is required for short haul drivers

A Paper Hours of Service (HOS) Log is required when:

- You exceed the 100 air mile radius
- Your shift exceeds 12 hours

Federal Requirements

11 Hour Driving Rule:
A driver may drive a total of 11 hours during a 14-hour period. All time spent behind the wheel is considered driving time. After 11 hours of driving time, you must have 10 consecutive hours off duty or in the sleeper berth before you can drive again.

14 Hour On-duty Rule:
A driver may drive only during a period of 14 consecutive hours after coming on duty following 10 consecutive hours off duty. The driver may not drive after the end of the 14th consecutive-hour period without first taking 10 consecutive hours off duty.

The 14 hours are consecutive from the time you start your tour of duty. Any Off-Duty time less than 10 hours or any Sleeper-Berth time less then 8 hours will count against the 14 hour rule.

On-duty time is defined as all time from the time you begin work or are required to be ready for work until you are relieved from work and all responsibility for doing work if:

- Waiting to be dispatched
- Inspecting, servicing, or conditioning a commercial motor vehicle
- Driving (at the controls of your vehicle)
- In or on your vehicle (except time spent in the sleeper berth)
- Loading or unloading your vehicle
- Repairing, obtaining assistance, or attending to a disabled vehicle
- Performing any other work for a motor carrier
- Complying with drug or alcohol testing requirements
- Performing compensated work for any other employer

30 Minute Rest-Break Rule:

After June 30, 2013, driving is not permitted if more than 8 hours have passed since the end of the driver's last off-duty or sleeper-berth period of at least 30 minutes or more.
The 8 hours are consecutive hours, so they include driving and all other time (including any breaks that are less than 30 minutes). The rule says you have to stop driving CMVs once you reach 8 consecutive hours past the end of your last break of at least 30 consecutive minutes. The rule does not apply to drivers using the short-haul exceptions in 395.1
If you started your shift as a “short haul” driver and your shift goes beyond 12 hours and you need to continue driving you will need to take your 30 minute break at the soonest, safest opportunity and when clearly marking the break on your log indicate why it was taken after 8 hours into your shift.

Sleeper-Berth Exception:

A driver who operates a property-carrying commercial motor vehicle equipped with a sleeper berth, as defined in 49 CFR Parts 395.2 and 393.76 can use the Sleeper-Berth

Exception. For the Sleeper-Berth Exception to apply the driver must have:

- At least 10 consecutive hours of Sleeper-Berth time or;
- At least 8 consecutive hours but less than 10 consecutive hours in a sleeper berth and a separate period of at least 2 consecutive hours but less than 10 consecutive hours either in the sleeper berth or off duty, or any combination thereof.

If you choose to use this exception, when recalculating your available driving time following your second sleeper berth period, you must be careful. Your On-duty and Driving time starts at the end of the first Sleep-Berth period.

- For example, you spend 8 hours in the first Sleeper-Berth period, drive for 4 hours then take 2 hours in the second Sleeper-Berth period. Upon completion of the second Sleeper-Berth period you can now drive for only 7 hours and be on-duty for 8 hours. This continues to be true following each qualifying Sleeper-Berth period until you have 10 consecutive hours off duty.

70 Hours of Service Rule:

M.J. VanDamme Trucking, Inc. operates every day of the week, and runs under the 70 hours/8 days hours of service ruleset. Which means no driver shall drive or be allowed to drive after accumulating 70 hours on-duty time in any 8 consecutive days.

34-Hour Restart:

As of June 30, 2013, any period of 70 hours of being on duty in 8 consecutive days will reset after taking 34 or more consecutive hours off duty.

HOS Logging Form and Manner:

The following information must be included on the driver HOS logs in addition to the change of duty status noted on the on the grid:

- Date;
- Total miles driving;
- Truck or Tractor and Trailer number;
- Name of Carrier & Main office address;
- Driver's signature;
- Remarks;
- For each change of duty status (e.g., the place of reporting for work, starting to drive, on-duty not driving and where released from work), the name of the city, town, or village, with State abbreviation, shall be recorded in the Remarks section of the log.
- Name of Co-Driver; (where applicable)
- Shipping document number (s) or name of shipper and commodity.
- Annotation of fuel stops, pre-trip inspection, post-trip inspection, and any D.O.T roadside inspections or traffic stops

Failure to complete the record of duty activities, failure to preserve a record of such duty activities, or making a false report in connection with such duty activities shall make the driver and/or the carrier liable for prosecution.

M.J. VanDamme Trucking, Inc. maintains and retains for a period of 6 months accurate and true time records showing:

- The time the driver reports for duty each day;
- The total number of hours the driver is on duty each day;
- The time the driver is released from duty each day; and
- The total time for the preceding 7 days in accordance with § 395.8(j)(2) for drivers used for the first time or intermittently.

Post/Pre Trip Inspections:

Both must be recorded on the HOS log as "on-duty not driving" and must be shown for each inspection. Pre and Post trip inspections need to be reflected on your RODS even if you are only completing a timecard or trip sheet. Any defects found during a Pre / Post Trip inspection must be documented using the provided Paper DVIR. The DVIR must then be turned into the Maintenance Department. You are required to submit, in writing any findings of damage or mechanical problems found during both the Pre-trip and Post-trip inspections.

Violations of M.J. VanDamme Trucking Inc. Hours of Service Policy:
The following disciplinary policy has been put in place as part of the ongoing audit process for Record of Duty Status (RODS) and Hours of Service (HOS) Violations found on GPS, time records, and logs submitted by drivers.

1. Drivers shall receive 5 written warnings outlining the violation and shall sign off acknowledging receipt of each warning.

a. One signed copy shall be kept by the driver and the other will be kept by the driver's supervisor

b. Signed warnings kept by the supervisor will be provided to Human Resources and kept in the employee's personnel file

2. After receiving 5 warnings (within a 6 month timeframe) the driver will be put on 30 calendar days probation

a. If during the 30 days any additional RODS or HOS violations take place the driver will receive 3 days of unpaid time off from work.

b. After 3 unpaid days from work any subsequent RODS or HOS violations during the 30 calendar day probation period will be addressed from a disciplinary stand point on a case by case basis.

c. Warnings stay applicable toward the 30 calendar day probation for a driver for a 6 month timeframe. The same timeframe the D.O.T requires carriers to keep Record of Duty Status (RODS) and Hours of Service (HOS) records on file for review and audit purposes.

3. After the 30 calendar days probation period (with no additional violations) has passed; warnings re-set and subsequent warnings received by the driver will start counting up again from warning #1.

a. As stated above if additional violations took place during the 30 calendar day probationary period different steps will be taken on a case by case basis. These steps may affect the timing of the driver's warning re-set or potentially extend the probationary time.

By signing below the driver acknowledges that he/she has read, understands, and agrees to comply with M.J. VanDamme' s Hours of Service Log Policy:

_____ _____

Driver Signature Date

APPENDIX

Forms/Attachments

- Vehicle Assignment Agreement
- Application Addendum For Employment Requiring Driving
- Guide For Preventable and Nonpreventable Accidents
- Vehicle Inspection Report

VEHICLE ASSIGNMENT AGREEMENT

The undersigned hereby acknowledges receipt of a company-owned or leased automobile. I understand this vehicle is to be regularly maintained and serviced, according to the service schedule outlined in the Owner's Manual or the instructions issued by the Vehicle Safety Coordinator, whichever is appropriate.

Further, it is agreed this vehicle will be operated in a safe manner. I agree to wear my seat belt whenever the vehicle is in motion and will require other occupants to do so. I agree to be responsible for all traffic and parking violations that occur while the vehicle is assigned to me.

I understand articles of this agreement apply regardless of who is operating this vehicle. I may authorize others to drive this vehicle according to the following guidelines:

- Licensed spouse except if under 21 years of age.
- Licensed employees of MJVD or its subsidiaries or affiliates.
- Other licensed drivers as I so designate in emergency situations only.

I agree to promptly report all accidents or incidents resulting in injury or damage to the vehicle or other property, no matter how slight.

I understand I am required to maintain a valid driver's license. Further, I herewith grant MJVD the right to investigate may motor vehicle driving record any time. My current driver's license is issued from the State of _____ and is No._____. I understand that I am responsible for my own license plate renewal.

If my driving record contains two moving violations within one-year period, my record will be brought up before the Company Accident Review Board for consideration of remedial training and/or loss of driving privileges.

I will be required to attend a safe driving class on my own time and at my expense, and to provide the Safety Director with confirmation of attendance within thirty days of notification if decided by the review board.

I understand I am not to modify the vehicle in any way without written permission.

I agree to reimburse the company for damages done to this vehicle because of my negligence. In the event of an accident, which has been determined to have been my fault by citation, traffic court conviction, by my own admission, or determination by management.

I understand the operation of this vehicle in a safe operating condition is my responsibility. If this vehicle becomes unsafe, it is my responsibility to notify my supervisor immediately.

I read and agree to the provisions of this Vehicle Assignment Agreement and the requirements of the Motor Vehicle Safety Program.

_____ _____

SIGNATURE **DATE**

VEHICLE ASSIGNED: _____
VIN NUMBER: _____
PLATE NUMBER: _____
MILEAGE: _____

OTHER DRIVERS

The undersigned agree to comply with the requirements of this Agreement, The Vehicle Safety Rules and the Vehicle Safety Program. (This section is to be completed by the employee's spouse and any other employees of the Company who seek eligibility to operate the Company vehicle.)

Name (Print)	Signature/Date	License #	ST	Birthdate	SS #

APPLICATION ADDENDUM FOR EMPLOYMENT REQUIRING DRIVING

COMPANY _____

ADDRESS _____

NAME _____ PHONE: (_____) _____
First Middle Last

DRIVER LICENSES: (list all licenses held in past 3 years and indicate those that are current)

STATE	LICENSE NUMBER	CLASS	ENDORSEMENT(S)	EXPIRATION

Have you ever been denied, or had revoked or suspended any license, permit, or privilege to operate a motor vehicle? Yes _____ No _____

If you answered YES to the above questions, give details: (if additional space is needed, attach sheet)

TRAFFIC CONVICTIONS AND FORFEITURES FOR PAST 3 YEARS: (Other than parking)

LOCATION (CITY & STATE)	DATE	CHARGE	PENALTY

DRIVING EXPERIENCE:

CLASS OF EQUIPMENT	DATES FROM	DATES TO	APROX. NO. OF TOTAL MILES
Automobile			
Van/Pickup			
Truck/Tractor			
Bus			
Other (Specify)			

ACCIDENT RECORD FOR PAST 3 YEARS: (if additional space is needed, attach sheet)

DATE	LOCATION	NATURE OF ACCIDENT	FATALITIES	INJURIES

GENERAL:

Have you ever been convicted of a felony? Yes _____ No _____

Have you ever been refused bond Yes _____ No _____

If you answered YES to either question, give details: (if additional space is needed, attach sheet)

LIST SPECIAL TRAINING RELATED TO TRANSPORTATION:
(If additional space is needed, attach sheet)

TO BE READ AND SIGNED BY APPLICANT:

This certifies that this application was completed by me, and that all entries on it and information in it are true and complete to the best of my knowledge. I understand that, if hired, any misrepresentation of information in this application is cause for immediate dismissal. I authorize (*INSERT COMPANY NAME HERE*) to investigate my background to ascertain all information of concern to my employment history, whether same is of record or not, and release those providing such information from all liability for any damages resulting from furnishing this information. Further, I understand that I may be asked to demonstrate my ability to perform the essential functions necessary to complete the job and, if offered the job, that it may be conditioned on results of a physical examination, and controlled substances and alcohol misuse test.

DATE _____ APPLICANT'S SIGNATURE _____

GUIDE FOR PREVENTABLE OR NONPREVENTABLE ACCIDENTS

An accident is preventable if the driver could have done something to avoid it. Drivers are expected to drive defensively. Which driver was primarily at fault, who received a traffic citation, or whether a claim was paid has absolutely no bearing on preventability. If there was anything the driver could have done to avoid the collision, then the accident was preventable.

An accident is nonpreventable when the vehicle was legally and properly parked, or when properly stopped because of a law enforcement officer, a signal, stop sign, or traffic condition.

If a stationary object is struck, then it is usually a preventable incident. If the driver rearends another vehicle then it is usually a preventable incident. It should be noted there are exceptions to any rule, but they are just that - exceptions!

It should be the objective of any person discussing or judging accidents to obtain as many facts as possible and to consider all conceivable conditions. Adverse weather conditions, actions of other drivers, or other such excuses must not influence the judgment of preventability. If procedures, scheduling, dispatching, or maintenance procedures out of the control of the driver were found to be factors, that should be taken into account. The company must take responsibility for the work environment and recognize that drivers cannot control some aspects. It is critical that drivers have the ability to refuse to operate an unsafe vehicle without reprisal from management.

Professional drivers are expected to drive in a manner which allows them to avoid conflicts when they arise. Whether a driver has a 25-year safe driving record, or started driving the day before has no bearing on whether an accident is or is not preventable. Taking a fair attitude does not mean leniency. If an accident is judged nonpreventable and the drivers know the accident could have been avoided, they will lose respect for the safety program.

QUESTIONS TO CONSIDER - GENERAL

When judging or discussing preventable accidents, these are some questions to consider:

1. Does the report indicate that the driver considers the rights of others or is there evidence of poor driving habits which need to be changed?

2. Does the report indicate good judgment? Such phrases as "I did not see," "I didn't think," "I didn't expect," or "I thought" are signals indicating there is something wrong. An aware driver should think, expect, and see hazardous situations in time to avoid collisions.

3. Was the driver under any physical handicap which could have been contributory? Did the accident happen near the end of a long and/or hard run? Does the driver tend to overeat? Did the driver get sufficient sleep before the trip? Is the driver's vision faulty?

4. Was the vehicle defective without the driver's knowledge? A gradual brake failure, a car which pulls to the left or right when the driver applies the brakes, faulty windshield wipers, and similar items are excuses, and a driver using them is trying to evade responsibility. Sudden brake failure, loss of steering, or a blowout may be considered defects beyond the driver's knowledge; however, the inspection and maintenance program should work to prevent these hazards.

5. Would taking a route through less congested areas reduce the hazardous situations encountered?

QUESTIONS TO CONSIDER

SPECIFIC TYPES OF ACCIDENTS

Intersection Collisions

Failure to yield the right-of-way, regardless of stop signs or lights, is preventable. The only exception to this is when the driver is properly proceeding at an intersection protected by lights or stop signs and the driver's vehicle is struck in the extreme rear, side, or back.

Regardless of stop signs, stop lights, or right-of-way, a professional driver should recognize that the right-of-way belongs to anyone who assumes it and should yield accordingly. In addition, a professional driver is expected to know the turning radius of the vehicle and be able to avoid damaging others. These accidents are normally considered preventable.

1. Did the driver approach the intersection at a speed safe for conditions?

2. Was the driver prepared to stop before entering the intersection?

3. At a blind corner, did the driver pull out slowly, ready to apply the brakes?

4. Did the driver operate the vehicle correctly to keep from skidding?

IF THE ANSWER TO ANY QUESTION IS NO,
THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS RESPONSIBLE.

Sideswipes

Sideswipes are often preventable since drivers should not get into a position where they can be forced into trouble. A driver should pass another vehicle cautiously and pull back into the lane only when he or she can see the other vehicle in the rearview mirror. A driver should also be ready to slow down and let a passing vehicle into the lane. A driver should not make a sudden move that may force another vehicle to swerve. Unless the driver is swerving to avoid another car or a pedestrian, sideswiping a stationary object is preventable.

Drivers are expected to be able to gauge distances properly when leaving a parking place and enter traffic smoothly.

A driver is expected, whenever possible, to anticipate the actions of an oncoming vehicle. Sideswiping an oncoming vehicle is often preventable.

The doors of a vehicle should never be opened when it is in motion. and should not be opened on the traffic side, unless clear of traffic, when it is parked.

A parked vehicle can be seen from a sufficient distance; therefore, the operator of an approaching vehicle should be prepared in case the doors of the parked vehicle are opened. This type of accident is nonpreventable only when the door is opened after the driver has passed it.

1. Did the driver look to front and rear for approaching and overtaking traffic immediately before starting to pull away from the curb?

2. Did the driver signal before pulling away from the curb?

3. Did the driver look back rather than depend only upon rearview mirrors?

4. Did the driver start into traffic only when this action would not require traffic to change its speed or direction in order to avoid his or her vehicle?

IF THE ANSWER TO ANY QUESTION IS NO,

THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS RESPONSIBLE.

Skidding

Many skidding conditions are caused by rain, freezing rain, fog, and snow, which all increase the hazard of travel. Oily road film, which builds up during a period of good weather, causes an especially treacherous condition during the first minutes of a rainfall.

Loss of traction on a grade can be anticipated, and these accidents usually are preventable. Chains or other suitable traction devices should be used, if they are available.

1. Was the driver operating at a safe speed considering weather and road conditions?

2. During inclement weather was the driver keeping at least twice the safe following distance used for dry pavement?

3. Were all actions gradual?

4. Was the driver anticipating ice on bridges, gutters, ruts, and near the curb?

5. Was the driver alert for water, ice or snow in shaded areas, loose gravel, sand, ruts, etc.?

6. Did the driver keep out of other vehicle tracks or cross them at wide angles?

IF THE ANSWER TO ANY QUESTION IS NO,

THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS RESPONSIBLE.

Pedestrian and Animal Collision

All types of pedestrian accidents, including collision with pedestrians coming from between parked cars, are usually considered preventable. There are few instances where the action of pedestrians is so unreasonable that the operator could not be expected to anticipate such an occurrence.

Collisions with animals are normally preventable, unless the movement on the part of an animal was unusual and unexpected. This is also taking into consideration the fact that the driver was aware of animals in the vicinity.

1. Did the driver go through congested sections expecting that pedestrians would step in front of the vehicle?

2. Was the driver prepared to stop?

3. Did the driver keep as much clearance between his or her vehicle and parked vehicles, as safety permitted?

4. Did the driver stop when other vehicles has stopped to allow pedestrians to cross?

5. Did the driver wait for the green light or stop for the caution light?

6. Was the driver aware of children and prepared to stop if one ran into the street?

7. Did the driver give all pedestrians the right-of-way?

8. Did the driver stop for a school bus which was stopped and properly signaling that passengers were loading or unloading?

IF THE ANSWER TO ANY QUESTION IS NO,

THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS RESPONSIBLE.

Parked or Stopped

Accidents occurring when vehicles are properly and legally parked are considered nonpreventable. Accidents occurring while the vehicle was double parked or in a "No Parking" zone are preventable.

1. Was the vehicle parked on the proper side of the road?

2. Was it necessary to park near the intersection?

3. Did the driver have to park on the traveled part of the highway, on the curve, or on the hill?

4. When required, did the driver warn traffic by emergency warning devices?

5. Did the driver park parallel to the curb?

6. Was it necessary to park so close to an alley or directly across from a driveway?

IF THE ANSWER TO ANY QUESTION IS NO,

THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS RESPONSIBLE.

Noncollision Vehicle Damage, Mechanical Failure, and Miscellaneous Problems

The accident should be considered preventable if the investigation shows a mechanical defect of which the driver was aware, a defect the driver should have found by inspecting the vehicle, or the driver caused by rough and abusive handling.

When a mechanical failure is sudden or unexpected, not resulting from abuse or ordinary wear, it may be considered nonpreventable. Bad brakes should not be considered a mechanical failure unless the failure was sudden and the driver could have had no previous knowledge of the condition. However, this type of failure cannot excuse a driver who does not know how to properly pre-trip inspect the vehicle or is too lazy to do the inspection correctly.

It is a driver's responsibility to keep the cargo in mind and be aware of any sudden vehicle movements which may cause damage to the cargo. Driving off the highway to avoid a collision may be preventable. Drivers should try not to place themselves in such a position. "U" turns are a monkey wrench in the smooth flow of traffic. Accidents which occur while this maneuver is attempted are considered preventable.

1. Could the driver have done anything to avoid the accident?

2. Was the driver's speed safe for conditions?

3. Did the driver obey all traffic signals?

4. Was the driver's vehicle under control?

5. Did the driver follow the routing and delivery instructions?

IF THE ANSWER TO ANY QUESTION IS NO,

THE DRIVER WAS NOT DRIVING DEFENSIVELY AND IS RESPONSIBLE.

VEHICLE INSPECTION REPORT

This report is due during the month of **April** and **October** each year. A separate report must be completed for each unit. After completion this report should be forwarded to: _____

Date: _____
Vehicle unit number: _____ License number: _____ Mileage:_____
Branch and Department number: _____ Driver: _____ _____
Reporting office:_____ Department:_____ _____
Year: _____ Make:_____ Model: _____
Serial number:_____

4 cylinder 6 cylinder _____other Cruise Tilt wheel

INSPECT AND CHECK ONE:

Lights

Head:	❑ OK	❑ Out	Back-up:	❑ OK	❑ Out
Parking:	❑ OK	❑ Out	Side:	❑ OK	❑ Out
Tail:	❑ OK	❑ Out	Flashers:	❑ OK	❑ Out
Directional:	❑ OK	❑ Out			

Tires

Front left:	❑ Good	❑ Fair	❑ Poor	Front right:	❑ Good	❑ Fair	❑ Poor
Rear left:	❑ Good	❑ Fair	❑ Poor	Rear right:	❑ Good	❑ Fair	❑ Poor
Conventional spare:	❑ Good	❑ Fair	❑ Poor	Snow tires:	❑ Yes	❑ No	

Mini spare: ❑ Yes ❑ No ❑ Good ❑ Fair ❑ Poor

Note and explain uneven wear:_____
_____

Brakes

Check for master cylinder leaks. If unusual conditions, explain: _____
_____
_____

Check brake pedal: ❑ High ❑ Low

Comments: _____
_____
_____

Check brake fluid: ❑ Full ❑ Low

Exterior

Paint, overall condition: ❑ Good ❑ Fair ❑ Poor
Chrome, overall condition: ❑ Good ❑ Fair ❑ Poor
Glass, overall condition: ❑ No damage ❑ Damage

Explanation of overall exterior condition: _____
_____

Nonstandard ornamentation or equipment? (decals, trailer hitch, etc.) ❑ Yes ❑ No

If "Yes," describe:_____
_____

Exterior damage? ❑ Yes ❑ No

If "Yes," note and explain estimated cost of repairs: _____
_____

If "Yes," was claim submitted? ❑ Yes ❑ No

If "No," why not:_____
_____

Interior

Overall appearance:	❑ Clean	❑ Worn	❑ Dirty		
Condition of seats:	❑ Good	❑ Springs broken	❑ Sagging		
Condition of upholstery:	❑ Clean	❑ Worn	❑ Dirty	❑ Torn	❑ Burn holes
Condition of carpets:	❑ Clean	❑ Worn	❑ Dirty	❑ Torn	
Floor mats:	❑ Yes	❑ No			
Windshield wipers:	❑ Good	❑ Fair	❑ Poor		
Knobs, handles, etc.:	❑ Good	❑ Broken	❑ Missing		

Accessories:		
Flash light:	❑ Yes	❑ No
Horn working:	❑ Yes	❑ No
Safety belts:	❑ Working	❑ Nonworking
Windshield scraper: (if applicable)	❑ Yes	❑ No
Rear window defroster:	❑ Working	❑ Nonworking
Accident report kit:	❑ Yes	❑ No
Driver's manual:	❑ Yes	❑ No
Condition of trunk:	❑ Clean	❑ Dirty
Accessories:		
Jack:	❑ Yes	❑ No
Handle and base:	❑ Yes	❑ No
Lug wrench:	❑ Yes	❑ No
Flares or reflectors (2-6):	❑ Yes	❑ No

Under Hood

Engine: ❑ Clean ❑ Dirty

Note apparent leakage: _____
_____

Engine oil: ❑ Full ❑ Low
Condition: _____

Mileage of last oil change: _____ Mileage of last filter change: _____
Mileage of last lubrication:_____

Windshield washer fluid: ❑ Full ❑ Low
Battery water level: ❑ Full ❑ Low
Nonfillable: ❑ Yes ❑ No
Transmission fluid condition: ❑ Full ❑ Low Color: ❑ Red ❑ Black
Power steering fluid: ❑ Full ❑ Low

Overall Rating of Car

Excellent ❑ Good ❑ Fair ❑ Poor

Driver's comments: _____
_____
_____

Inspector's comments and recommendations:_____
_____
_____

Inspector's signature:_____
Branch/Fleet Coordinator signature: _____
Driver's signature:_____
Scheduled completion date of corrective action: _____

M.J. VanDamme Trucking, Inc.

Hours of Service Log Policy

A driver's hours of service are regulated by Federal, State, and Local agencies and are part of the Federal Motor Carrier Safety Administration, (FMCSA) regulations, specifically contained in 49 CFR Part 395.1 thru 395.38.

M.J. VanDamme Trucking, Inc is strongly committed to being in full compliance with the current Federal Hours of Service, (HOS) Regulations. All company operations personnel, company-employed drivers, or any other individuals whose main duty is operating commercial motor vehicles under the authority of the company are subject to this Hours of Service Log Policy.

Per FMCSA CFR Part 395.3:
No motor carrier shall permit or require any driver used by it to drive a property-carrying commercial motor vehicle, nor shall any such driver drive a property-carrying commercial motor vehicle, regardless of the number of motor carriers using the driver's services, if the driver is in violation of the hours of service regulations.

All drivers that have a working ELD Unit installed in their assigned vehicle, SHALL log in, and are required to use the Hours of Service (E-LOG) portion of the system. If the ELD unit is inoperable, drivers are required to use the forms provided by M.J. VanDamme Trucking Inc. to keep track of their HOS (i.e. timecards, trip sheets, and a paper log if the driver operates a CMV vehicle outside of short haul parameters).

No Paper log* is required if you meet the following criteria:

*If you are operating a truck equipped with an ELD M.J. VanDamme Trucking requires those drivers to log in and use the ELD system whether "short" or "long" haul.

There are 4 key components required to meet the FMCSA definition for short haul.

You must:

- Start and return to same location within 12 hours of duty time

- Drive no more than 11 hours

- Have 10 consecutive hours off between shifts

- Not exceed a 100- air mile radius from your starting location

To fall under the short haul definition all 4 of the components must be met.

No break of any length is required for short haul drivers

A Paper Hours of Service (HOS) Log is required when:

- You exceed the 100 air mile radius
- Your shift exceeds 12 hours

Federal Requirements

11 Hour Driving Rule:

A driver may drive a total of 11 hours during a 14-hour period. All time spent behind the wheel is considered driving time. After 11 hours of driving time, you must have 10 consecutive hours off duty or in the sleeper berth before you can drive again.

14 Hour On-duty Rule:

A driver may drive only during a period of 14 consecutive hours after coming on duty following 10 consecutive hours off duty. The driver may not drive after the end of the 14th consecutive-hour period without first taking 10 consecutive hours off duty.

The 14 hours are consecutive from the time you start your tour of duty. Any Off-Duty time less than 10 hours or any Sleeper-Berth time less then 8 hours will count against the 14 hour rule.

On-duty time is defined as all time from the time you begin work or are required to be ready for work until you are relieved from work and all responsibility for doing work if:

- Waiting to be dispatched
- Inspecting, servicing, or conditioning a commercial motor vehicle
- Driving (at the controls of your vehicle)
- In or on your vehicle (except time spent in the sleeper berth)
- Loading or unloading your vehicle
- Repairing, obtaining assistance, or attending to a disabled vehicle
- Performing any other work for a motor carrier
- Complying with drug or alcohol testing requirements
- Performing compensated work for any other employer

30 Minute Rest-Break Rule:

After June 30, 2013, driving is not permitted if more than 8 hours have passed since the end of the driver's last off-duty or sleeper-berth period of at least 30 minutes or more.

The 8 hours are consecutive hours, so they include driving and all other time (including any breaks that are less than 30 minutes). The rule says you have to stop driving CMVs once you reach 8 consecutive hours past the end of your last break of at least 30 consecutive minutes. **The rule does not apply to drivers using the short-haul exceptions in 395.1**

If you started your shift as a “short haul” driver and your shift goes beyond 12 hours and you need to continue driving you will need to take your 30 minute break at the soonest, safest opportunity and when clearly marking the break on your log indicate why it was taken after 8 hours into your shift.

Sleeper-Berth Exception:

A driver who operates a property-carrying commercial motor vehicle equipped with a sleeper berth, as defined in 49 CFR Parts 395.2 and 393.76 can use the Sleeper-Berth Exception. For the Sleeper-Berth Exception to apply the driver must have:

- At least 10 consecutive hours of Sleeper-Berth time or;

- At least 8 consecutive hours but less than 10 consecutive hours in a sleeper berth, and a separate period of at least 2 consecutive hours but less than 10 consecutive hours either in the sleeper berth or off duty, or any combination thereof.

If you choose to use this exception, when recalculating your available driving time following your second sleeper berth period, you must be careful. Your On-duty and Driving time starts at the end of the first Sleep-Berth period.

- For example, you spend 8 hours in the first Sleeper-Berth period, drive for 4 hours then take 2 hours in the second Sleeper-Berth period. Upon completion of the second Sleeper-Berth period you can now drive for only 7 hours and be on-duty for 8 hours. This continues to be true following each qualifying Sleeper-Berth period until you have 10 consecutive hours off duty.

70 Hours of Service Rule:

M.J. VanDamme Trucking, Inc. operates every day of the week, and runs under the 70 hours/8 days hours of service ruleset. Which means no driver shall drive or be allowed to drive after accumulating 70 hours on-duty time in any 8 consecutive days.

34-Hour Restart:

As of June 30, 2013, any period of 70 hours of being on duty in 8 consecutive days will reset after taking 34 or more consecutive hours off duty.

HOS Logging Form and Manner:

The following information must be included on the driver HOS logs in addition to the change of duty status noted on the on the grid:

- Date;
- Total miles driving;
- Truck or Tractor and Trailer number;
- Name of Carrier & Main office address;
- Driver's signature;
- Remarks;
- For each change of duty status (e.g., the place of reporting for work, starting to drive, on-duty not driving and where released from work), the name of the city, town, or village, with State abbreviation, shall be recorded in the Remarks section of the log.
- Name of Co-Driver; (where applicable)
- Shipping document number (s) or name of shipper and commodity.
- Annotation of fuel stops, pre-trip inspection, post-trip inspection, and any D.O.T roadside inspections or traffic stops

Failure to complete the record of duty activities, failure to preserve a record of such duty activities, or making a false report in connection with such duty activities shall make the driver and/or the carrier liable for prosecution.

M.J. VanDamme Trucking, Inc. maintains and retains for a period of 6 months accurate and true time records showing:

- The time the driver reports for duty each day;
- The total number of hours the driver is on duty each day;
- The time the driver is released from duty each day; and
- The total time for the preceding 7 days in accordance with § 395.8(j)(2) for drivers used for the first time or intermittently.

Post/Pre Trip Inspections:
Both must be recorded on the HOS log as "on-duty not driving" and must be shown for each inspection. Pre and Post trip inspections need to be reflected on your RODS even if you are only completing a timecard or trip sheet. Any defects found during a Pre / Post Trip inspection must be documented using the provided Paper DVIR. The DVIR must then be turned into the Maintenance Department. You are required to submit, in writing any findings of damage or mechanical problems found during both the Pre-trip and Post-trip inspections.

Violations of M.J. VanDamme Trucking Inc. Hours of Service Policy:

The following disciplinary policy has been put in place as part of the ongoing audit process for Record of Duty Status (RODS) and Hours of Service (HOS) Violations found on GPS, time records, and logs submitted by drivers.

1. Drivers shall receive 5 written warnings outlining the violation and shall sign off acknowledging receipt of each warning.

    a. One signed copy shall be kept by the driver and the other will be kept by the driver's supervisor
    b. Signed warnings kept by the supervisor will be provided to Human Resources and kept in the employee's personnel file

2. After receiving 5 warnings (within a 6 month timeframe) the driver will be put on 30 calendar days probation

    a. If during the 30 days any additional RODS or HOS violations take place the driver will receive 3 days of unpaid time off from work.

    b. After 3 unpaid days from work any subsequent RODS or HOS violations during the 30 calendar day probation period will be addressed from a disciplinary stand point on a case by case basis.

    c. Warnings stay applicable toward the 30 calendar day probation for a driver for a 6 month timeframe. The same timeframe the D.O.T requires carriers to keep Record of Duty Status (RODS) and Hours of Service (HOS) records on file for review and audit purposes.

3. After the 30 calendar days probation period (with no additional violations) has passed; warnings re-set and subsequent warnings received by the driver will start counting up again from warning #1.

    a. As stated above if additional violations took place during the 30 calendar day probationary period different steps will be taken on a case by case basis. These steps may affect the timing of the driver's warning re-set or potentially extend the probationary time.

By signing below the driver acknowledges that he/she has read, understands, and agrees to comply with M.J. VanDamme' s Hours of Service Log Policy:

_____ _____

Driver Signature Date

Risk / Hazard Assessment Plan

1. **Overview**
    a. This section covers the development and requirements for Risk / Hazard Analysis Planning (RHAP) including Job Safety Analysis (JSA). All employees / sub-contractors shall be trained in this procedure prior to working on any MJVD worksite.

2. **Purpose**
    a. To provide a consistent methodology for conducting pre-job safety analysis.
    b. To assure identification, at all employee levels, of all potential hazards and the corrective measures to prevent injuries.
    c. To promote employee participation in the development of the safety plans for jobs and tasks.
    d. A number of approaches have been used in recent years to prevent incidents and improve safety and health conditions in the workplace. Among the most effective of these the Job Safety Analysis (JSA) which is developed following the completion of the Risk / Hazard Analysis Plan (RHAP). RHAP is based on the following ideas:
        i. That a specific job or task can be separated into a series of relatively simple steps:
        ii. That the hazards associated with each step can be identified, and:
        iii. That the solutions can be developed to control each hazard.

3. **BASIC STEPS TO DEVELOP RHAP**
    a. Select the job or task to be analyzed
    b. Separate the job or task into its basic steps
    c. Identify the hazards associated with each step
    d. Control / mitigate each hazard

4. **Job Selection**
    a. All jobs require the development of a Risk / Hazardous Analysis Plan; however, there are some jobs which require additional scrutiny. The following list may be useful in determining when to apply additional resources to the development of Risk / Hazard Analysis Planning:
        i. Jobs or tasks which have produced higher accident frequency
        ii. Jobs or tasks which have resulted in higher accident severity
        iii. Jobs or tasks which have a higher potential for accidents
        iv. Jobs or tasks which are new
        v. Jobs or tasks which are non-routine
        vi. Jobs or tasks which have had changes to personnel, materials, or procedures.
        vii. Routine jobs or tasks which have been overlooked

5. Break Down Jobs

a. Most jobs or tasks will break down into 10 or fewer basic steps. Careful consideration will result in the correct identification of the basic steps in the job or tasks. Care should be taken to assure the steps are not too long or detailed or the JSA can become unnecessarily long and trivial. Conversely, the steps should not be too broad or general to assure the steps which should be mentioned are not missed and the hazards associated with them are not overlooked.

6. Identify Hazards

a. Each basic step must be examined to identify hazards of potential accident sources. Included within this step are the hazards associated with machines, tools, supplies, job procedures, and the environment. The following questions should serves as guide in identifying specific hazards:
    i. Can the worker come in **CONTACT WITH** any energy source or hazardous material?
        1. Electricity
        2. Chemicals
        3. Heat / Cold
        4. Radiation
        5. Gases or fumes
        6. Water or steam
        7. Poor Air
    ii. Can the worker be **STRUCK BY** anything?
        1. Moving or flying objects
        2. Falling material
    iii. Can the worker **STRIKE AGAINST** anything?
        1. Stationary or moving objects
        2. Protruding objects
        3. Sharp or jagged edges
    iv. Can the worker be **CAUGHT IN, ON**, or **BETWEEN** anything?
        1. Pinch Points
        2. Protruding objects
        3. Moving and / or stationary objects
    v. Can the worker slip, trip, or **FALL**?
        1. To the same level
        2. To lower level
    vi. Is there a possibility of **OVEREXERTION**?
        1. Lifting
        2. Pulling
        3. Pushing
    vii. Can the worker be **EXPOSED** to anything?
        1. Noise
        2. Sun

7. Control the Hazard

a. The next part of the process is to develop Hazard Preventive Measures to eliminate or reduce potential accidents or hazards that have been identified.
b. The following points should be considered for each hazard identified:
    i. Can a less hazardous way to do the job be found?
    ii. Can the physical conditions that created the hazard be changed?
    iii. If the hazards cannot be engineered out of the job, can the job procedure be changed?
    iv. Can the necessity of doing the job or the frequency of performing the job be reduced?
    v. Can personal protective equipment be used?

8. Requirements

a. The supervisor is responsible for development of the Risk / Hazard Analysis Planning of every job and task worked.
b. Employees are responsible for following the RHAP and developing the Job Safety Analysis
c. **All** are responsible to assure the RHAP and JSA are current and updated as necessary.
d. The RHAP need not be developed on a daily basis but it must reflect current conditions on the job.
e. The JSA must be developed and reviewed daily with all employees prior to beginning work.
f. Every employee working on that job must have documented and dated proof of having reviewed the JSA

9. Additional Self-Inspections/Observations

a. Safety Interactions (observations) will be performed regularly on MJVD jobsites/employees. Safety Interaction (SI) Forms, found as Appendix A, shall be used as a tool by supervisors to aid in the development and growth of our Risk / Hazard identification, assessment, mitigation and control.
b. Interactions will be performed in accordance with the Interaction Schedule. This schedule is prepared in advance and made available to all supervisors for completion. Each employee will receive an Interaction at least twice per year. Additional observations will be made as needed in direct response to incident or near-miss follow-up. Observations will also be a tool when converting SSE to full service employees.
c. Interactions can/will be performed as project needs arise. Additionally, can/will be performed randomly, unannounced at any time.
d. The goal of each Interaction is to observe an employee while in a productive setting. During the interaction, all safe observations will be checked on the form. Unsafe observations will be noted as well. Conduct as follows:
    i. Obtain Interaction Form.
    ii. Complete Header Section of form as appropriate.

iii. Engage employee in their work environment. Explain the purpose/goals of the Interaction prior to beginning the Interaction.
iv. Observe the employee as they complete a task that is a normal part of their work assignment. Make as many safe observations as possible. Indicate the safe observations made in Group A-F of the form by simply making a check next to each item.
v. If an unsafe observation is made, place a number next to the item in Group A-F, in place of the checkmark. Transfer this number to the Unsafe Observation section. Complete the section as indicated by the form. Apply corrective action as appropriate.
vi. Complete comment section, sign the form when completed.
vii. Discuss findings with observed employee. Allow employee to comment by completed employee comment section. Observed employee signs form, completing the observation.
viii. Observer submits completed interaction form for distribution.
ix. Safety Director/Management Team will provide feedback/coaching to staff based on observations made. Findings of Interactions will also be used during staff training for behavior acknowledgement.

e. The Safety Director shall train all personnel on proper completion of these forms including proper assessment of the severity of the identified hazards.
    i. Safety Observations, utilizing the SI Forms shall be completed daily on all active MJVD work sites per the Interaction schedule.
    ii. After completion and promulgation, copies shall be turned in to the Safety Director for safety trend analysis and development of future safety training. Quantity of Safe Observations and Unsafe Observations will be compiled per Interaction. This information will be collected on a monthly basis for comparison.
    iii. Analysis of Unsafe Observation compiled by type and employee type will also be made on a monthly basis.

Appendix A

Safety Interaction Form (Revised:030615) **Employee:**_____ **Project:**_____

Date of Interaction:_____
Area:_____
Facilitator:_____
Tracking Number:_____

Group A Personal Protective Equipment		Group B Falling Hazards		Group C Work Environment		Group D Tools & Equipment		Group E Procedures		Group F Housekeeping	
Safety Belts/Harnesses		Ladders		Sufficient Lighting		Right Tool/Equipment		Lockout/Electrical/Mech.		Clear Passageways	
Eye Protection		Scaffolds/Complete		Adequate Ventilation		Proper Use/Guard		Vessel Entry/Confined Space		Scrap/Debris Disposed	
Respiratory Protection		Leading Edge		Temperature Extremes		Current Inspection-Tool		Work Permit/Hot Work Permit		Trash Cans/Dumpsters	
Head Protection		Floor Holes/Openings		Aware of Area Hazards		Trained/Task Training		Competent Person		Floor Broom Cleaned	
Hand Protection		Trip/Slip Hazards		Aware of Area Alarms		In Good Condition		JSA/Pre-Task		Materials Storage	
Foot Protection		Falling Objects		In Line of Fire		Using GFCI's		Hazard Communication/SDS		Hoses/Cords/Routing	
Hearing Protection		Work Surface Condition		Lifting Techniques		Seat Belt in Use		Barricades/Signage		Area free of waste	
Proper Clothing		3-Points/Contact		Excavation/Surface Pen		Back-up Alarm		Current Forms/Proper Useage			
Fire Extinguisher				Security/Traffic		Pre-Op Complete-Equip		Calibration of Instruments			
First Aid Kit								SOP			
# of Safe Observations		# of Safe Observations		# of Safe Observations		# of Safe Observations		# of Safe Observations		# Safe Observations	

Item Number	Group Category	Unsafe Observation	Responsible Supervisor	Corrective Action	Further Action Required Yes or No?	Person Corrected/Date of Completion

Facilitator Comments:

Employee Comments:

Facilitator Signature/Date:

Employee Signature/Date:

Multipurpose Interaction

PROJECT: _____ LOCATION: _____

PRINT NAME: _____ SIGNATURE: _____

DATE/INTERACTION: _____ DATE/SUBMITTED: _____
(Day / month / year) **(Day / month / year)**

It is the mission of MJ Van Damme Trucking, Inc. to keep our employees safe at all times and in all conditions. Additionally, it is MJVD's mission to keep all job sites safe and accident/incident free.

1. **Purpose**

   Eliminate incidents and accidents/improve team work/reinforce safety. The following procedures will be implemented to accomplish this objective.

2. **Short Service Employee**
   a. An employee is generally considered a "short service employee" if he/she has less than 6 months experience with his/her present employer, or in his/her present role.
   b. A "short service employee" may not work alone. A work crew of less than 5 employees may NOT have more than one "short service employee".
   c. Prior to starting a project, it is the responsibility of MJVD's Site Foreman to notify the client's site coordinator for the project that there is a "short service employee" working on the site.
   d. "Short service employees" will be visibly identifiable by the use of an "orange" vest with a badge indicating "training". MJVD's Site Foreman will make the client aware as to how they are able to identify these employees.
   e. Per the previous procedures under "training" the "short service employee" will be monitored and mentored. When they have attained the correct knowledge of not only the equipment but also the HASP and general operating procedures/safety measures the hi-visibility identifiers will be removed, the client will be notified and documentation will be sent to the office for files.
   f. A person mentoring may only have one Short-Service employee assigned to their crew at a time and they must remain on site with them at all times.
   g. Subcontractors must manage their "short service employees" in accordance with the requirements of the MJVD's "short service employee" procedures.
   h. MJVD is committed to providing both a job site which is free from recognized hazards as well as one supporting the health and safety of all their employees, subcontractors, as well as other individuals who may be exposed to potential hazards at the job site.
   i. A short service employee who is involved in an incident / accident within the first 30 days of employment will be subject to disciplinary action up to and including termination.
   j. The "supervisor" of a short service employee requiring termination will have a "reprimand" submitted to their personnel file.
   k. A "supervisor" who has received a "reprimand" may not serve as a supervisor to a short service employee for 30 days after an incident.

3. Annual Training

a. As part of our annual training certification for all equipment that is used in our "normal" day to day operation will be completed (this is to include equipment owned & rented by MJVD).

4. Safe Driver Training

a. All employees will be required to complete "safe driver training" annually. This training will incorporate an online training from the National Safety Council for defensive/safe driving as well as the MJVD internal drivers training which includes:
    i. Cell phone practices
    ii. Parking procedures
    iii. Safe driving knowledge

b. All employees are hired on a "profile" basis. Upon application, the prospective employee is required to submit documentation regarding the training and experience that they have accumulated. A resume, driving record review, references, and personal interview are utilized to ensure that each perspective employee fits the "profile".
    i. Minimum qualification requirements are identified for each position and all tasks involving operation of mobile equipment.
    ii. The HR Manager will verify prospective employees meet these minimum qualifications before hire.

c. Employees will be instructed to advise "Foreman" if the task they are going to perform or the equipment they are going to operate is "new" to them. At the time this is identified the following procedure will be followed:
    i. Coaching/Mentoring
        1. Foreman will proceed with a training/overview of equipment operation and/or task to include detailed operation as well as hazards when performing tasks.
        2. Foreman will observe employee for a period of time until Foreman feels employee has complete understanding/control of the equipment/situation.
        3. Foreman will make scheduled observations for the first week the employee operates new equipment/performs new task.
        4. Foreman will certify that the employee has completed training and can operate without observation. (Certification to be sent to MJVD office)
        5. Foreman will utilize the Qualification Checklist (on file) per equipment type, to verify operational proficiency. Submit completed checklist to MJVD office as stated in (4) above.
        6. Foreman will do weekly discussions with employee after certification to be sure employee has ample opportunities to ask questions about equipment/task.

7. MJVD employees onsite will be made aware that employee is "new" to this operation/task so as to observe and mentor employee for successful operation and safety for all.

5. SUBCONTRACTOR Employees

a. When issuing a Contract to a Subcontractor a list of equipment/tasks anticipated at job location will be included.
b. Contractor will be required to include training details for employees or notify us training is needed
c. Although it is preferred that Subcontractors come trained for the operation being performed it is also acknowledged that situations may occur that this is not possible and MJVD also acknowledges that equipment & tasks may change once arriving at the site location.
d. Subcontractor will be advised that all employees arriving at the job site will be required to follow MJVD's Coaching/Mentoring program as detailed below:
e. Employees will be instructed to advise "Foreman" if the task they are going to perform or the equipment they are going to operate is "new" to them. At the time this is identified the following procedure will be followed:
    i. Coaching/Mentoring
        1. Foreman will proceed with a training/overview of equipment operation and/or task to include detailed operation as well as hazards when performing tasks.
        2. Foreman will observe employee for a period of time until Foreman feels employee has complete understanding/control of the equipment/situation.
        3. Foreman will make scheduled observations for the first week the employee operates new equipment/performs new task.
        4. Foreman will certify that the employee has completed training and can operate without observation. (Certification to be sent to MJVD office/Subcontractor will be copied on all certifications)
        5. Foreman will do weekly discussions with employee after certification to be sure employee has ample opportunities to ask questions about equipment/task.
        6. All MJVD employees onsite will be made aware that employee is "new" to this operation/task so as to observe and mentor employee for successful operation and safety for all.

Ergonomics

1. **Purpose**

    a. It is our intent to take all reasonable precautions to protect the health and safety of its employees, the public, and the environment. As part of this commitment, we have implemented the Ergonomics Program, whose primary objective is to prevent injuries and illnesses in the workplace.

2. **Scope**

    a. This section applies to all employees, worksites, and subcontractors.

3. **Responsibilities**

    a. Management at all levels is responsible for the anticipation, identification, application, coordination, and execution of this procedure. All employees shall be instructed in the existence of the Ergonomics program and its elements. To accomplish this requirement the additional roles and responsibilities are:

        i. Management

            1. Provide training for individuals responsible for Ergonomics assessments and program implementation.

            2. Conduct inspections to identify deficiencies in the Ergonomics program.

            3. Provide appropriate supplies on all sites.

        ii. Employees

            1. Report all incidents immediately

            2. Report personal health conditions to supervision.

            3. Follow the Ergonomics program rules.

        iii. Host Employer

            1. The host employer's Ergonomics practices will be adopted and adhered to where they are more stringent than these requirements or where mandated.

2. Our utilization of this procedure on a host employer's work site must be in compliance with the host employer's requirements as well as local, federal, and state regulations.

4. Definitions

a. Ergonomics – the science of fitting the job to the worker

b. Administrative Controls – are procedures and methods that significantly reduce daily exposure by altering the way in which work is performed.

c. Engineering Controls – are physical changes to jobs that control exposures at the source by changing, modifying, or redesigning. The use of ergonomically-friendly equipment will also be considered as a form of engineering control.

d. Physicians or other Licensed Health Care Professionals (PHLCP) – are persons educated and trained in the delivery of health care services who are operating within the scope of their license, registration, certification or legally authorized practice.

e. Job Factors – are workplace conditions and physical work activities that must be considered when conducting a job hazard analysis.

f. Work Related Musculoskeletal Disorder (WMSD) – are injuries or illnesses to the muscles, joints, tendons, or nerves (Soft Tissues).

g. Manual Handling Operations – include:

   i. Lifting/lowering, pushing/pulling, or carrying, and

   ii. Exertion of considerable force because the particular load is heavy or the cumulative totals of the loads during the workday is heavy; and

   iii. Manual handling work activities which are a significant portion of the employee's regular job duties.

h. Musculoskeletal Disorders (MSD) – injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage, and spinal disks.

i. Signs (of WMSDs) – are objective, observable physical findings of MSDs

j. Symptoms (of WMSDs) – are physical reports (not observable) of physical pain or discomfort.

5. Ergonomics Assessment

a. Site management will conduct an Ergonomics Assessment quarterly. It is desirable that site management establish a site team with employees, supervisors, and safety personnel to conduct the assessment. The assessment will be forwarded to operating company safety manager and president.

6. Management Leadership and Employee Involvement

a. Employees are highly encouraged to bring their concerns to supervisors and management. Feedback from employees is an important means of identifying ergonomic hazards. When an Ergonomics concern or hazard is brought to management's attention, management will provide a response and recommendation within 72 hours of receiving notification of the hazard or concern.
b. Workers who experience fatigue/tiredness while at work are to report their condition to their supervisor immediately.

7. Hazard Identification

a. Hazards are identified through:

i. Routine safety audits, inspections, and observations.

ii. Review of Supervisors Incident Reports.

iii. Employee reports of hazards or concerns.

iv. Ergonomic Assessments

8. Employee Information

a. For those current and new employees in positions and crafts with potential for
b. WMSDs the following information will be provided:

i. How to recognize signs and symptoms of WMSDs and the importance of early reporting

ii. Hazards that are reasonably likely to be causing or contributing to WMSDs

iii. How to report hazards / concerns and how to make recommendations.

iv. Information methods include, but are not limited to:

1. Video presentations

2. PowerPoint slide presentations and handouts

v. Employees receive Ergonomics awareness through new employee orientation.

9. Job Hazard Analysis

a. The purpose of Job Hazard Analysis is to identify WMSD hazard elements to facilitate evaluation of effective control measures. When WMSD hazards are identified, a full JHA will be conducted and control measures implemented to eliminate or control the hazards to the extent feasible.

10. Control Measure Process

a. Where solutions are obvious and the hazards may be eliminated quickly, implementation of controls is permitted without following all of the steps of the Control Measure Process. Interim control measures may be implemented, if practical, until permanent controls are in place. The Control Measure process involves:

i. Identification, evaluation, implementation, and follow up of feasible control measures (interim and permanent) to control WMSD hazards. This includes prioritizing the control of WMSD hazards, where necessary.

ii. Tracking progress in controlling the WMSD hazards, particularly if prioritizing is necessary.

iii. Communication of results of the job hazard analysis to other areas of the workplace or company whose assistance may be needed to successfully control the WMSD hazard.

iv. Identification of hazards when equipment is changed, redesigned, or purchased and when change occurs in processes or facilities.

11. Control Methods

a. To control worker fatigue, limiting work hours and controlling work schedules (staff/work balance) will be practiced.
b. Additionally, the following steps in the hierarchy of controls will be considered in the following sequence:

    i. Elimination of the hazard.

    ii. Substitution

    iii. Engineering Controls

    iv. Work Practice Controls

    v. Administrative Controls

    vi. PPE

12. Training

a. Training will be provided to new employees at orientation and to all employees in crafts or tasks which have been identified as having potential WMSD hazards on an annual basis.

b. Supervisors and foreman

c. Managers and persons involved in setting up and administering the Ergonomics program.

d. Any employee observed not following ergonomics rules or whose job performance indicates they have not comprehended the program requirement will be retrained.

The following additional areas will be covered for all:

- Work/Rest regimen (Self Determination)
- Information regarding fluid intake
- Cool-down procedures
- Physical conditioning (eating properly, sufficient sleep, etc.)
- Effects of alcohol consumption and OTC medications
- Commitment that chronic use of OTC medications, prescriptions, drugs, or any other product that can affect ability to perform work safely, will be avoided.

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	7

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/15/2020	NA	NA	COVID-19 Exposure Prevention, Preparedness, & Response Plan

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[ ]	For Approval	[ ]	Approved as submitted	[ ]	Resubmit	____	copies for approval
[ ]	For your use	[ ]	Approved as noted	[ ]	Submit	____	copies for distribution
[ ]	As requested	[ ]	Returned for corrections	[ ]	Return	____	corrected prints
[X]	For review & comment	[ ]					

REMARKS: COVID-19 Exposure Prevention, Preparedness, and Response Plan is attached for review.

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/15/2020

COVID-19
Exposure Prevention, Preparedness, and Response Plan

Preamble

COVID-19
Exposure Prevention, Preparedness, and Response Plan

MJ Van Damme Trucking, Inc. (hereinafter "MJVD") takes the health and safety of our employees very seriously. With the spread of the coronavirus or "COVID-19," MJVD must remain vigilant in mitigating the outbreak. MJVD is a proud part of several essential industries, that have been deemed "essential" during this Declared National Emergency. In order to be safe and maintain operations, we have developed this COVID-19 Exposure Prevention, Preparedness, and Response Plan to be implemented, to the extent feasible and appropriate, throughout MJVD and at all of our worksites. MJVD has also identified a team of employees to monitor the related guidance that U.S. Center for Disease Control and Prevention ("CDC") and Occupational Safety and Health Administration ("OSHA") continue to make available.

Every region, operation, and/or construction project is different. What is feasible and appropriate for some will not be for others. Unique characteristics of each region, operation, or project determine the appropriate course of action. This document cannot be a definitive statement of the protocols and procedures that are applicable to all. In addition, new and better information could well supersede the information included in this document. As any situation evolves, we will continue to monitor the environment in which we are working and related developments and react accordingly.

This Plan is based on information available from the CDC and OSHA at the time of its development and is subject to change based on further information provided by the CDC, OSHA, and other public officials. MJVD may also amend this Plan based on operational needs.

Responsibilities of Managers and Supervisors

All managers and supervisors must be familiar with this Plan and be ready to answer questions from employees. Managers and Supervisors must set a good example by following this Plan at all times. This involves practicing good personal hygiene and jobsite safety practices to prevent the spread of the virus. Managers and Supervisors must encourage this same behavior from all employees.

Responsibilities of Employees

MJVD is asking every one of our employees to help with our prevention efforts while at work. In order to minimize the spread of COVID-19 at our worksites, everyone must play their part. As set forth below, MJVD has instituted various housekeeping, social distancing, and other best practices at our worksites. All employees must follow these. In addition, employees are expected to report to their managers or supervisors if they are experiencing signs or symptoms of COVID-19, as described below. If you have a specific question about this Plan or COVID-19, please ask your manager or supervisor. If they cannot answer the question, please contact your Human Resources Representative.

OSHA and the CDC have provided the following control and preventative guidance for all workers, regardless of exposure risk:

- Frequently wash your hands with soap and water for at least 20 seconds. When soap and running water are unavailable, use an alcohol-based hand rub with at least 60% alcohol.
- Avoid touching your eyes, nose, or mouth.
- Follow appropriate respiratory etiquette. Cover your nose and mouth with a tissue for coughs and sneezes. Discard the tissue in the trash and wash or sanitize your hands.
- Clean and Disinfect frequently touched objects and surfaces.
- Avoid close contact with people who are sick.
- Stay home when you are sick, except to get medical care.

In addition, employees must familiarize themselves with the symptoms of COVID-19, which include the following:

- Coughing,
- Fever,
- Shortness of breath, difficulty breathing; and
- Early symptoms such as chills, body aches, sore throat, headache, diarrhea, nausea, and runny nose.

If you develop a fever and symptoms of respiratory illness, such as cough or shortness of breath, DO NOT GO TO WORK and call your supervisor and healthcare provider right away. Likewise, if you come into close contact with someone showing these symptoms, call your supervisor and healthcare provider right away.

Worksite Protective Measures

MJVD has instituted the following protective measures at all worksites:

General Safety Policies and Rules

- All employees retain the right to refuse work authority and are encouraged to exercise this right where risks cannot be adequately controlled or where they feel uncomfortable with the situation.

- Any employee/contractor/visitor showing symptoms of COVID-19 will be asked to leave the worksite and return home.

- In person worksite safety meetings should be replaced with alternate electronic means. Conference call, video conferencing, or other means are recommended. If safety meetings are conducted in-person, attendance will be collected by the electronic or verbal means. Attendance will not be tracked through shared sign-in sheets, pens, or mobile devices. During any in-person safety meetings, avoid gathering in groups of more than 10 people and participants must remain at least six (6) feet apart. In person meetings should be conducted in open well-ventilated areas. Construction project safety meetings and toolbox meetings should be conducted outdoors whenever possible.

- Physical contact with others shall be avoided. Employees should direct others to increase personal space to at least six (6) feet, where possible. Where work trailers are used, only necessary employees should enter the trailers and all employees should maintain social distancing while inside the trailers.

- In-person meetings should be avoided. To the extent possible, meetings will be conducted by conference call, video conference, or other electronic means.

- Employees will be encouraged to stagger breaks and lunches, if practicable, to reduce the size of any group at any one time to less than ten (10) people. Gatherings of any size for break and lunch periods should be avoided if social distancing guidelines cannot be met.

- MJVD understands that due to the nature of our work, access to running water for hand washing may be impracticable. In these situations, creativity is required. If running water is not available, a passive source can be substituted. A supply of clean water for washing hands shall be available at all worksites. In extreme cases where it is impractical to have a supply of water, MJVD will provide, if available, alcohol-based hand sanitizers and/or wipes.

- Employees should limit the use of coworkers' devices, tools and equipment. To the extent these items must be shared, clean before and after use. When cleaning tools and equipment, consult manufacturing recommendations for proper cleaning techniques and restrictions.

- Employees are encouraged to limit the need for N95 respirator use, by using engineering and work practice controls to minimize dust. Such controls include the use of water delivery as your first option. Dust collection systems coupled with limiting exposure time are available should water delivery be unavailable.

- Considerations need to be made for splitting crews or separating teams normally coupled. This process not only limits the cross-contamination of staff working on the same site, it also makes it possible for projects to continue effectively in the event that one of the divided teams is required to quarantine.

- Considerations need to be made, wherever practical, to limit the quantity and variety of field workers that provide service at a single location. By doing so, the quantity of potentially infected workers, subject to quarantine, is reduced should the location produce an employee that tests positive for the COVID-19 virus.

- If shift work is possible, MJVD will divide employees into dedicated shifts, at which point employees will remain with their dedicated shifts for the reminder of the project. If there is a legitimate reason for an employee to change shifts, MJVD will have sole discretion in making that alteration.

- All employees, whose job duties support working from home, will be encouraged to do so. Should work from home options not be practical, shift work will be considered for some administrative functions.

- Employees are encouraged to minimize ride sharing. While in vehicles, employees must ensure adequate ventilation.

- Trucks, lifts, forklifts, heavy equipment and other mobile equipment shall be cleaned and disinfected prior to beginning work each day. If practicable, each employee should use/drive the same truck or piece of equipment every shift. If multiple operators/drivers are unavoidable, trucks and equipment shall be cleaned and disinfected prior to switching driver/operator.

- All common sources of drinking water (water coolers) shall be eliminated. Worksite water shall be provided via individual bottles. Individual coolers containing individual bottles should be used wherever practical.

- Vending machines and the products inside can provide an opportunity to spread the virus. Shared surfaces on vending machines should be cleaned and sanitized regularly. Products replenished should be wiped down prior to being placed in vending machines.

- Use of lunchrooms and breakrooms can remain in use as long as social distancing guidelines are met. Surfaces and devices used to prepare, and store food should be cleaned and disinfected regularly.

- Copiers/Printers/Postage Machines contain shared surfaces that must be cleaned and disinfected regularly to minimize the potential spread of the virus.

- Restrooms/Portable Toilets shall be maintained clean and disinfected. Adequate bathroom facilities shall be provided at all worksites to ensure that areas can be adequately cleaned and disinfected between uses Cleaning and disinfection schedule shall be established and maintained based on bathroom usage and quantity of workers present at the worksite.

- Cleaning and disinfection of common areas and common surfaces shall be controlled through the use of schedules. These tasks shall be assigned to specific individuals wherever practical. In addition, cleaning logs should be maintained and posted.

Use of Cloth Face Coverings to Help Slow the Spread of COVID-19

How to Wear a Cloth Face Covering

Applying a face mask - step 1

Cloth face coverings should—

- fit snugly but comfortably against the side of the face
- be secured with ties or ear loops
- include multiple layers of fabric
- allow for breathing without restriction
- be able to be laundered and machine dried without damage or change to shape

CDC recommends wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies), especially in areas of significant community-based transmission.

With regard to MJVD, this includes work situations where social distancing measures cannot be maintained such as working in close proximity to others, the handling of parts and packaging in warehouse and distribution settings, and when traveling in vehicles.

CDC also advises the use of simple cloth face coverings to slow the spread of the virus and help people who may have the virus and do not know it from transmitting it to others. Cloth face coverings fashioned from household items or made at home from common materials at low cost can be used as an additional, voluntary public health measure.

The cloth face coverings recommended are not surgical masks or N-95 respirators. Those are critical supplies that must continue to be reserved for healthcare workers and other medical first responders, as recommended by current CDC guidance. In the event that an N-95 mask is available, workers are advised to wear the mask as directed by the manufacturer. Do not share masks. Due to the acute shortage of these devices, workers may reuse personal masks. Steps shall be taken to clean and disinfect the mask between uses. At no point should an employee wear a n-95 mask greater than 5 days.

Applying a face mask - step 2

Should cloth face coverings be washed or otherwise cleaned regularly? How regularly?

Yes. They should be routinely washed depending on the frequency of use.

How does one safely sterilize/clean a cloth face covering?

A washing machine should suffice in properly washing a face covering.

How does one safely remove a used cloth face covering?

Individuals should be careful not to touch their eyes, nose, and mouth when removing their face covering and wash hands immediately after removing.

Workers entering Occupied Buildings

- Construction, service and maintenance activities within occupied buildings present unique hazards with regards to COVID-19 exposures. Everyone working within such establishments should evaluate the specific hazards when determining best practices related to COVID-19.

- During this work, employees must clean and disinfect the work areas upon arrival, throughout the workday, and immediately before departure.

- Employees should ask other occupants to keep a personal distance of six (6) feet at a minimum. Workers should wash and disinfect hands immediately before starting and after completing the work.

Worksite Visitors/Vendors/Delivery

- Deliveries to worksites will be necessary. Delivery drivers should be asked whenever practical to remain in the vehicles while being off-loaded. If not practical for delivery drivers to remain in their vehicles, minimize potential exposure through the use of social distancing guidelines. Minimize the potential for spread that is present in common items such as clipboards, paperwork, and pens. Common items should be cleaned and disinfected. When cross contamination is possible, employees are encouraged to use gloves which can be discarded following contact.

- Site deliveries will be permitted but should be properly coordinated in line with the employer's
- minimal contact and cleaning protocols.

- Visitors to all worksites shall be discouraged. The number of visitors to the job site, including the trailer or office, will be limited to only those necessary for the work.

- All visitors will be screened in advance of arriving on the job site. If the visitor answers "yes" to any of the following questions, he/she should not be permitted to access the jobsite:

    - Have you been confirmed positive for COVID-19?

    - Are you currently experiencing, or recently experienced, any acute respiratory illness symptoms such as fever, cough, or shortness of breath?

    - Have you been in close contact with any persons who has been confirmed positive for COVID-19?

    - Have you been in close contact with any persons who have traveled and are also exhibiting acute respiratory illness symptoms?

Construction/Maintenance Personal Protective Equipment and Work Practice Controls

- In addition to regular PPE for workers engaged in various tasks (fall protection, hard hats, hearing protection), MJVD will also provide:
  - Gloves: Gloves should be worn at all times while on-site. The type of glove worn should be appropriate to the task. If gloves are not typically required for the task, then any type of glove is acceptable, including latex gloves. Employees shall not share gloves.
  - Eye protection: Eye protection should be worn at all times while on-site.
  - **NOTE:** The CDC is currently not recommending that healthy people wear N95 respirators to prevent the spread of COVID-19. Nevertheless, employees must wear N95 respirators if required by the work and if available.
- Due to the current shortage of N95 respirators, the following Work Practice Controls should be followed:
  - Keep dust down by using engineering and work practice controls, specifically through the use of water delivery and dust collection systems.
  - Limit exposure time to the extent practicable.
  - Isolate workers in dusty operations by using a containment structure or distance to limit dust exposure to those employees who are conducting the tasks, thereby protecting nonessential workers and bystanders.
- Institute a rigorous housekeeping program to reduce dust levels on the jobsite.

Job Site Cleaning and Disinfecting

MJVD has instituted regular housekeeping practices, which include cleaning and disinfecting frequently used tools and equipment, and other elements of the work environment, where possible. Employees should regularly do the same in their assigned work areas.

- Jobsite trailers and break/lunchroom areas will be cleaned at least once per day. Employees performing cleaning will be issued proper personal protective equipment ("PPE"), such as nitrile, latex, or vinyl gloves, as recommended by the CDC.
- Any trash collected from the jobsite must be changed frequently by someone wearing nitrile, latex, or vinyl gloves.

- Any portable jobsite toilets should be cleaned by the leasing company at least twice per week and disinfected on the inside. MJVD will ensure that hand sanitizer dispensers (where available) are always filled. Frequently touched items (i.e. door pulls and toilet seats) will be disinfected frequently.

- Vehicles and equipment/tools should be cleaned at least once per day and before change in operator or rider.

- MJVD will clean those areas of the jobsite that a confirmed-positive individual may have contacted, and it will do so before employees can access that workspace again.

- MJVD will ensure that any disinfection shall be conducted using one of the following:

    - Common EPA-registered household disinfectant;

    - Alcohol solution with at least 60% alcohol; or

    - Diluted household bleach solutions (if appropriate for the surface).

- MJVD will maintain Safety Data Sheets of all disinfectants used on site.

Worksite Exposure Situations

- **Employee Exhibits COVID-19 Symptoms**

If an employee exhibits COVID-19 symptoms, the employee must remain at home until he or she is symptom free for 72 hours (3 full days) without the use of fever-reducing or other symptom-altering medicines (e.g., cough suppressants). MJVD will similarly require an employee who reports to work with symptoms to return home until he or she is symptom free for 72 hours (3 full days). To the extent practical, employees are required to obtain a doctor's note clearing them to return to work. In many cases, employees are discouraged from obtaining a doctor's note since it requires an office visit that may potentially expose a worker to the virus.

- **Employee Tests Positive for COVID-19**

An employee who tests positive for COVID-19 will be directed to self-quarantine away from work. Employees that test positive and are symptom free may return to work when at least seven (7) days have passed since the date of his or her first positive test and have not had a subsequent illness. Employees who test positive and are directed to care for themselves at home may return to work when: (1) at least 72 hours (3 full days) have passed since recovery; and (2) at least seven (7) days have passed since symptoms first appeared. Employees who test positive and have been hospitalized may return to work when directed to do so by their medical care providers. MJVD will require an employee to provide documentation clearing his or her return to work, whenever practical.

- **Employee Has Close Contact with an Individual Who Has Tested Positive for COVID-19**

Employees who have come into close contact with an individual who has tested positive for COVID-19 (co-worker or otherwise) will be directed to self-quarantine for 14 days from the last date of close contact with that individual. Close contact is defined as six (6) feet for a prolonged period of time.

If MJVD learns that an employee has tested positive, MJVD, in conjunction with state and local health department agencies, will conduct an investigation to determine co-workers who may have had close contact with the confirmed- positive employee in the prior 14 days and direct those individuals who have had close contact with the confirmed-positive employee to self-quarantine for 14 days from the last date of close contact with that employee. If applicable, MJVD will also notify any sub-contractors, vendors/suppliers or visitors who may have had close contact with the confirmed-positive employee. If an employee learns that he or she has come into close contact with a confirmed-positive individual outside of the workplace, he/she must alert a manager or supervisor of the close contact and self-quarantine for 14 days from the last date of close contact with that individual.

OSHA Recordkeeping

If a confirmed case of COVID-19 is reported, MJVD will determine if it meets the criteria for recordability and reportability under OSHA's recordkeeping rule. OSHA requires construction employers to record work-related injuries and illnesses that meet certain severity criteria on the OSHA 300 Log, as well as complete the OSHA Form 301 (or equivalent) upon the occurrence of these injuries. For purposes of COVID-19, OSHA also requires employers to report to OSHA any work-related illness that (1) results in a fatality, or (2) results in the in-patient hospitalization of one or more employee. "In-patient" hospitalization is defined as a formal admission to the in-patient service of a hospital or clinic for care or treatment.

OSHA has made a determination that COVID-19 should *not* be excluded from coverage of the rule – like the common cold or the seasonal flu – and, thus, OSHA is considering it an "illness." However, OSHA has stated that only confirmed cases of COVID-19 should be considered an illness under the rule. Thus, if an employee simply comes to work with symptoms consistent with COVID-19 but is not a confirmed diagnosis, the recordability analysis is not necessarily triggered at that time.

If an employee has a confirmed case of COVID-19, MJVD will conduct an assessment of any workplace exposures to determine if the case is work-related. Work-relatedness is presumed for illnesses that result from events or exposures in the work environment, unless it meets certain exceptions. One of those exceptions is that the illness involves signs or symptoms that surface at work but result solely from a non-work-related event or exposure that occurs *outside* of the work environment. Thus, if an employee develops COVID-19 *solely* from an exposure outside of the work environment, it would ***not*** be work-related, and thus not recordable.

MJVD's assessment will consider the work environment itself, the type of work performed, the risk of person-to-person transmission given the work environment, and other factors such as community spread. Further, if an employee has a confirmed case of COVID- 19 that is considered work-related, MJVD will report the case to OSHA if it results in a fatality within 30 days or an in-patient hospitalization within 24-hours of the exposure incident.

Confidentiality/Privacy

Except for circumstances in which MJVD is legally required to report workplace occurrences of communicable disease, the confidentiality of all medical conditions will be maintained in accordance with applicable law and to the extent practical under the circumstances. When it is required, the number of persons who will be informed that an unnamed employee has tested positive will be kept to the minimum needed to comply with reporting requirements and to limit the potential for transmission to others. MJVD reserves the right to inform other employees that an unnamed co-worker has been diagnosed with COVID-19 if the other employees might have been exposed to the disease so the employees may take measures to protect their own health. MJVD also reserves the right to inform sub-contractors, vendors/suppliers or visitors that an unnamed employee has been diagnosed with COVID-19 if they might have been exposed to the disease so those individuals may take measures to protect their own health.

Addendum A

COVID-19 Checklist for Employers and Employees

Know the Symptoms of COVID-19

- Coughing, fever, shortness of breath, and difficulty breathing.
- Early symptoms may include chills, body aches, sore throat, headache, diarrhea, nausea/vomiting, and runny nose. If you develop a fever and symptoms of respiratory illness, DO NOT GO TO WORK and call your supervisor and health-care provider immediately. Do the same thing if you come into close contact with someone showing these symptoms.

Employer Responsibilities

- Develop a COVID-19 Exposure Action Plan.
- Conduct safety meetings (toolbox talks) by phone if possible. If not, instruct employees to maintain 6-feet between each other. The foreman/supervisor will track attendance verbally rather than having employees sign an attendance sheet.
- Access to the job site and work trailer will be limited to only those necessary for the work.
- All visitors will be pre-screened to ensure they are not exhibiting symptoms.
- Employees, contractors, and visitors will be asked to leave the jobsite and return home if they are showing symptoms.
- Provide hand sanitizer and maintain Safety Data Sheets of all disinfectants used on site.
- Provide protective equipment (PPE) to any employees assigned cleaning/disinfecting tasks.

Employee Responsibilities

- Become familiar with the Exposure Action Plan and follow all elements of the Plan.
- Practice good hygiene: wash hands with soap and water for at least 20 seconds. If these are not available, use alcohol-based hand rub with at least 60% alcohol. Avoid touching your face, eyes, food, etc. with unwashed hands.

Cleaning/Disinfecting Job Sites and Other Protective Measures

- Clean and disinfect frequently used tools and equipment on a regular basis. This includes other elements of the jobsite where possible. Employees should regularly do the same in their assigned work areas.
- Clean shared spaces such as trailers and break/lunchrooms at least once per day.
- Disinfect shared surfaces (door handles, machinery controls, etc.) on a regular basis.
- Avoid sharing tools with co-workers. If not, disinfect before and after each use.
- Arrange for any portable job site toilets be cleaned by the leasing company at least twice per week and disinfected on the inside.
- Trash collected from the jobsite must be changed frequently by someone wearing gloves.

Personal Protective Equipment and Alternate Work Practice Controls

- Provide and wear the proper PPE.
- Keep the dust down by using engineering and work practice controls, specifically through the use of water delivery and dust collection systems.

Addendum B
COVID-19 Toolbox Talk

What is COVID-19?

The novel coronavirus, COVID-19 is one of seven types of known human coronaviruses. COVID-19, like the MERS and SARS coronaviruses, likely evolved from a virus previously found in animals. The remaining known coronaviruses cause a significant percentage of colds in adults and children, and these are not a serious threat for otherwise healthy adults.

Patients with confirmed COVID-19 infection have reportedly had mild to severe respiratory illness with symptoms such as fever, cough, and shortness of breath.

According to the U.S. Department of Health and Human Services/Centers for Disease Control and Prevention ("CDC"), Chinese authorities identified an outbreak caused by a novel—or new—coronavirus. The virus can cause mild to severe respiratory illness. The outbreak began in Wuhan, Hubei Province, China, and has spread to a growing number of other countries—including the United States.

How is COVID-19 Spread?

COVID-19, like other viruses, can spread between people. Infected people can spread COVID-19 through their respiratory secretions, especially when they cough or sneeze. According to the CDC, spread from person-to-person is most likely among close contacts (about 6 feet). Person-to-person spread is thought to occur mainly *via* respiratory droplets produced when an infected person coughs or sneezes, like influenza and other respiratory pathogens. These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs. It is currently unclear if a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes.

In assessing potential hazards, employers should consider whether their workers may encounter someone infected with COVID-19 in the course of their duties. Employers should also determine if workers could be exposed to environments (e.g., worksites) or materials (e.g., laboratory samples, waste) contaminated with the virus.

Depending on the work setting, employers may also rely on identification of sick individuals who have signs, symptoms, and/or a history of travel to COVID-19-affected areas that indicate potential infection with the virus, in order to help identify exposure risks for workers and implement appropriate control measures.

There is much more to learn about the transmissibility, severity, and other features associated with COVID-19, and investigations are ongoing.

COVID-19 Prevention and Work Practice Controls:

Worker Responsibilities

- Frequently wash your hands with soap and water for at least 20 seconds. When soap and running water are unavailable, use an alcohol-based hand rub with at least 60% alcohol. Always wash hands that are visibly soiled.
- Cover your mouth and nose with a tissue when you cough or sneeze or use the inside of your elbow.
- Avoid touching your eyes, nose, or mouth with unwashed hands.
- Avoid close contact with people who are sick.
- Employees who have symptoms (i.e., fever, cough, or shortness of breath) should notify their supervisor and stay home—DO NOT GO TO WORK.
- Sick employees should follow CDC-recommended steps. Employees should not return to work until the criteria to discontinue home isolation are met, in consultation with healthcare providers and state and local health departments.

General Job Site / Office Practices

- Clean AND disinfect frequently touched objects and surfaces such as workstations, keyboards, telephones, handrails, and doorknobs. Dirty surfaces can be cleaned with soap and water prior to disinfection. To disinfect, use products that meet EPA's criteria for use against SARS-CoV-2, the cause of COVID-19, and are appropriate for the surface.
- Avoid using other employees' phones, desks, offices, or other work tools and equipment, when possible. If necessary, clean and disinfect them before and after use.
- Clean and disinfect frequently used tools and equipment on a regular basis.
    - This includes other elements of the jobsite where possible.
    - Employees should regularly do the same in their assigned work areas.
- Clean shared spaces such as trailers and break/lunchrooms at least once per day.
- Disinfect shared surfaces (door handles, machinery controls, etc.) on a regular basis.
- Avoid sharing tools with co-workers if it can be avoided. If not, disinfect before and after each use.
- Arrange for any portable job site toilets to be cleaned by the leasing company at least twice per week and disinfected on the inside.
- Any trash collected from the jobsite must be changed frequently by someone wearing gloves.
- In addition to regular PPE for workers engaged in various tasks (fall protection, hard hats, hearing protection), employers will also provide:
    - Gloves: Gloves should be worn at all times while on-site. The type of glove worn should be appropriate to the task. If gloves are not typically required for the task, then any type of glove is acceptable, including latex gloves. Gloves should not be shared if at all possible.
    - Eye protection: Eye protection should be worn at all times while on-site.

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	8

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/16/2020	**1.01.A.6**	**01330**	**Structure Monitoring Plan**

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REMARKS: TriMedia's Structure Monitoring Plan is attached
Surveyor qualifications are attached

Mike Nowaczyk
Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/16/2020

Movement Monitoring Baseline Survey Report and Monitoring Plan

Shiras Coal Plant Facility
Marquette, Michigan

Prepared for:
MJ VanDamme, Inc.

Date: April 15, 2020
TriMedia Project Number 2020-0890

TRIMEDIA
ENVIRONMENTAL & ENGINEERING

Movement Monitoring Baseline Survey Report and Monitoring Plan

Table of Contents

ATTACHMENTS

Sheet Pile Monitoring - Plan Sheet
Surveyor Resumes
NIST Certificate

TRIMEDIA ENVIRONMENTAL & ENGINEERING

1.0 INTRODUCTION

The Shiras Coal Plant is owned and operated by the Marquette Board of Light and Power (MBLP) and is located on Lake Superior, in Marquette, Michigan in Government Lots 1, 2, and 3 of Section 26, T48N-R25W.

The purpose of this monitoring plan is to establish a repeatable and effective movement monitoring procedure during the demolition of the sheet pile ash pond.

The movement monitoring system was established by AECOM in October 2015 and consists of control points 1 and 2, being a 5/8" rebar capped with an aluminum disk and monitoring points 3 through 19, being Berntsen RS30 smart target plates with a benchmark and reflective target on each plate. The location of the control points and monitoring points are as shown on the attached site plan map.

2.0 ESTABLISHMENT OF BASELINE SURVEY COORDINATES

2.1 PROJECT DATUM

A preconstruction survey will be conducted and compared to the most recent AECOM survey to detect any major differences. The three dimensional coordinates for each benchmark and monitoring point surveyed will establish the baseline data for this movement monitoring program. The coordinates are referenced to an assumed coordinate system. The elevations are referenced to the North American Vertical Datum of 1988 (NAVD 88), by leveling from NGS benchmark LSC 7B 63.

3.0 SURVEY PROCEDURES

3.1 EQUIPMENT QUALITY ASSURANCE (QA)

All survey equipment will be checked and adjusted before performing the movement monitoring survey. The following will be completed:

1. Tribrach's – level bubbles and optical plummets will be checked.
2. Trimble S7 – 1" Robotic Total Station (see Calibration Certificate).

3.2 HORIZONTAL MEASUREMENTS

Begin the horizontal measurements by occupying control point 1 and back-sighting control point 2. The measured horizontal distance between the control points was originally recorded as 126.345 feet. Future measurements shall be compared to this distance. If measurements agree within ¼", then proceed to the next step. If they do not agree, then check setups on control points 1 and 2 and measure again. If measurements still do not comply within 1/4", then notify project manager about non-conformance and wait for direction on how to proceed. Next, turn one set of repetition angles to target plates 9, 10, 11, 12, and 18 with the use of reflector less measurements. Next, occupy control point 2 and back-sight control point 1. Once again, compare the horizontal distance between the control points to the record distance of 126.345 feet. If measurements agree within ¼", then proceed to the next step. If they do not agree, then check setups on control points 1 and 2 and measure again. If measurements still do not comply within 1/4", then notify project manager about non-conformance and wait for direction on how to proceed. Next, turn one set of repetition angles to target plates 13, 14, 15, 16, and 17 with the use of reflector less measurements. All new measurements to target plates 9 through 17 shall each be compared to record measurements before proceeding to the next target plate. If the new measurement agrees with the old measurement within ¼", then proceed to the next target plate. If they do not agree, then check setups on control points 1 and 2 and measure again. If measurements still do not comply within 1/4", then notify project manager about non-conformance and wait for direction on how to proceed.

4.0 RESULTS

The results of subsequent monitoring surveys will be provided consistent with the original AECOM program.

5.0 SCHEDULE

A movement monitoring survey shall be completed prior to construction operations begin. Additional movement monitoring surveys will be performed at a frequency to be determined by all parties, based upon project schedule.

ATTACHMENTS

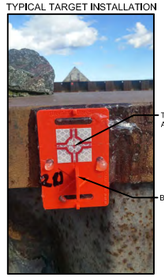
Sheet Pile Monitoring - Plan Sheet

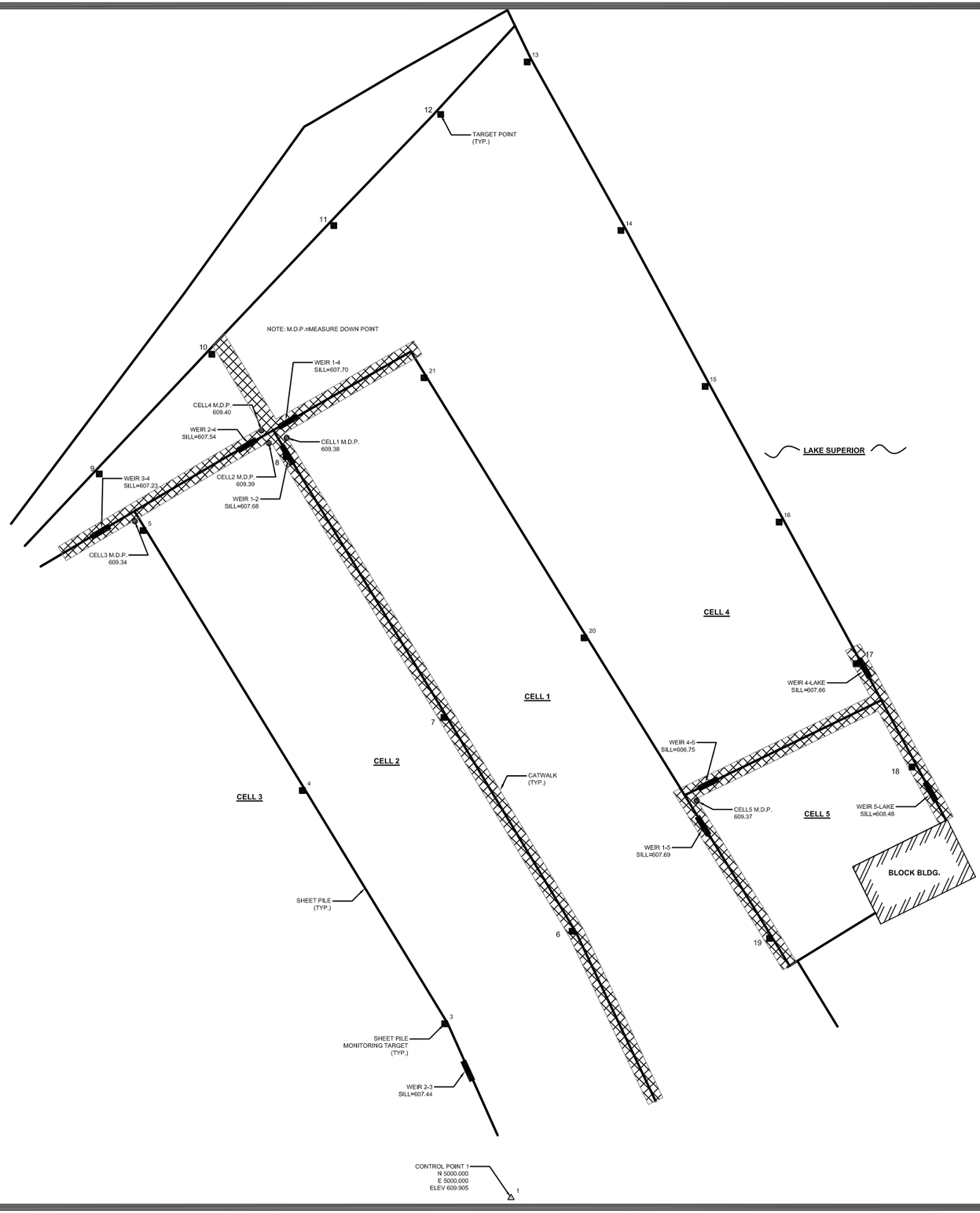
TRIMEDIA
ENVIRONMENTAL & ENGINEERING

DATE OF BASELINE SURVEY: OCTOBER 15, 2015 (BY AECOM)
ELEVATION DATUM IS NAVD88 AND ESTABLISHED BY DIFFERENTIAL LEVEL LOOP FROM NGS DISK LSC7B63 (RK0415) WHICH HAS A PUBLISHED ELEVATION OF 615.610'.
REFLECTIVE TARGET COORDINATES AND ELEVATIONS ESTABLISHED BY TURNING 2 SETS OF ANGLES FROM CONTROL POINTS 1 AND 2.
TARGET BENCHMARK ELEVATIONS ESTABLISHED BY DIFFERENTIAL LEVELING. SOME TARGET BENCHMARKS WERE INACCESSIBLE TO A LEVEL ROD AND HAD TO BE MEASURED DOWN TO FROM ABOVE.

TARGET	NORTH	EAST	TARGET ELEVATION	BENCH MARK ELEVATION
3	5032.562	4987.579	608.902	608.825
4	5076.237	4960.903	608.927	608.847
5	5124.911	4931.078	608.955	608.865
6	5049.888	5011.443	608.929	608.843
7	5089.939	4987.426	608.950	608.870
8	5138.743	4957.869	608.999	608.908
9	5135.519	4922.879	609.915	609.835
10	5157.940	4943.954	609.943	609.857
11	5182.039	4966.800	609.816	609.730
12	5202.844	4986.818	609.836	609.752
13	5212.675	5003.027	609.787	609.695
14	5181.111	5020.604	609.715	609.720
15	5151.909	5036.356	609.747	609.670
16	5126.503	5050.227	609.817	609.730
17	5099.988	5064.660	609.823	609.735
18	5080.634	5075.118	609.781	609.702
19	5048.539	5048.415	608.908	608.830
20	5104.828	5013.673	609.045	608.960
21	5153.524	4983.690	609.036	608.950

TYPICAL TARGET INSTALLATION





10 0 10 20
1" = 10'

G:\Projects\2020\2020-0890 MJO - MBLP Ash Pond Clean Closure & Stormwater Mgmt\Survey\BLP SHEET PILE.dwg

TRIMEDIA ENVIRONMENTAL & ENGINEERING

Marquette Board of Light and Power
Shiras Coal Plant
Sheet Pile Monitoring

DATE	DESCRIPTION	ISSUED

DESIGNED:
DRAWN: SJB
CHECKED: SJB
APPROVED:

TRIMEDIA JOB NUMBER: 2020-0890

SHEET TITLE: Sheet Pile Monitoring

SHEET NUMBER: 1.0

Surveyor Resumes

TRIMEDIA
ENVIRONMENTAL & ENGINEERING

Stacey Bluse, P.S.
Project Surveyor
sbluse@trimediaee.com

Summary of Professional Experience

Mr. Bluse provides a broad range of professional land surveying expertise having completed boundary/retracement surveys, right-of-way surveys, topographic surveys, ALTA surveys, route surveys and easement drafting throughout Michigan and Wisconsin. He has been responsible for leading field survey crews, supervision, scheduling, research, proposal writing, drafting of easement documents and certified surveys, and managing, analyzing, preparing, and presenting collected data.

During his 21 years of surveying experience, he has been a valuable team member on a wide variety of projects from small lot boundary surveys to large pipeline and transmission line design and construction projects. These projects have given him a vast knowledge of multiple survey disciplines and techniques.

He has developed hundreds of miles of parcel mapping for delivering final maps for easement acquisitions. He is proficient with software programs including AutoCAD™ Civil 3D, Trimble Business Center, and Microsoft Office™, among others.

Certifications

- Licensed Professional Surveyor in the State of Michigan PS# 50429
- Licensed Professional Surveyor in the State of Wisconsin RLS# S-2657
- Licensed Professional Surveyor in the State of Minnesota PS# 49625

Education

- B.S. – Land Surveying, Michigan Technological University, Houghton, Michigan
- AAS, Civil Engineering, Michigan Technological University, Houghton, Michigan

Project Experience

2013-2017

- <u>ATC Holmes to Old Mead Rd 138kV Transmission Line</u>
  Survey Project Manager, survey and map government corners, property corners, and existing surveys to produce a survey base map, used to create transmission line easements and construction staking of transmission easements and power pole structures along a 57-mile-long corridor.

2005-2011

- <u>ATC Central Wisconsin 345kV Transmission Line</u>
  Technical survey support for survey and map government corners, property corners, and existing surveys to produce a survey base map, used to create transmission line easements along a 100-mile-long corridor.

Areas of Specialty

- Boundary/Retracement Surveying
- Land Division Surveys
- Easement Drafting
- ALTA/NSPS Surveys
- Aerial Photo Control
- Topographic Surveying
- Route Surveys
- Preparing Legal Descriptions
- Right-of-Way Surveys
- Computer Aided Drafting
- Construction Staking and Leveling

TRIMEDIA
ENVIRONMENTAL & ENGINEERING

Christopher L. Carlson
CAD Technician/Staff Surveyor
ccarlson@trimediaee.com

Summary of Professional Experience

Mr. Carlson serves as CAD Technician and Staff Surveyor providing design and land surveying services at TriMedia.

Mr. Carlson has extensive experience in all aspects of boundary, topographic, route, and construction/staking surveys. His duties include initial project setup, field data collection, data analysis, and generating a final deliverable.

His job experience includes electric transmission line base mapping, easement drafting, and construction staking; County Remonumentation research, field work, data adjustment and report drafting; movement/deformation monitoring on dams and other structures; road construction layout and staking; boundary and alta survey research, field work, and final map preparation and building/steel column layout. He is also experienced in environmental well sampling and monitoring.

Certifications

- OSHA 40-Hour Hazardous Wasted Operation and Emergency Response
- OSHA 30-Hour Safety and Health
- Mine Health & Safety Administration Part 46 and 48
- First Aid/CPR/AED
- NSC Defensive Driving
- Michigan DNR Safe Boater

Education

- United States Army Technical Engineer Specialist School, Fort Leonard Wood, Missouri

Areas of Specialty

- Survey Collection
  - RTK / GPS
  - Robotic Total Station
  - Laser Scanning
  - Sonar Bathymetry
- Design Proficiency
  - Autodesk Civil3D 2018
  - Trimble Business Center (Advanced)
- Field Operations
  - Site Stakeout
  - Boundary Survey
  - Topographic Survey
  - Bathymetric Survey
  - Air Photo Control
  - GPS Control Networks
  - Route/Corridor Survey
  - Electric Transmission Line Survey
- Design Analytics
  - Basemapping
  - Surface Modeling
  - Grading & Site Layout
  - Plan Production
  - Least Squares Network Adjusting

TRIMEDIA
ENVIRONMENTAL & ENGINEERING

Joseph W. Melchiori
CAD Manager/Staff Surveyor
jomelchiori@trimediaee.com

Summary of Professional Experience

Mr. Melchiori serves as CAD Manager & Staff Surveyor providing design and land surveying services at TriMedia.

He is responsible for the management of company-wide design support for various disciplines including, but not limited to, surveying, environmental & civil engineering, industrial hygiene as well as health and safety.

Mr. Melchiori has extensive knowledge in the deployment of traditional and modern survey technology, performing survey data collection from land, air and water. He has performed data collection and crew management for a variety of industries including open-pit mining operations, oil and gas pipelines, utilities right-of-way, emergency response efforts, and stream analysis/restoration projects. He has also provided Rosgen Stream Assessment Crews with survey support on over 80 existing and proposed pipeline crossings.

Mr. Melchiori is also experienced in residential and commercial development which enables him to generate civil engineering and survey plans from concept to final recording. He has developed site/land condominium and building plans from concept to final recording and has provided research and consultation services to clients interested in land division and development.

Certifications

- OSHA 40-Hour Hazardous Wasted Operation and Emergency Response
- OSHA 30-Hour Safety and Health
- Mine Health & Safety Administration Part 46 and 48
- FAA Licensed UAS Remote Pilot
- Confined Space
- First Aid/CPR/AED
- NSC Defensive Driving
- Michigan DNR Safe Boater
- Wisconsin DNR ATV Safety

Education

- Associates Degree - Computer Aided Design, Bay College, Escanaba, Michigan

Areas of Specialty

- Survey Collection
  - RTK / GPS
  - Robotic Total Station
  - Laser Scanning
  - UAV Photogrammetry
  - Sonar Bathymetry
- Design Proficiency
  - Autodesk Civil3D 2018
  - Trimble Business Center (Advanced)
  - Topcon 3D Office
  - FARO As-Built
  - PIX4D Mapper
  - HydroCAD
- Field Operations
  - Site Stakeout
  - Stream Assessment (Survey Support)
  - Topographic Survey
  - Bathymetric Survey
- Design Analytics
  - Basemapping
  - Surface Modeling
  - Grading & Site Layout
  - Earthwork Volumetrics
  - Plan Production
  - Environmental Reporting

TRIMEDIA
ENVIRONMENTAL & ENGINEERING

NIST Certificate

SEILER
INSTRUMENT
& MANUFACTURING COMPANY, INC.
3433 Tree Court Industrial Blvd.
St. Louis, MO 63122 USA
800-489-2282 • 314-968-2282
Fax: 314-968-2637 Corporate
Fax: 314-968-9217 Survey
Fax: 314-968-3601 Microscope

NIST CERTIFICATE OF CALIBRATION

INSTRUMENT MODEL: TRIMBLE S7
SERIAL NUMBER: 37210499

DATE CALIBRATED: 3-27-2020
EXPIRATION DATE: 3-27-2021
STANDARD USED: WILD T3 S/N 52897
CALIBRATION SYSTEM: SOKKIA SN: 091031, 091032, 091033, 091034
SPECTRA RANGE 894VR S/N 317

CERTIFICATION: AT THE TIME OF CALIBRATION, THIS CERTIFIES THAT THE ABOVE REFERENCED INSTRUMENT WAS CALIBRATED IN ACCORDANCE WITH THE MANUFACTURER'S PROCEDURE. MEASURING AND TEST EQUIPMENT ARE TRACEABLE TO **NIST** STANDARDS. SUPPORTING DOCUMENTATION RELATIVE TO TRACEABILITY IS ON FILE AND IS AVAILABLE FOR EXAMINATION UPON REQUEST. NATIONAL STANDARDS ARE ADMINISTERED BY **NIST** (NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY).

CALIBRATED BY:

CUSTOMER: TRIMEDIA ENVIRONMENTAL AND ENGINEERING
830 W WASHINGTON ST
MARQUETTE, MI 49855

Jim Fujarski
Service Manager
Seiler Instrument
SUP-7.6,F2 Revision 5

Sept. 4, 2009

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	9

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/22/2020	**1.01.A.12**	**01330**	**StormWater Management System**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[X]	**For review & comment**	[ ]	_____				

REMARKS: Supplier still has concerns with regards to the core holes for pipe coming in contact with rim/cover.

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/22/2020

P.O. Box 313 - Escanaba, MI 49837
(906) 786-0934

LETTER OF TRANSMITTAL

DATE: 4/21/2020 JOB NO. 6-20

ATTN:

RE: SHIRAS STEAM PLANT - ASH POND - REV1

TO: MJ VANDAMME

WE ARE SENDING YOU.....

[✔] Attached..... [ ] Under separate cover via_____ the following items:

[✔] Shop drawings [ ] Prints [ ] Plans [ ] Samples [ ] Specifications
[ ] Copy of Letter [ ] Change Order [ ] Other

PAGES	DATE	NO.	DESCRIPTION
10			72IN DRAINAGE STRUCTURES, MH STEPS, MH BUTYL, JOINT INSTALLATION
2			EJ1581 FRAME/ EJ1580- M1 GRATE
7			24IN RCP, 30 RCP, TSS PIPE GASKET, 30IN CES, 30IN CES GRATE, JOINT TIE ASSEMBLIES

THESE ARE TRANSMITTED as checked below:

[ ] For approval
[ ] For your use
[ ] As requested
[✔] For review and comment
[ ] FOR BIDS DUE:

[ ] Approved as submitted
[ ] Approved as noted
[ ] Returned for corrections
[ ]

[ ] Resubmit _____ copies for approval
[ ] Submit _____ copies for distribution
[ ] Return _____ corrected prints

PRINTS RETURNED AFTER LOAN TO US

REMARKS:
PLEASE REVIEW 72IN MANHOLE ELEVATIONS, MOST OF THE CORED HOLES ARE THROUGH THE COVER.

COPY TO:

SIGNED: JORDAN LACOMBE

IF ENCLOSURES NOT AS NOTED, KINDLY NOTIFY US AT ONCE

PRECAST MANHOLE (60" AND LARGER)

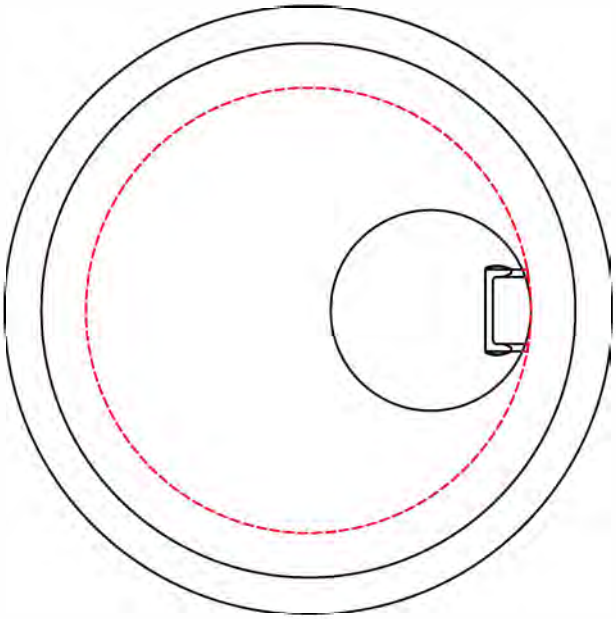
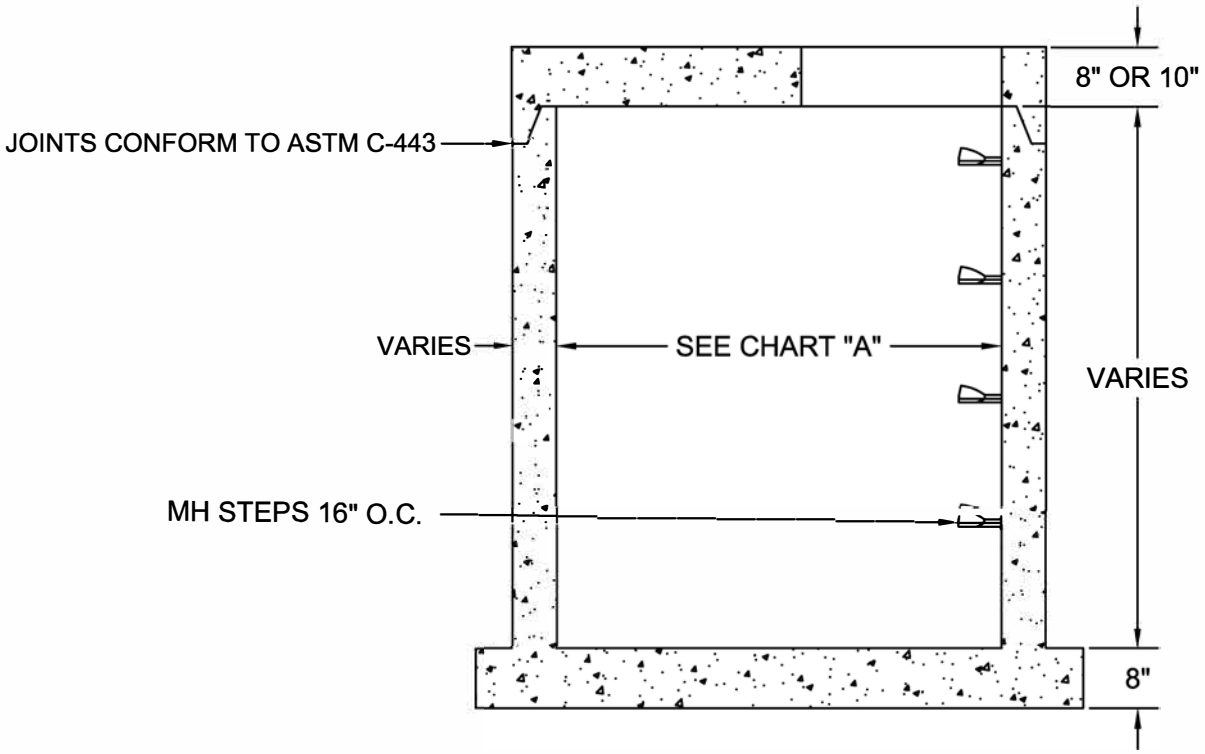


CHART "A"		
DIA.	THICK.	LBS/VFT
60"	6"	1295
72"	7"	1811
84"	8"	2409
96"	9"	3090



MANHOLE PIPE, REDUCERS, COVERS, AND BASES ARE MANUFACTURED TO ASTM C-478 SPECIFICATIONS

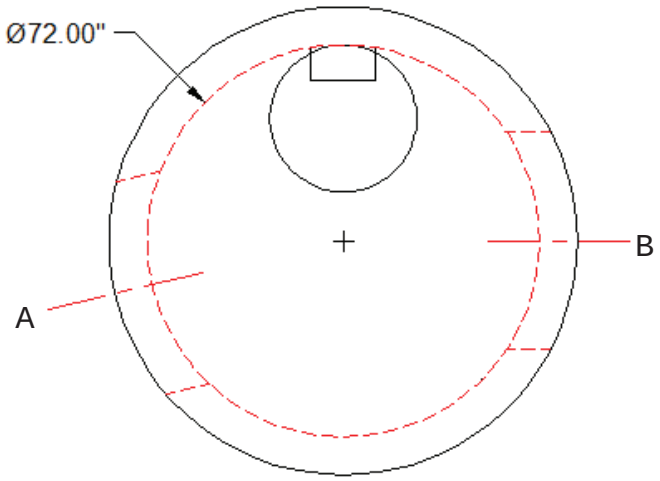
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

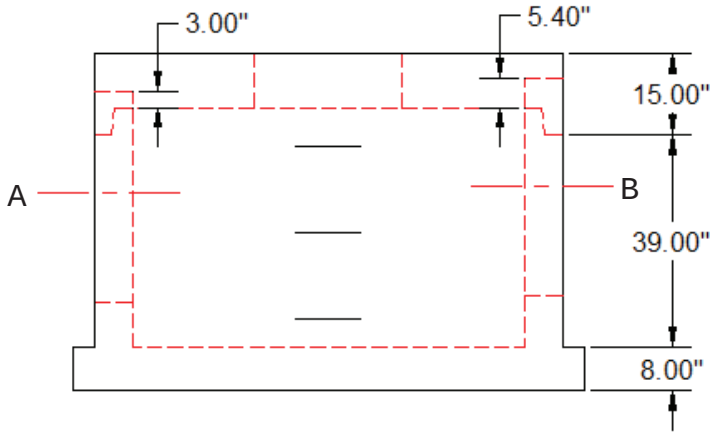
PRECAST MANHOLE (60" AND LARGER)

DRAWN BY	SHEET	SCALE	DATE
CKS	1 OF 1	NO SCALE	08-20-12

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.40	FT
LOWEST INVERT ELEV. A	-	604.50	FT
INVERT ELEV B		604.60	FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	13.2	IN
NET M.H. HEIGHT	=	54	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	30 RCP	40 IN	28.2 IN	36.2 IN	0.0 IN	257 °	161.40 IN
B	30 RCP	40 IN	29.4 IN	37.4 IN	1.2 IN	90 °	56.52 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	10,300

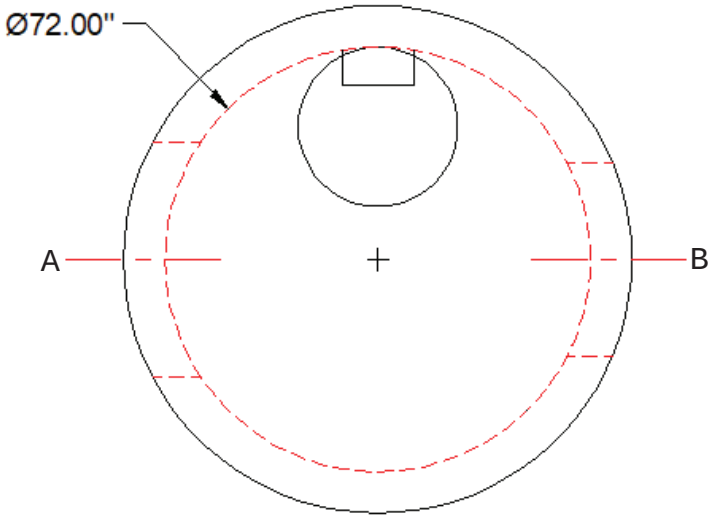
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

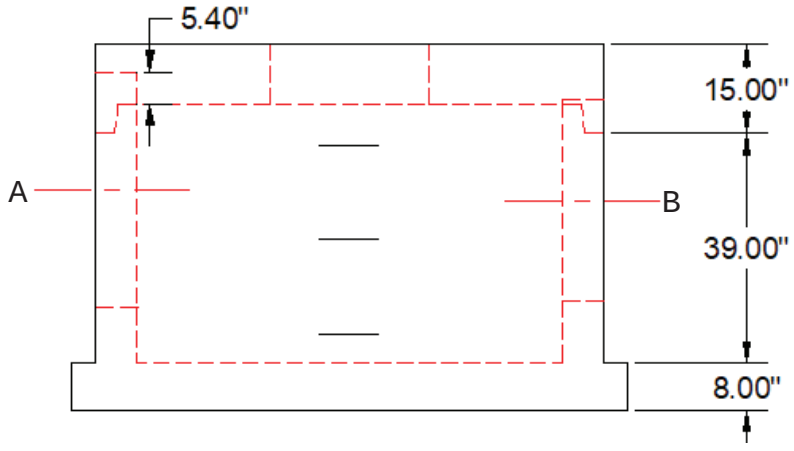
SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH1)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	4/21/2020

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.50	FT
LOWEST INVERT ELEV. A	-	604.70	FT
INVERT ELEV B		604.80	FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	14.4	IN
NET M.H. HEIGHT	=	54	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	30 RCP	40 IN	29.4 IN	37.4 IN	0.0 IN	270 °	169.56 IN
B	24 RCP	34 IN	27.6 IN	35.6 IN	1.2 IN	90 °	56.52 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	10,300

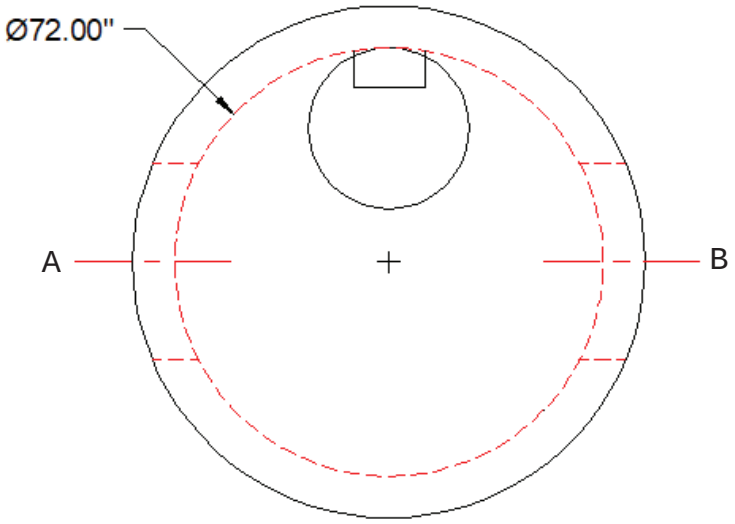
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

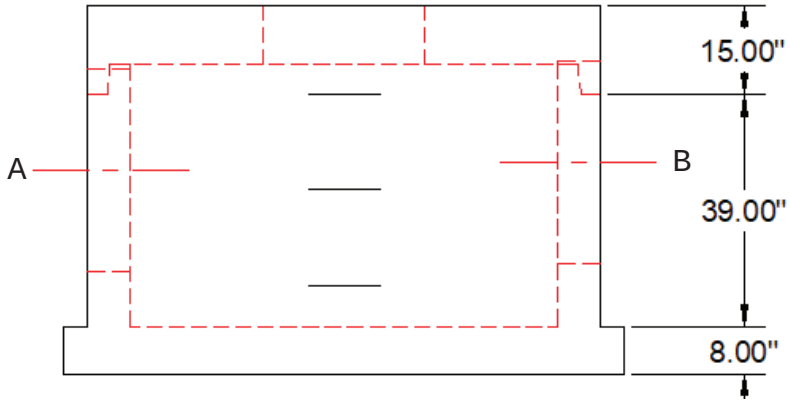
SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH2)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	4/21/2020

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.70	FT
LOWEST INVERT ELEV. A	-	604.90	FT
INVERT ELEV B		605.00	FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	14.4	IN
NET M.H. HEIGHT	=	54	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	24 RCP	34 IN	26.4 IN	34.4 IN	0.0 IN	270 °	169.56 IN
B	24 RCP	34 IN	27.6 IN	35.6 IN	1.2 IN	90 °	56.52 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	10,300

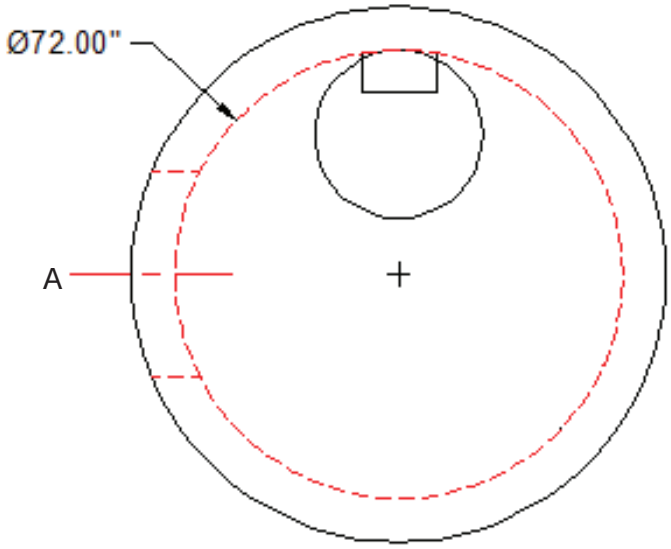
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

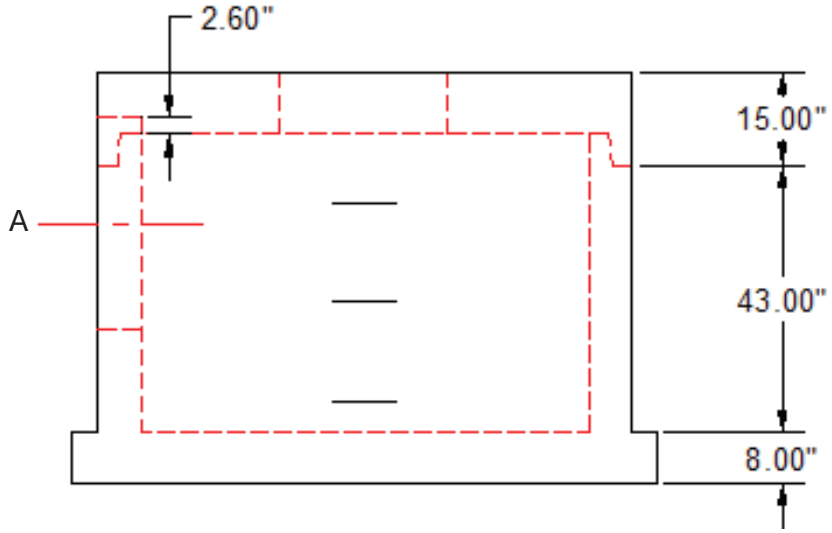
SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH3)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	4/21/2020

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.60	FT
LOWEST INVERT ELEV. A	-	605.10	FT
INVERT ELEV B			FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	21.6	IN
NET M.H. HEIGHT	=	58	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	24 RCP	34 IN	33.6 IN	41.6 IN	0.0 IN	270 °	169.56 IN
B		IN	IN	IN	IN	°	0.00 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	11,189

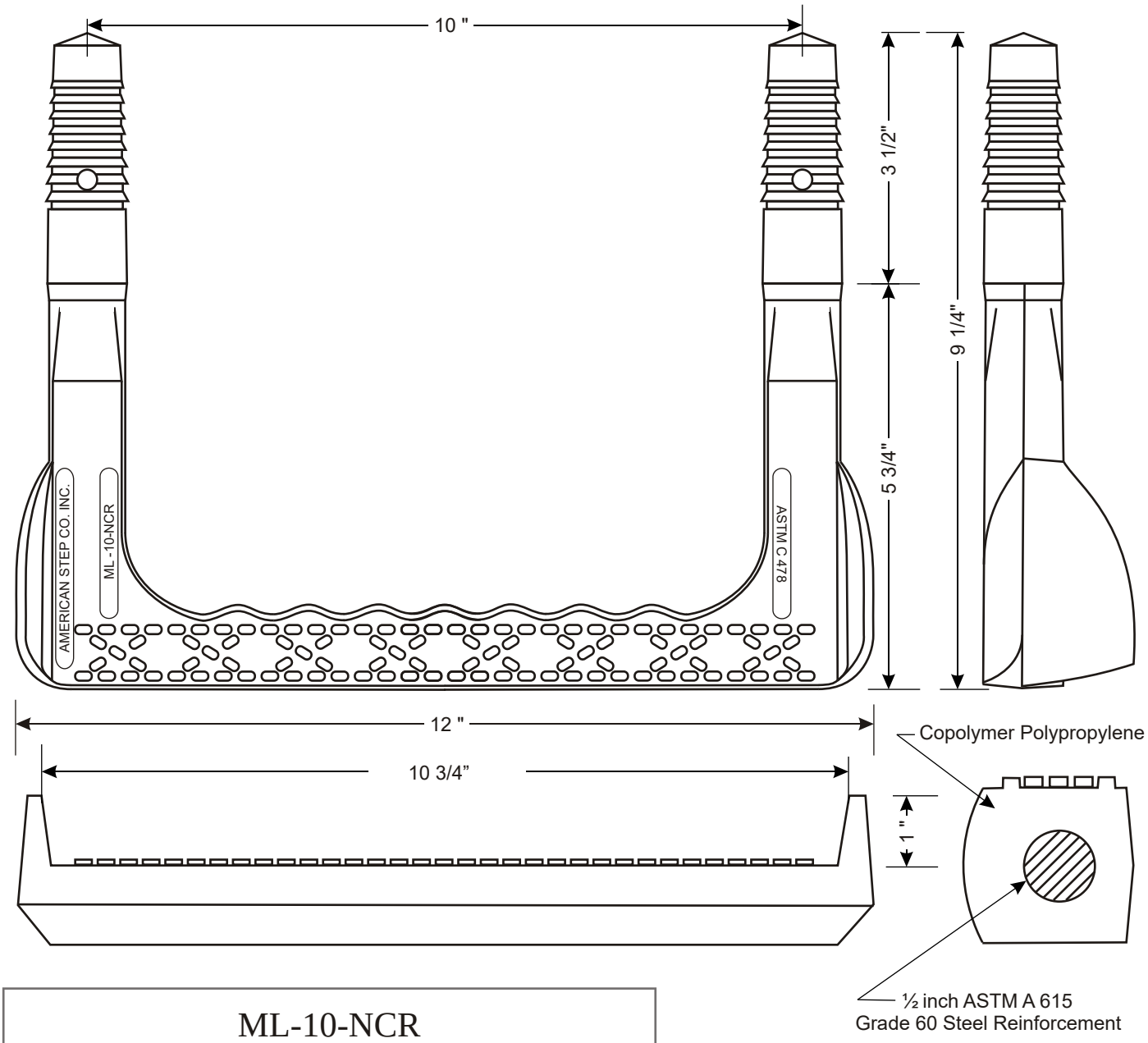
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH4)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	4/21/2020

http://www.americanstep.com

ML-10-NCR



ML-10-NCR

Mechanical Lock Installation Methods
Minimum Concrete Strength Must Be 3000 psi.

Preformed Holes

Two preformed holes on 10” centers
Holes must be parallel
Diameter of holes are 1.1” tapering to 7/8” in 3 ½” of depth

Drilled Holes

Drill two 1” holes on 10” centers with a minimum depth of 3 3/4”
Use 1” masonry bit for drilling.
Holes must be parallel.

Drive step with sledge hammer until both legs are completely seated

This step meets or exceeds ASTM C 478 and OSHA Standards when properly installed.

American Step Company, Inc.
P.O. Box 137
830 East Broadway
Griffin, GA 30224-0137

800-988-STEP
770-467-9844 (OFFICE)
770-467-8011 (FAX)

http://www.americanstep.com

PRO-STIK

HIGH-PERFORMANCE PREFORMED BUTYL JOINT SEALANT

What It Is

PRO-STIK is a preformed butyl joint sealant that is supplied in rope form. It is carefully blended from uncured butyl rubber and other solids and will not shrink, crack, or dry out. Although clean to handle, it provides excellent adhesion and cohesion to a wide variety of surfaces - concrete, metal, most concrete coatings, glass, wood, and painted surfaces.

Why It's Better

- High quality rubber, 98% solids that will not harden, shrink or oxidize
- Good adhesion to dry concrete, commonly specified concrete coatings, steel, glass, or painted surfaces
- Rectangular shapes for optimal adhesion
- Coated release paper for easy installation
- Long service life
- Cohesive properties allow for joint movement
- Compatible for use with rubber O-Ring designs
- Low moisture vapor transmission rate (MVTR)
- Special primers available for use on damp, contaminated, or difficult surfaces

How It Performs

PRO-STIK BUTYL JOINT SEALANT *meets or exceeds all requirements of the following Standards, Specifications and/or Test Methods:*

ASTM C 990 - *Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants; Section 6.2 Butyl Rubber Sealants*

AASHTO M 198 - *Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets*

Typical Applications

- Sanitary Manhole Joints
- Stormwater Manhole Joints
- Irrigation and Drainage Systems
- Box Culverts
- Elliptical/Arch Pipe
- Architectural Foundations
- Underground Utility Vaults
- Stormwater Treatment Structures
- Stormwater Inlet Structures
- On-Site Treatment Tanks
- Grease Interceptors
- Wet Wells

PRESS-SEAL GASKET CORPORATION
Protecting Our Planet's Clean Water Supply
Press-Seal Gasket is an ISO 9001:2008 and ISO 14001:2004 Registered Company
800-348-7325 Fax (260) 436-1908
email: sales @press-seal.com
web: www.press-seal.com
Made in USA

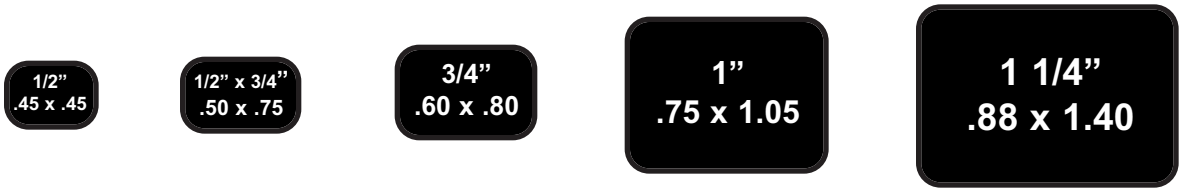
Submittal Specification

The joints and/or joint surfaces of the structures shall be sealed with a butyl-rubber-based preformed flexible sealant conforming to ASTM C-990, paragraph 6.2. The material shall be PRO-STIK or EZ-STIK as supplied by PRESS-SEAL GASKET CORPORATION, Fort Wayne, Indiana, or approved equal. The butyl material shall consists of 50% (min.) butyl rubber and shall contain 2% or less volatile matter.

For preformed joint sealants, the sealant shall be sized such that the joint is filled to 50% (min.) of its annular volume when fully assembled, and the sealant shall have the ends kneaded together at the overlap. Primer and/or adhesive as recommended by the sealant supplier shall be employed for adverse, critical, or other applications.

Testing of joints and compliance with construction requirements shall be conducted in strict conformance with the requirements of the sealant supplier.

PRO-STIK AVAILABLE SIZES



Dimensions	Round Equivalent	Roll Length	Rolls/Carton	Cartons/Pallet	Part No.
.45 X .45	1/2"	21.75 feet	12	24	279.1
.45 X .45	1/2"	26.4 feet	12	24	279.1A
.50 X .75	1/2" X 3/4"	21.75 feet	8	40	288.33
.60 X .80	3/4"	14.5 feet	8	40	279.2B
.75 X 1.05	1"	14.5 feet	6	40	279.3
.88 X 1.40	1-1/4"	14.5 feet	4	40	279.4C

All pallets are shrink-wrapped for outside storage.
Quantity discounts available - contact our Customer Service Department.

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PRO-STIK

PHYSICAL PROPERTIES TEST RESULTS

Description

PRO-STIK is a butyl-rubber-based sealant designed to be permanently flexible, tacky and resistant to moisture and to deterioration by exposure to dilute chemical solutions. PRO-STIK meets all requirements of ASTM C-990; Section 6.2 for Butyl Rubber Sealants and AASHTO M 198.

Typical Properties

The following values represent typical test results and are not manufacturing specifications.

		SPEC.	REQUIRED	PRO-STIK
Butyl Rubber (Hydrocarbon Content %)		ASTM D4	50% min.	51%
Ash Inert Mineral Filler %		AASHTO T111	30% min.	41%
Volatile Matter	(AASHTO T47)	ASTM D6	2% max.	0.3%
Specific Gravity @ 77ºF	(AASHTO T229)	ASTM D71	1.15 - 1.50	1.25 - 1.35
Ductility @ 77ºF, cm	(AASHTO T51)	ASTM D113	5.0 min.	6.0 cm
Flash Point C.O.C.		ASTM D92	350º min.	375ºF
Fire Point C.O.C.		ASTM D92	375º min.	385ºF
Rebound Test				
@77ºF		ASTM C972	5% - 15%	9.5%
@32ºF			30% - 60%	41%
Compression Test				
@77ºF, lbf/in^3		ASTM C972	100 max.	64 lbf per cubic in.
@32ºF, lbf.in^3			200 max.	92 lbf per cubic in.
Low Temperature Flexibility				
@-10ºF		ASTM C765	180º bend, no cracking, nor loss of adhesion .	Pass - no cracking or adhesion loss.
Elevated Temperature Flexibility				
14 days @ 158ºF		ASTM C766	No sag, nor change in extruded shape.	Pass - no sag or shape change.
Adhesion After Impact		ASTM C766-84	No greater loss than 50% of adhesion.	Pass - no loss of adhesion.
Cone Penetration				
@ 77ºF, dmm		ASTM D217	50 - 100 dmm	67 dmm
@ 32ºF, dmm			40 min.	50 dmm
Chemical Resistance			No deterioration, no cracking, no swelling.	Pass-no visible change after 30 days immersion in 5% solutions of HCl, H_2SO_4,NaOH, KOH,H_2S

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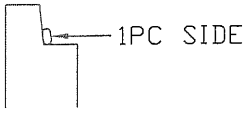
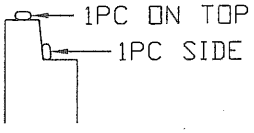
JOINT - INSTALLATION

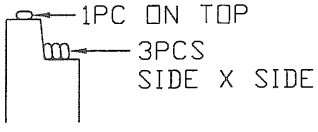
ALL JOINTS MUST BE CLEAN OF FOREIGN MATERIAL



48" MH



60" & 72" MH



84" & UP MH

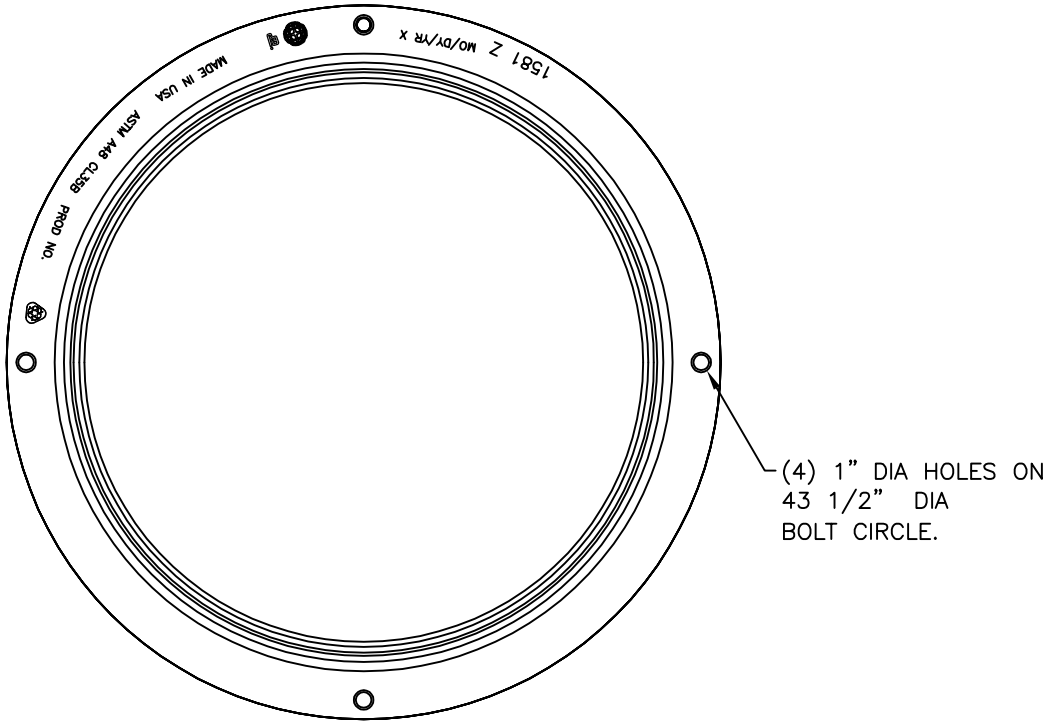
BUTYL MUST BE CONTINUOUS AROUND CIRCUMFERENCE OF JOINT. WHEN SPLICING JOINT MATERIAL, DO NOT OVERLAP STICK MATERIAL END TO END MAKING A CONTINUOUS LENGTH.

UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

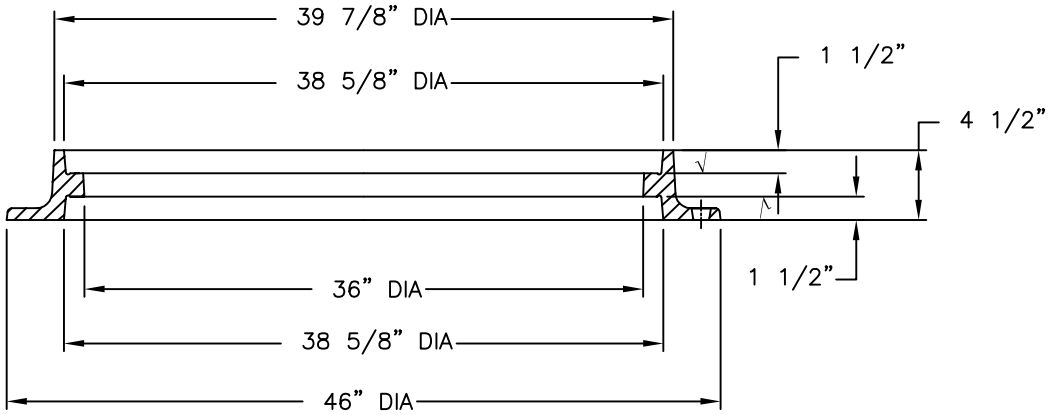
JOINT INSTALLATION - BUTYL

DRAWN BY	SHEET	SCALE	DATE
CKS	1 OF 1	NO SCALE	10-25-07

1581Z Frame



PLAN VIEW



FRAME SECTION

NOTE: FRAME IS REVERSIBLE.

Product Number

00158111

Design Features

-Materials
Gray Iron (CL35B)
-Design Load
Heavy Duty
-Open Area
n/a
-Coating
Undipped
-√ Designates Machined Surface

Certification

- ASTM A48
-
-
-Country of Origin: USA

Drawing Revision

09/25/2003 Designer: SBB
5/30/2017 Revised By: CSF

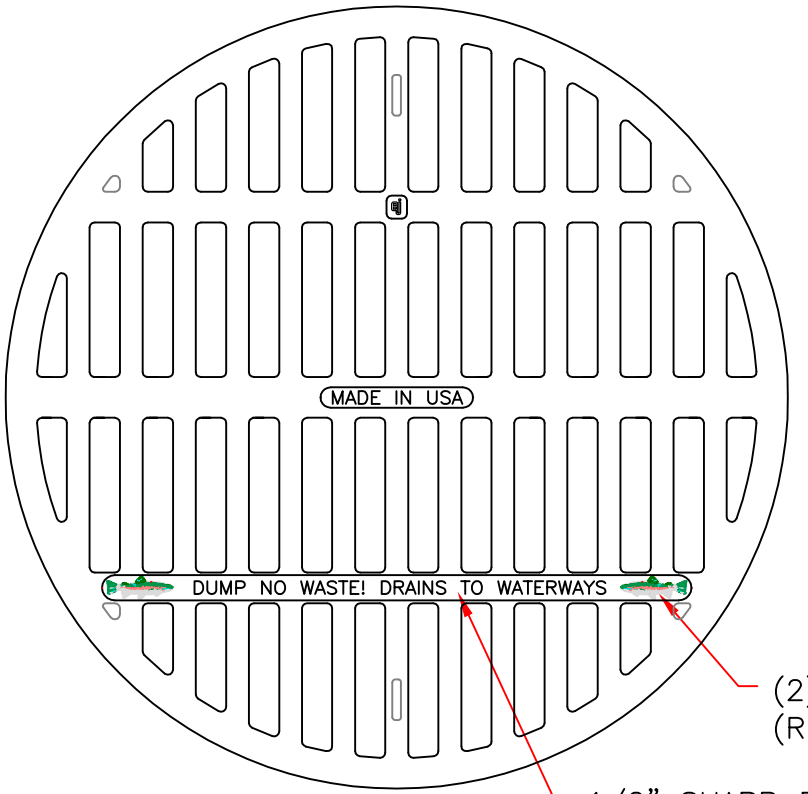
Disclaimer

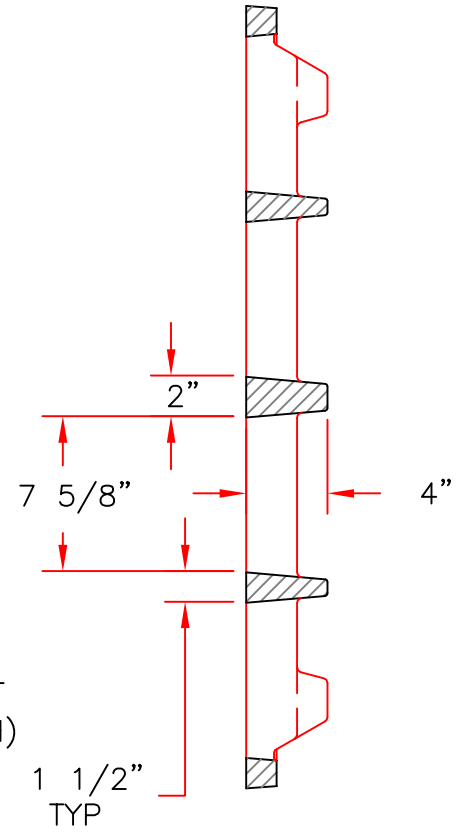
Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

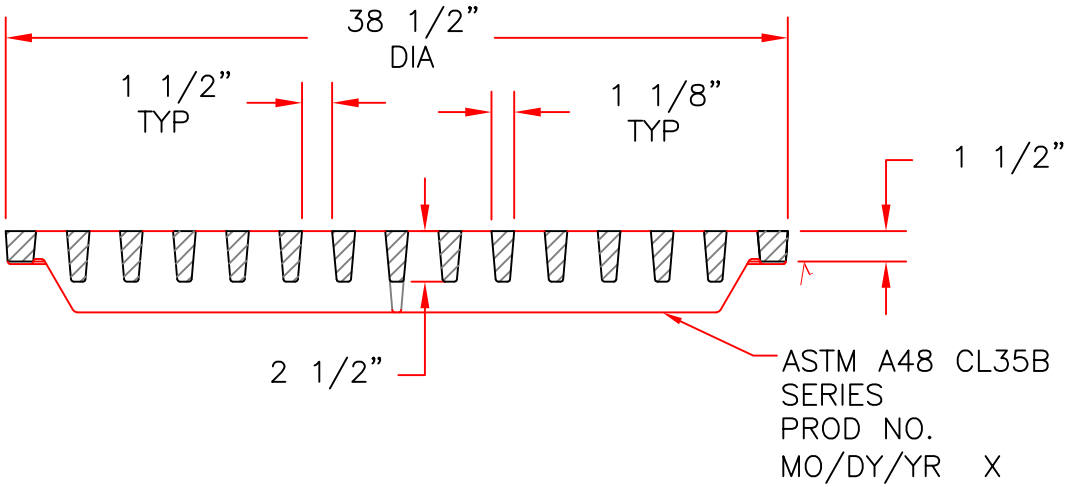
Contact

800 626 4653
ejco.com

1580M Grate







Product Number

00158030

Design Features

-Materials
Gray Iron (CL35B)
-Design Load
Heavy Duty
-Open Area
468 SQ. IN.
-Coating
Dipped
-√ Designates Machined Surface

Certification

- ASTM A48
-
-
-Country of Origin: USA

Drawing Revision

7/10/2003 Designer: DEW
1/6/2017 Revised By: DAE

Disclaimer

Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact

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ejco.com

Upper Peninsula Concrete Pipe Co.
ESCANABA
STRUCTURE, STRENGTH & LONGEVITY...comes delivered on our trucks!

CUSTOMER: MJVD

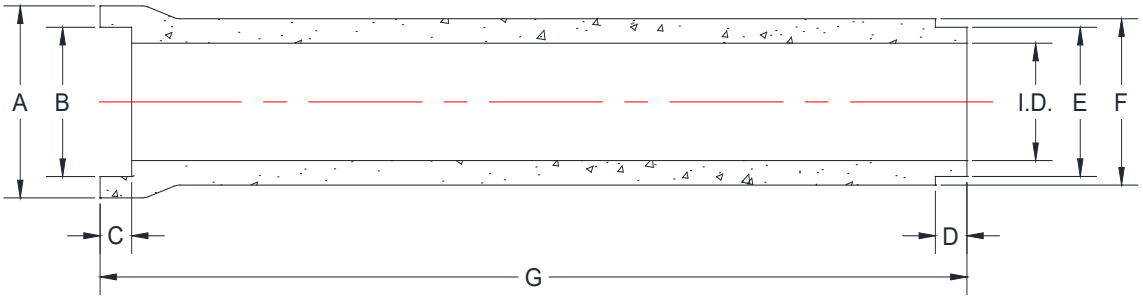
PROJECT: SHIRAS STEAM PLANT

DATE: 4/21/2020

CONFORMS TO: ASTM C76

JOINTS CONFORM TO: ASTM C443

MANUFACTURE REPRESENTATIVE SIGNATURE



DIA. I.D. (IN)	A BELL O.D. (N)	B BELL I.D. (IN)	C BELL DEPTH	D TONGUE DEPTH	E TONGUE O.D. (IN)	F PIPE O.D. (IN)	G LENGTH (FT)	LENGTH (LBS)
12	19.625	15.258	3.5	3.5	15.25	17	8	1072
15	23.125	18.709	3.5	3.5	18.701	20	8	1304
18	26.625	21.709	3.5	3.5	21.701	23	8	1552
21	29.625	24.709	3.5	3.5	24.701	26.5	8	1810
24	32.625	27.709	3.5	3.5	27.701	30	8	2288
30	39.5	34	3.5	3.5	33.992	37	8	3248
36	45.625	40	3.5	3.5	39.992	44	8	4392
42	52	46.281	4	4	46.98	51	8	N/A
48	58	52.312	4.5	4.5	52.32	58	8	6528
60	65.356	64.875	4.75	4.75	64.958	72	8	N/A

TSS Series

Tylox® SuperSeal™ Pre-lubricated Profile Gaskets for Single Offset Joints on Round, Elliptical or Arch Concrete Pipe

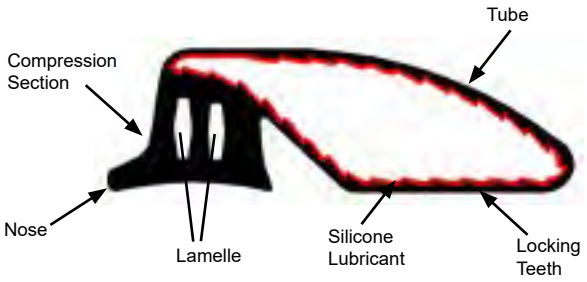
Say good-bye to the lube bucket and brush.
Say hello to a fast, clean, simple installation.

The unique design of the Tylox® SuperSeal™ pipe gasket is bringing a cost-saving revolution to the field of concrete pipe gasketing and installation.

- ***No field lubrication.*** The Tylox® SuperSeal™ gasket has a thin layer of silicone lubricant installed on the inner surface of the tube during the manufacturing process, so no lube is applied at the job site. This saves time and money during installation. The lubricant is sealed in the tube so is impervious to mud, dirt and debris so, if the gasket is dropped in the trench, simply wipe the gasket surface clean and you are ready to install.
- ***No equalization required.*** The unique lamell/rolling-tube design of the Tylox® SuperSeal™ gasket means reduced gasket stretch requirement, resulting in no equalization and reduced labor needs during installation. A quick and easy gasket installation provides even more time and money savings, and no more worries about the chance of this step being overlooked at the job site.
- ***No gasket "roll" or "twist".*** Another benefit of the unique lamell/rolling-tube design is the drastic reduction in insertion forces, virtualy eliminating the gasket "roll" and "twist" associated with o-ring and standard profile gaskets. Manual coupling of up to 36" pipe is possible.
- ***Self-Centering.*** The rolling-tube design enables the pipe spigot to self-center within the bell due to the forces generated as the tube rolls into and fills the small annular space during the homing process.
- ***No Joint Kick Back.*** The small teeth within the rolling tube "lock" under rearward motion, resisting pull-out forces and maintaining the "homed" position.

- ***Reduced deflection.*** The rolling tube acts as a "filler" within the small annular space between spigot and bell, both reducing the amount of deflection under side-load, and acting as a buffer to eliminate spigot and bell spalling due to concrete-to-concrete contact.

Tylox® SuperSeal™ gaskets are available for all common combinations of annular and total annular spaces.



Making Infrastructure Watertight Today for a Greener, Sustainable Tomorrow

Available Models					
Model	Body Height	Body Width	Total Width	To Suit * Annular Space	
				Total	Small
115**	0.490	0.600	1.185	0.281	0.094
135	0.610	0.712	1.579	0.326	0.126
165	0.682	0.791	1.785	0.422	0.146
166**	0.680	0.780	1.615	0.422	0.094
170	0.682	0.808	1.290	0.375	0.126
185	0.740	0.896	2.061	0.446	0.146
186**	0.758	0.890	1.631	0.446	0.094
200	0.798	0.950	1.793	0.500	0.146
200L	0.885	1.049	2.549	0.500	0.175
201**	0.807	0.949	1.964	0.500	0.094
225	0.914	1.085	2.787	0.525	0.175
226**	0.900	1.048	2.318	0.525	0.094
245	0.965	1.120	2.010	0.590	0.190

* For informational purposes only. Consult your Hamilton Kent representative for sizing to suit your specific joint details.
** These models do not have locking teeth.

Materials and Identification

Tylox® SuperSeal™ gaskets are manufactured from a variety of synthetic rubber compounds to meet or exceed the material requirements of ASTM C361, C443, C425, C1619 and CSA A257.3.

The applicable specification(s) and usage mode for a particular gasket are identified by a colored stripe around the periphery of the gasket:

Standard

ASTM C443, C1619 Class C, CSA A257.3 White Stripe
ASTM C361, C1619 Class A, CSA A257.3 Blue Stripe
ASTM C425, California Greenbook Green Stripe

Oil-Resistant

ASTM C443, C1619 Class D, CSA A257.3 Orange Stripe
Nitrile rubber
ASTM C443, C1619 Class D, CSA A257.3 Yellow Stripe
Neoprene rubber

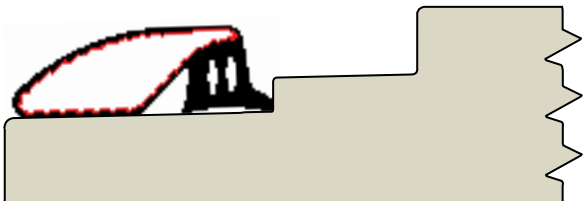
The above listing covers the standard, North American specifications. Gaskets materials are available to meet many other specifications. Please consult your Hamilton Kent representative regarding materials to meet your particular specifications.

Pressure Rating

Tylox® SuperSeal™gaskets are suitable for use in systems with up to 13 psig (30 ft Head) pressure requirements. Higher head pressures have been obtained with certain joint designs.

Installation

1. Ensure that bell and spigot are free from cracks, chips, or other defects.
2. Brush loose dirt and debris from the inside surface of the bell, the spigot and the gasket.
3. Stretch gasket around the spigot, with the nose against the step, and the tube laying flat against the spigot.



4. Do not lubricate the gasket or joint as this could adversely affect the performance of the gasket and the joint.
5. Align the spigot with the bell, ensuring that the gasket is in contact with the bell around the complete periphery, then thrust pipe home using suitable manual or mechanical means. The homing process will cause the lubricated tube to roll over itself, above the compression section, allowing the pipe to slide forward.

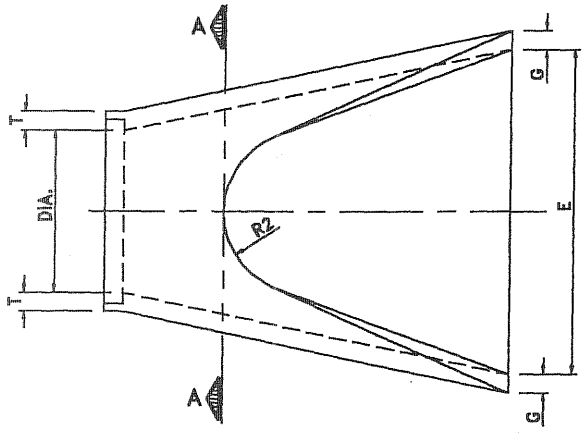
Once fully homed, the compression section seals the total annular space; the rolling tube comes to rest within the small annular space acting as a cushion against side loads; and the tube acts to resist pipe pull-out.

Hamilton Kent
Sealing Your Connection

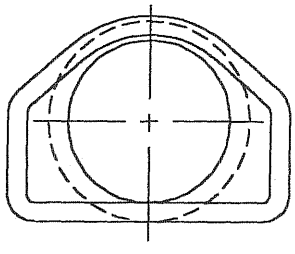
TEL: (800) 268 8479
FAX: (888) 674 6960
WEB: www.hamiltonkent.com
E-MAIL: sales@hamiltonkent.com

Lit_TSS_Pipe_English_R9

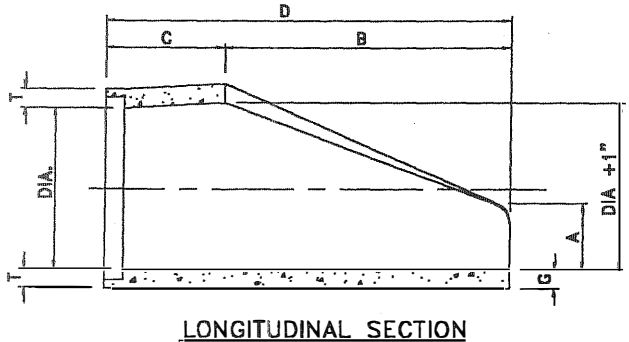
Upper Peninsula
Concrete Pipe Co.
Ph. 800-233-7473
Fax 906-786-2622
P.O. Box 313
Escanaba, MI 49829
www.upconcretepipe.com



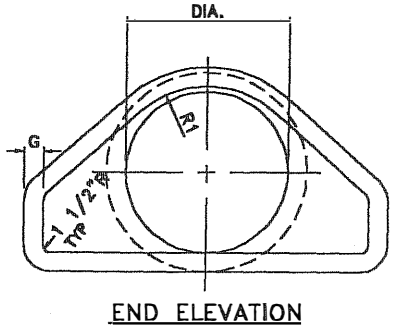
PLAN VIEW



SECTION "A–A"

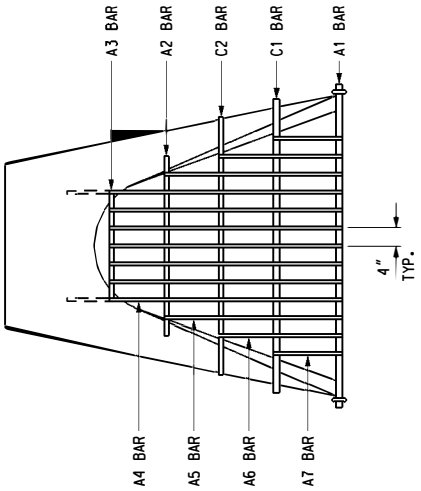


LONGITUDINAL SECTION



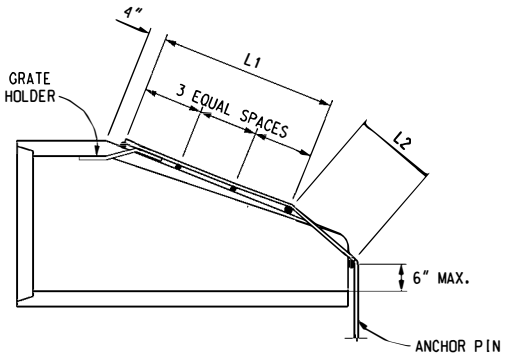
END ELEVATION

DIA.	T(MIN)	A(MIN)	"B"	"C"	"D"	"E"	"G"	R1	R2	"X"	"Y"	APPROX. WT. LBS.
12"	2"	5"	23"	51"	74"	24"	2"	10 1/8"	9"	8"	18"	800
15"	2 1/4"	7"	27"	48"	75"	30"	2 1/4"	12 1/2"	11"	8"	18"	1,100
18"	2 1/2"	11"	25"	49"	74"	36"	2 1/2"	15 1/2"	12"	8"	18"	1,300
21"	2 3/4"	11"	33"	42"	75"	42"	2 3/4"	16 1/8"	13"	8"	18"	1,500
24"	3"	12"	43"	32"	75"	48"	3"	16 3/16"	14"	8"	18"	1,800
30"	3 1/2"	14"	53"	22"	75"	60"	3 1/2"	18 1/2"	15"	8"	18"	2,400
36"	4"	17"	62"	37"	99"	72"	4"	24 5/16"	20"	8"	18"	4,200
42"	4 1/2"	22"	62"	37"	99"	78"	4 1/2"	27 1/2"	22"	10"	24"	5,600
48"	5"	24"	72"	26"	98"	84"	5"	28 1/2"	22"	10"	24"	7,400
54"	5 1/2"	27"	65"	33 1/4"–35"	98 1/4"–100"	90"	5"	–	–	10"	24"	8,040
60"	6"	30"	60"	39"	99"	96"	5"	–	–	12"	24"	8,730
[illegible]"	6 1/2"	24"	72"–78"	21"–27"	99"	102"	5 1/2"	–	–	12"	24"	10,630
[illegible]"	7"	24"	78"	21"	99"	108"	6"	–	–	12"	24"	12,520
78"	7 1/2"	24"	78"	21"	99"	114"	6 1/2"	–	–	12"	24"	14,430
84"	8"	36"	90 1/2"	21"	111 1/2"	120"	6 1/2"	–	–	12"	24"	18,160



PLAN VIEW

STEEL REINFORCEMENT QUANTITIES										
DIAMETER		24"			27"			30"		
BAR	BAR SIZE	NUMBER REQUIRED	LENGTH	WEIGHT (LBS)	NUMBER REQUIRED	LENGTH	WEIGHT (LBS)	NUMBER REQUIRED	LENGTH	WEIGHT (LBS)
A1	#10	1	60"	21	1	66"	23	1	72"	25
A2	#8	1	32"	7	1	34"	7	1	40"	9
A3	#8	1	24"	5	1	24"	5	1	24"	5
A4	#6	7	45 1/4"	39	7	52 1/4"	46	7	58 1/4"	51
A5	#6	2	34 3/4"	9	2	40 1/4"	10	2	45	11
A6	#6	2	24 1/2"	6	2	28 1/4"	7	2	31 3/4"	8
A7	#6				2	18 1/4"	4	2	18 1/2"	5
C1	#10	1	60"	21	1	62"	22	1	68"	24
C2	#8	1	52"	11	1	54"	12	1	60"	13
ANCHOR PIN	#6	2	36"	9	2	36"	9	2	36"	9
GRATE HOLDER	#6	2	20"	5	2	20"	5	2	20"	5
TOTAL STEEL WEIGHT (LBS)				133			150			165



LONGITUDINAL SECTION

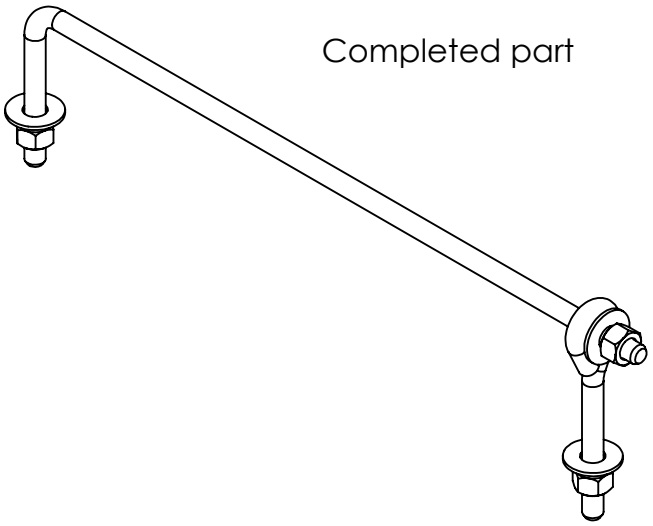
DIMENSIONS		
DIAMETER	L1	L2
24"	31 1/4"	14"
27"	36"	16 1/4"
30"	39 1/2"	18 1/2"

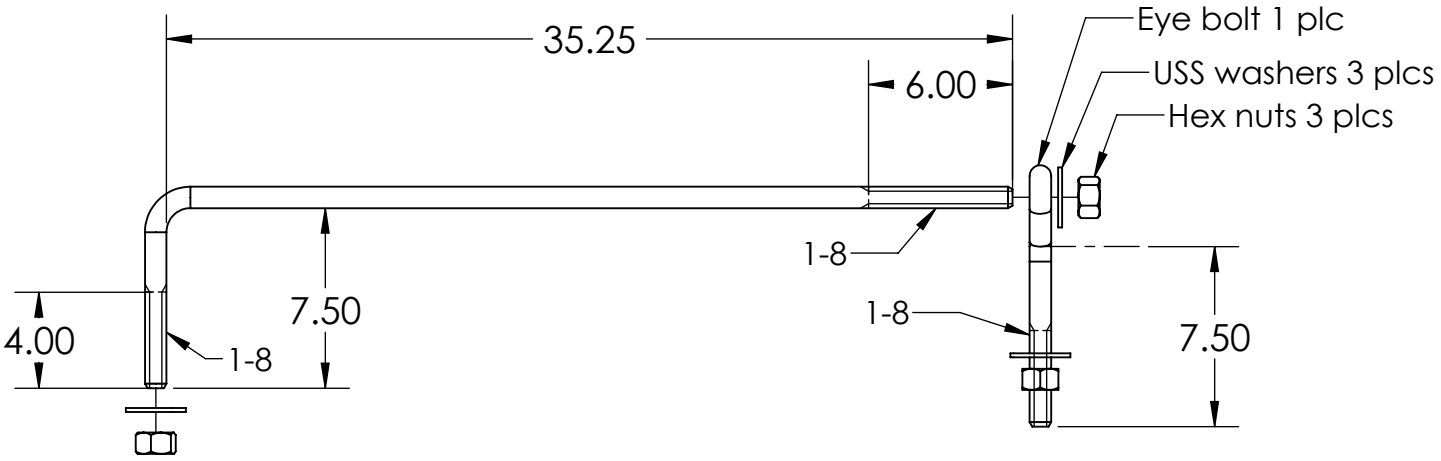
GRATE FOR 24" THROUGH 30" DIAMETER PIPE WITH CONCRETE END SECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR

STEEL GRATES FOR END SECTIONS

9-14-2001 F.H.W.A. APPROVAL	2-26-2001 PLAN DATE	R-92-C	SHEET 2 OF 6





Notes:

1. Unit is made from A1018 steel and is hot dip galvanized after fabrication per ASTM F2329.
2. Fasteners are galvanized to ASTM F2329.
3. All material is domestic melted and made.

		Part # 3116			
		Desc. 1.0"x7.5" Adjustable Tie Rod-DOM STD.			
MATERIAL:		**Configuration:** Default			
WEIGHT:	11.83	DIMENSIONS ARE IN INCHES	**Title:** 3116		
FINISH:	Galvanized	DRAWN BY: Caleb S.	6/18/2012		
		REVISED: caleb	12/11/2017	REV: 1+	*DO NOT SCALE DRAWING	SHEET 2 OF 2

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	9

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/29/2020	**1.01.A.12**	**01330**	**StormWater Management System**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[X]	**For review & comment**	[ ]	_____				

REMARKS: Revisions made with regards to invert elevations and rim interference.

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/29/2020

Upper Peninsula Concrete Pipe Co.
ESCANABA
STRUCTURE, STRENGTH & LONGEVITY...comes delivered on our trucks!

P.O. Box 313 - Escanaba, MI 49837
(906) 786-0934

LETTER OF TRANSMITTAL

DATE: 4/21/2020 JOB NO. 6-20

ATTN:

RE: SHIRAS STEAM PLANT - ASH POND - REV1

TO: MJ VANDAMME

WE ARE SENDING YOU.....

[✔] Attached..... [ ] Under separate cover via_____ the following items:

[✔] Shop drawings [ ] Prints [ ] Plans [ ] Samples [ ] Specifications
[ ] Copy of Letter [ ] Change Order [ ] Other

PAGES	DATE	NO.	DESCRIPTION
10			72IN DRAINAGE STRUCTURES, MH STEPS, MH BUTYL, JOINT INSTALLATION
2			EJ1581 FRAME/ EJ1580- M1 GRATE
7			24IN RCP, 30 RCP, TSS PIPE GASKET, 30IN CES, 30IN CES GRATE, JOINT TIE ASSEMBLIES

THESE ARE TRANSMITTED as checked below:

[ ] For approval
[ ] For your use
[ ] As requested
[✔] For review and comment
[ ] FOR BIDS DUE:

[ ] Approved as submitted
[ ] Approved as noted
[ ] Returned for corrections
[ ]

[ ] Resubmit _____ copies for approval
[ ] Submit _____ copies for distribution
[ ] Return _____ corrected prints

PRINTS RETURNED AFTER LOAN TO US

REMARKS:
PLEASE REVIEW 72IN MANHOLE ELEVATIONS, MOST OF THE CORED HOLES ARE THROUGH THE COVER.

COPY TO:

SIGNED: JORDAN LACOMBE

IF ENCLOSURES NOT AS NOTED, KINDLY NOTIFY US AT ONCE

PRECAST MANHOLE (60" AND LARGER)

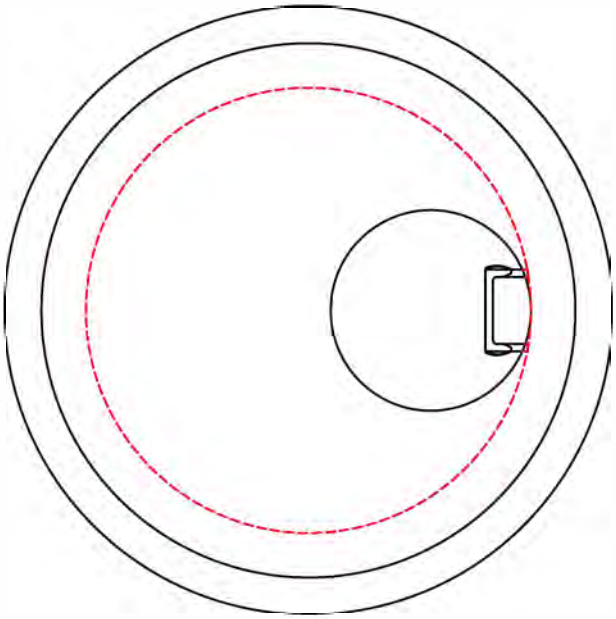
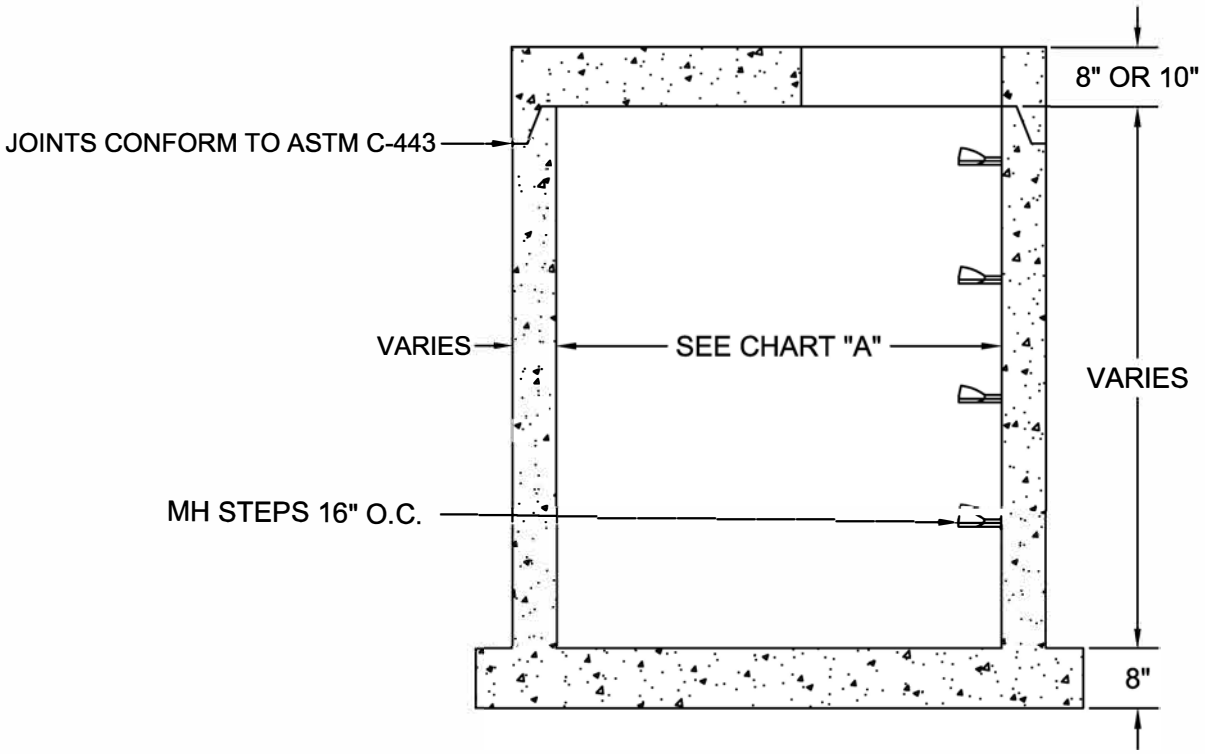


CHART "A"		
DIA.	THICK.	LBS/VFT
60"	6"	1295
72"	7"	1811
84"	8"	2409
96"	9"	3090



MANHOLE PIPE, REDUCERS, COVERS, AND BASES ARE MANUFACTURED TO ASTM C-478 SPECIFICATIONS

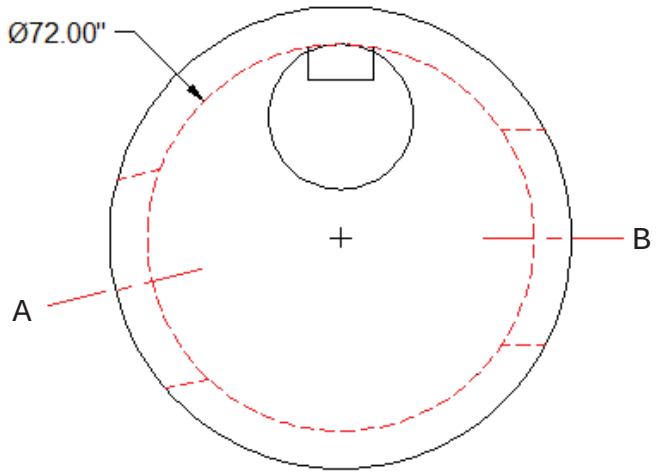
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

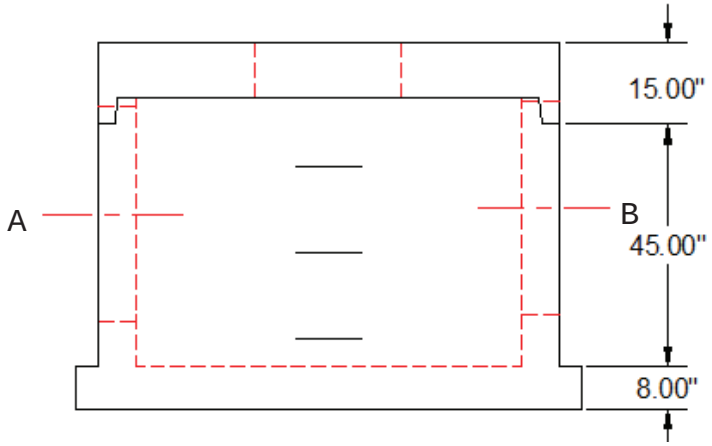
PRECAST MANHOLE (60" AND LARGER)

DRAWN BY	SHEET	SCALE	DATE
CKS	1 OF 1	NO SCALE	08-20-12

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.40	FT
LOWEST INVERT ELEV. A	-	604.00	FT
INVERT ELEV B		604.10	FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	13.2	IN
NET M.H. HEIGHT	=	60	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	30 RCP	40 IN	28.2 IN	36.2 IN	0.0 IN	257 °	161.40 IN
B	30 RCP	40 IN	29.4 IN	37.4 IN	1.2 IN	90 °	56.52 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	10,300

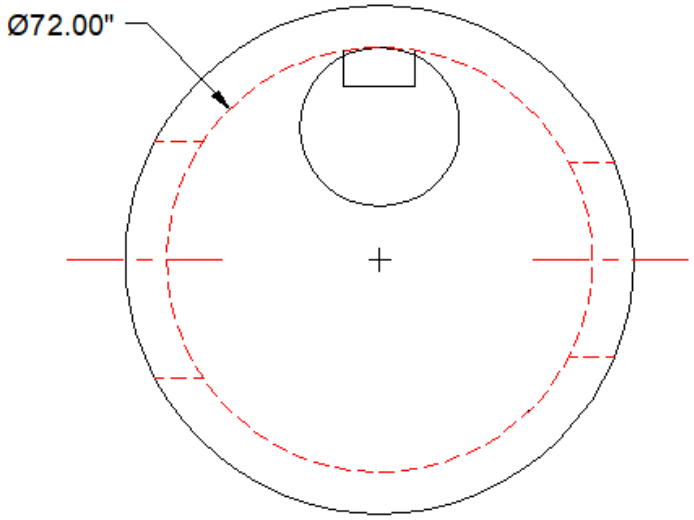
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

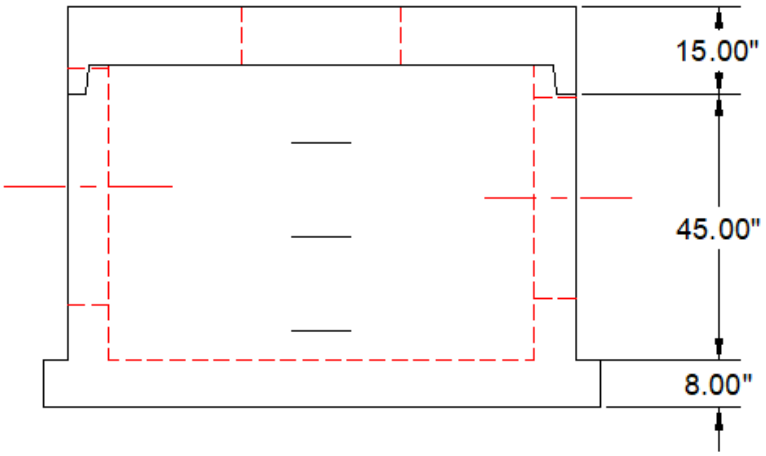
SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH1)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	4/23/2020

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.50	FT
LOWEST INVERT ELEV. A	-	604.20	FT
INVERT ELEV B		604.30	FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	14.4	IN
NET M.H. HEIGHT	=	60	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	30 RCP	40 IN	29.4 IN	37.4 IN	0.0 IN	270 °	169.56 IN
B	24 RCP	34 IN	27.6 IN	35.6 IN	1.2 IN	90 °	56.52 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	10,300

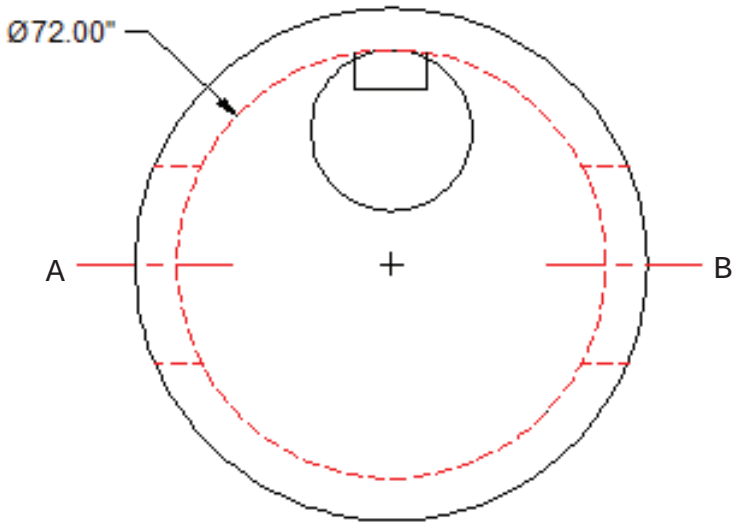
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

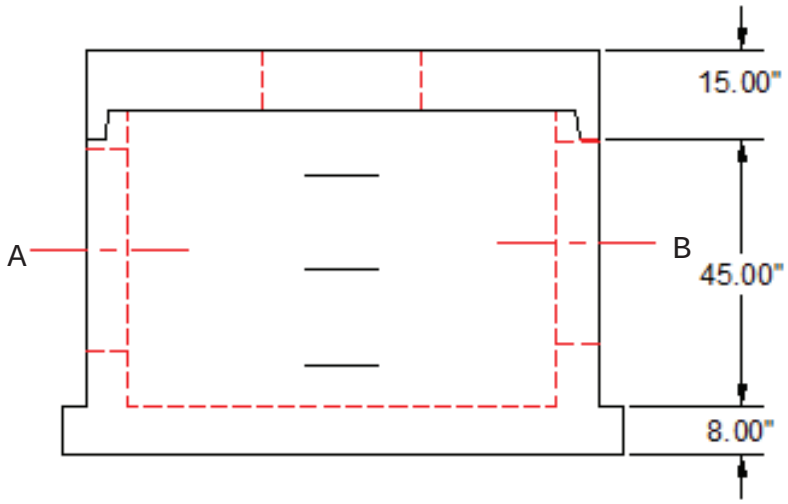
SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH2)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	4/23/2020

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.70	FT
LOWEST INVERT ELEV. A	-	604.40	FT
INVERT ELEV B		604.50	FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	14.4	IN
NET M.H. HEIGHT	=	60	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	24 RCP	34 IN	26.4 IN	34.4 IN	0.0 IN	270 °	169.56 IN
B	24 RCP	34 IN	27.6 IN	35.6 IN	1.2 IN	90 °	56.52 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	10,300

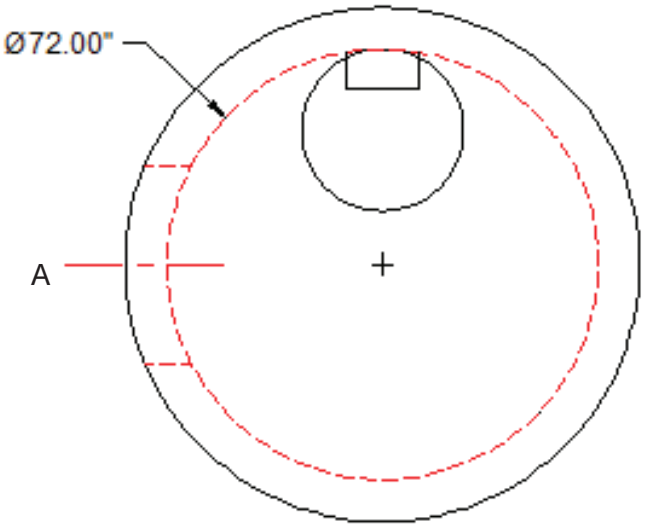
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

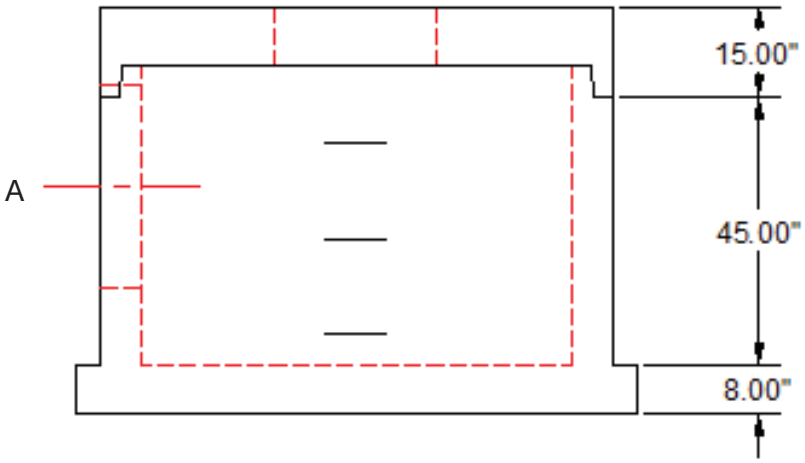
SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH3)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	4/23/2020

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.60	FT
LOWEST INVERT ELEV. A	-	604.60	FT
INVERT ELEV B			FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	18.0	IN
NET M.H. HEIGHT	=	60	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	24 RCP	34 IN	30 IN	38.0 IN	0.0 IN	270 °	169.56 IN
B		IN	IN	IN	IN	°	0.00 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	11,189

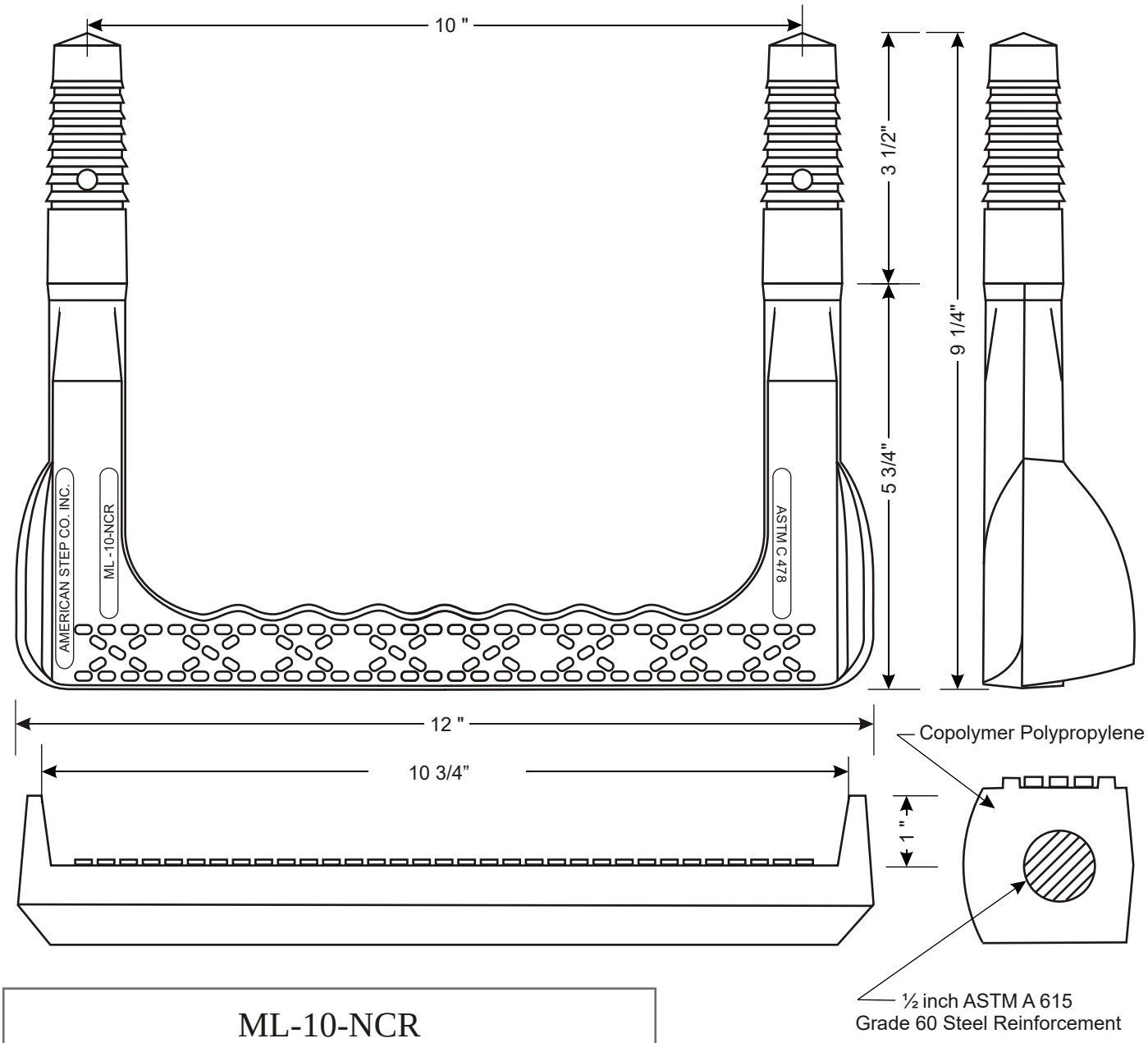
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH4)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	4/23/2020

http://www.americanstep.com

ML-10-NCR



ML-10-NCR

Mechanical Lock Installation Methods
Minimum Concrete Strength Must Be 3000 psi.

Preformed Holes

Two preformed holes on 10” centers
Holes must be parallel
Diameter of holes are 1.1” tapering to 7/8” in 3 ½” of depth

Drilled Holes

Drill two 1” holes on 10” centers with a minimum depth of 3 3/4”
Use 1” masonry bit for drilling.
Holes must be parallel.

Drive step with sledge hammer until both legs are completely seated

This step meets or exceeds ASTM C 478 and OSHA Standards when properly installed.

American Step Company, Inc.
P.O. Box 137
830 East Broadway
Griffin, GA 30224-0137

800-988-STEP
770-467-9844 (OFFICE)
770-467-8011 (FAX)

http://www.americanstep.com

PRO-STIK

HIGH-PERFORMANCE PREFORMED BUTYL JOINT SEALANT

What It Is

PRO-STIK is a preformed butyl joint sealant that is supplied in rope form. It is carefully blended from uncured butyl rubber and other solids and will not shrink, crack, or dry out. Although clean to handle, it provides excellent adhesion and cohesion to a wide variety of surfaces - concrete, metal, most concrete coatings, glass, wood, and painted surfaces.

Why It's Better

- High quality rubber, 98% solids that will not harden, shrink or oxidize
- Good adhesion to dry concrete, commonly specified concrete coatings, steel, glass, or painted surfaces
- Rectangular shapes for optimal adhesion
- Coated release paper for easy installation
- Long service life
- Cohesive properties allow for joint movement
- Compatible for use with rubber O-Ring designs
- Low moisture vapor transmission rate (MVTR)
- Special primers available for use on damp, contaminated, or difficult surfaces

How It Performs

PRO-STIK BUTYL JOINT SEALANT *meets or exceeds all requirements of the following Standards, Specifications and/or Test Methods:*

ASTM C 990 - *Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants; Section 6.2 Butyl Rubber Sealants*

AASHTO M 198 - *Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets*

Typical Applications

- Sanitary Manhole Joints
- Stormwater Manhole Joints
- Irrigation and Drainage Systems
- Box Culverts
- Elliptical/Arch Pipe
- Architectural Foundations
- Underground Utility Vaults
- Stormwater Treatment Structures
- Stormwater Inlet Structures
- On-Site Treatment Tanks
- Grease Interceptors
- Wet Wells

PRESS-SEAL GASKET CORPORATION
Protecting Our Planet's Clean Water Supply
Press-Seal Gasket is an ISO 9001:2008 and ISO 14001:2004 Registered Company
800-348-7325 Fax (260) 436-1908
email: sales @press-seal.com
web: www.press-seal.com
Made in USA

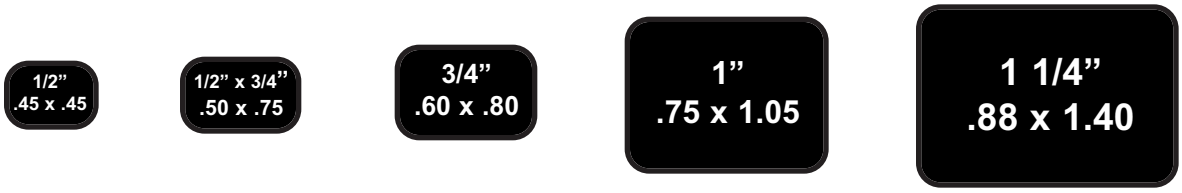
Submittal Specification

The joints and/or joint surfaces of the structures shall be sealed with a butyl-rubber-based preformed flexible sealant conforming to ASTM C-990, paragraph 6.2. The material shall be PRO-STIK or EZ-STIK as supplied by PRESS-SEAL GASKET CORPORATION, Fort Wayne, Indiana, or approved equal. The butyl material shall consists of 50% (min.) butyl rubber and shall contain 2% or less volatile matter.

For preformed joint sealants, the sealant shall be sized such that the joint is filled to 50% (min.) of its annular volume when fully assembled, and the sealant shall have the ends kneaded together at the overlap. Primer and/or adhesive as recommended by the sealant supplier shall be employed for adverse, critical, or other applications.

Testing of joints and compliance with construction requirements shall be conducted in strict conformance with the requirements of the sealant supplier.

PRO-STIK AVAILABLE SIZES



Dimensions	Round Equivalent	Roll Length	Rolls/Carton	Cartons/Pallet	Part No.
.45 X .45	1/2"	21.75 feet	12	24	279.1
.45 X .45	1/2"	26.4 feet	12	24	279.1A
.50 X .75	1/2" X 3/4"	21.75 feet	8	40	288.33
.60 X .80	3/4"	14.5 feet	8	40	279.2B
.75 X 1.05	1"	14.5 feet	6	40	279.3
.88 X 1.40	1-1/4"	14.5 feet	4	40	279.4C

All pallets are shrink-wrapped for outside storage.
Quantity discounts available - contact our Customer Service Department.

PRESS-SEAL GASKET CORPORATION
Protecting Our Planet's Clean Water Supply
Press-Seal Gasket is an ISO 9001:2008 and ISO 14001:2004 Registered Company

800-348-7325 Fax (260) 436-1908
email: sales @press-seal.com
web: www.press-seal.com

Made in USA

PRO-STIK

PHYSICAL PROPERTIES TEST RESULTS

Description

PRO-STIK is a butyl-rubber-based sealant designed to be permanently flexible, tacky and resistant to moisture and to deterioration by exposure to dilute chemical solutions. PRO-STIK meets all requirements of ASTM C-990; Section 6.2 for Butyl Rubber Sealants and AASHTO M 198.

Typical Properties

The following values represent typical test results and are not manufacturing specifications.

		SPEC.	REQUIRED	PRO-STIK
Butyl Rubber (Hydrocarbon Content %)		ASTM D4	50% min.	51%
Ash Inert Mineral Filler %		AASHTO T111	30% min.	41%
Volatile Matter	(AASHTO T47)	ASTM D6	2% max.	0.3%
Specific Gravity @ 77ºF	(AASHTO T229)	ASTM D71	1.15 - 1.50	1.25 - 1.35
Ductility @ 77ºF, cm	(AASHTO T51)	ASTM D113	5.0 min.	6.0 cm
Flash Point C.O.C.		ASTM D92	350º min.	375ºF
Fire Point C.O.C.		ASTM D92	375º min.	385ºF
Rebound Test				
@77ºF		ASTM C972	5% - 15%	9.5%
@32ºF			30% - 60%	41%
Compression Test				
@77ºF, lbf/in^3		ASTM C972	100 max.	64 lbf per cubic in.
@32ºF, lbf.in^3			200 max.	92 lbf per cubic in.
Low Temperature Flexibility				
@-10ºF		ASTM C765	180º bend, no cracking, nor loss of adhesion .	Pass - no cracking or adhesion loss.
Elevated Temperature Flexibility				
14 days @ 158ºF		ASTM C766	No sag, nor change in extruded shape.	Pass - no sag or shape change.
Adhesion After Impact		ASTM C766-84	No greater loss than 50% of adhesion.	Pass - no loss of adhesion.
Cone Penetration				
@ 77ºF, dmm		ASTM D217	50 - 100 dmm	67 dmm
@ 32ºF, dmm			40 min.	50 dmm
Chemical Resistance			No deterioration, no cracking, no swelling.	Pass-no visible change after 30 days immersion in 5% solutions of HCl, H_2SO_4,NaOH, KOH,H_2S

PRESS-SEAL GASKET CORPORATION
Protecting Our Planet's Clean Water Supply
Press-Seal Gasket is an ISO 9001:2008 and ISO 14001:2004 Registered Company
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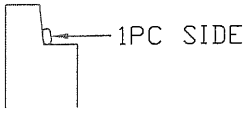
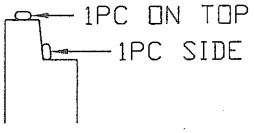
email: sales @press-seal.com
web: www.press-seal.com
Made in USA

JOINT - INSTALLATION

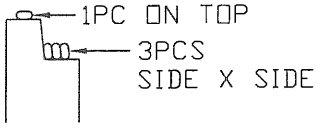
ALL JOINTS MUST BE CLEAN OF FOREIGN MATERIAL



48" MH



60" & 72" MH



84" & UP MH

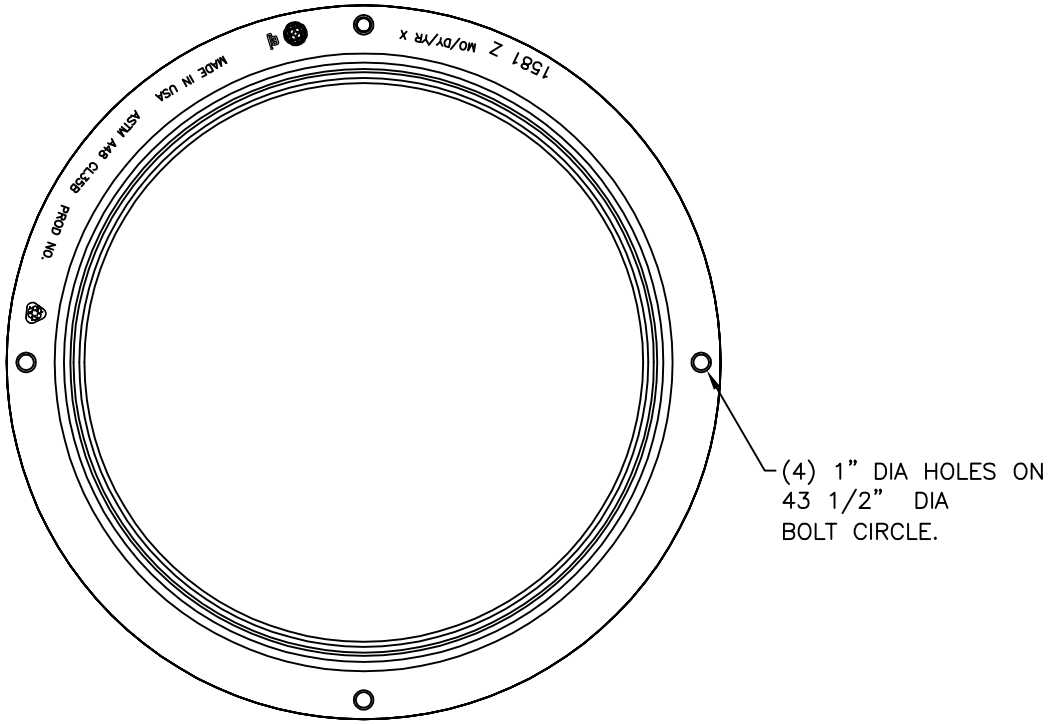
BUTYL MUST BE CONTINUOUS AROUND CIRCUMFERENCE OF JOINT. WHEN SPLICING JOINT MATERIAL, DO NOT OVERLAP STICK MATERIAL END TO END MAKING A CONTINUOUS LENGTH.

UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

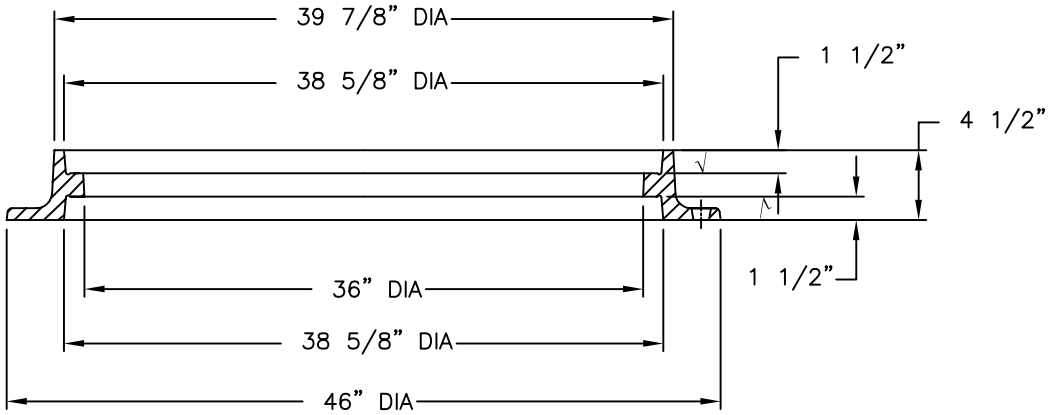
JOINT INSTALLATION - BUTYL

DRAWN BY	SHEET	SCALE	DATE
CKS	1 OF 1	NO SCALE	10-25-07

1581Z Frame



PLAN VIEW



FRAME SECTION

NOTE: FRAME IS REVERSIBLE.

Product Number

00158111

Design Features

-Materials
Gray Iron (CL35B)
-Design Load
Heavy Duty
-Open Area
n/a
-Coating
Undipped
-√ Designates Machined Surface

Certification

- ASTM A48
-
-
-Country of Origin: USA

Drawing Revision

09/25/2003 Designer: SBB
5/30/2017 Revised By: CSF

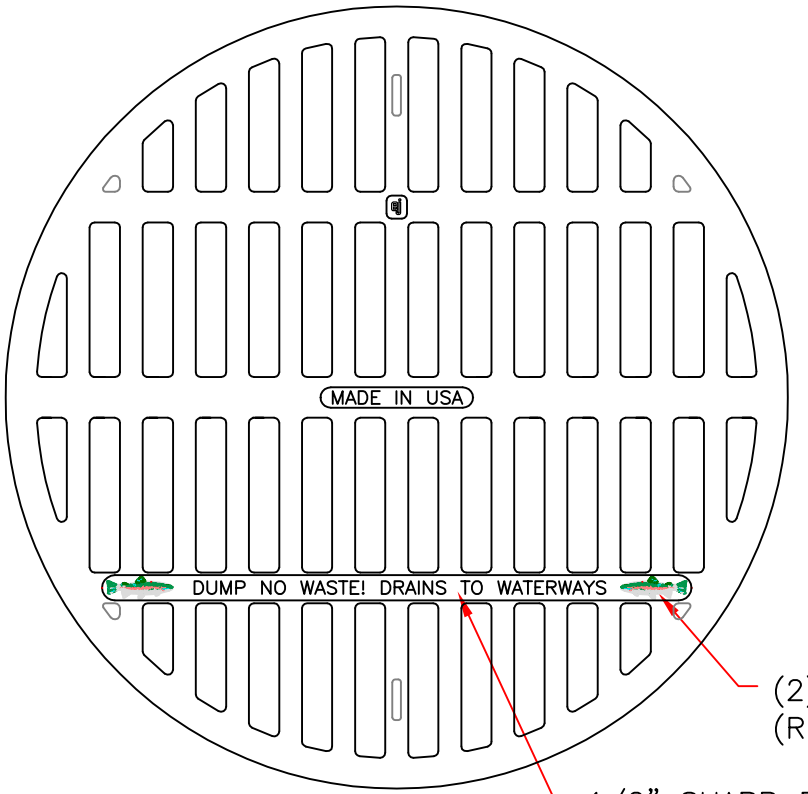
Disclaimer

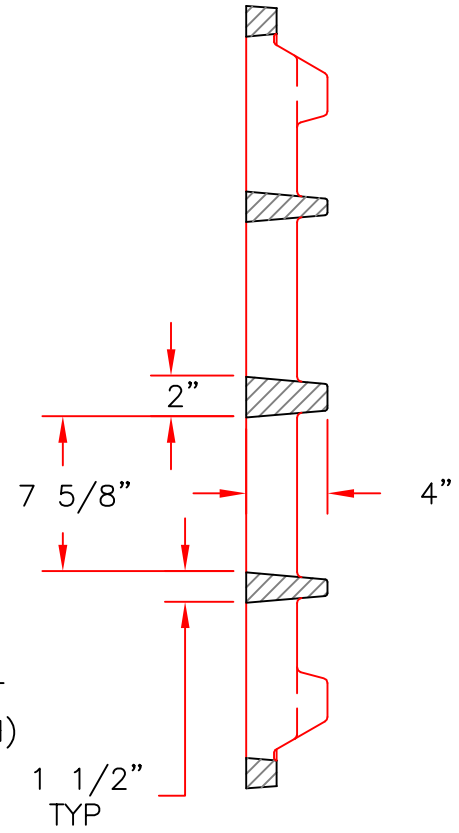
Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

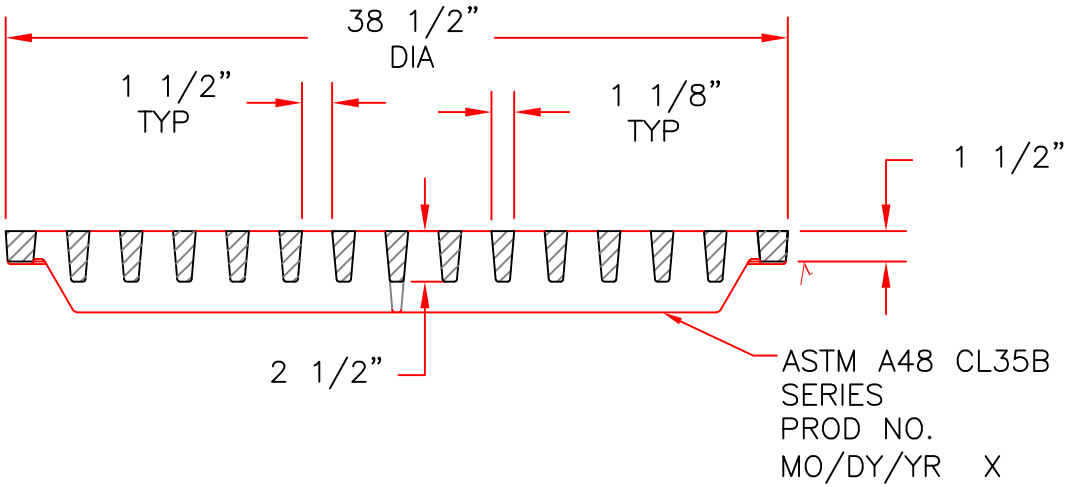
Contact

800 626 4653
ejco.com

1580M Grate







Product Number

00158030

Design Features

-Materials
Gray Iron (CL35B)
-Design Load
Heavy Duty
-Open Area
468 SQ. IN.
-Coating
Dipped
-√ Designates Machined Surface

Certification

- ASTM A48
-
-
-Country of Origin: USA

Drawing Revision

7/10/2003 Designer: DEW
1/6/2017 Revised By: DAE

Disclaimer

Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact

800 626 4653
ejco.com

Upper Peninsula Concrete Pipe Co.
ESCANABA
STRUCTURE, STRENGTH & LONGEVITY...comes delivered on our trucks!

CUSTOMER: MJVD

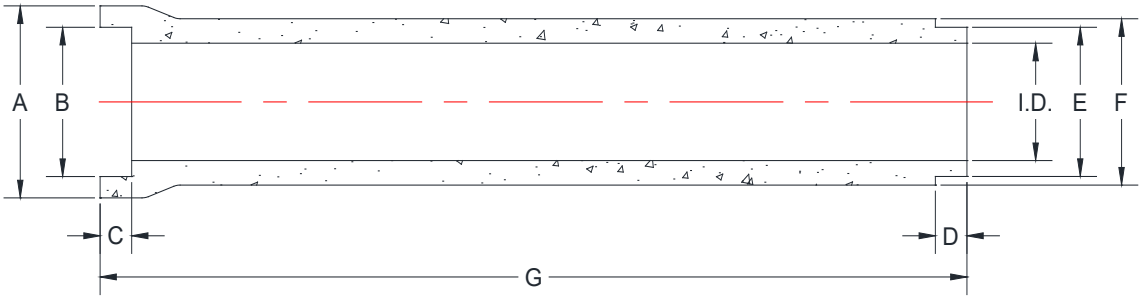
PROJECT: SHIRAS STEAM PLANT

DATE: 4/21/2020

CONFORMS TO: ASTM C76

JOINTS CONFORM TO: ASTM C443

MANUFACTURE REPRESENTATIVE SIGNATURE



DIA. I.D. (IN)	A BELL O.D. (N)	B BELL I.D. (IN)	C BELL DEPTH	D TONGUE DEPTH	E TONGUE O.D. (IN)	F PIPE O.D. (IN)	G LENGTH (FT)	LENGTH (LBS)
12	19.625	15.258	3.5	3.5	15.25	17	8	1072
15	23.125	18.709	3.5	3.5	18.701	20	8	1304
18	26.625	21.709	3.5	3.5	21.701	23	8	1552
21	29.625	24.709	3.5	3.5	24.701	26.5	8	1810
24	32.625	27.709	3.5	3.5	27.701	30	8	2288
30	39.5	34	3.5	3.5	33.992	37	8	3248
36	45.625	40	3.5	3.5	39.992	44	8	4392
42	52	46.281	4	4	46.98	51	8	N/A
48	58	52.312	4.5	4.5	52.32	58	8	6528
60	65.356	64.875	4.75	4.75	64.958	72	8	N/A

TSS Series

Tylox® SuperSeal™ Pre-lubricated Profile Gaskets for Single Offset Joints on Round, Elliptical or Arch Concrete Pipe

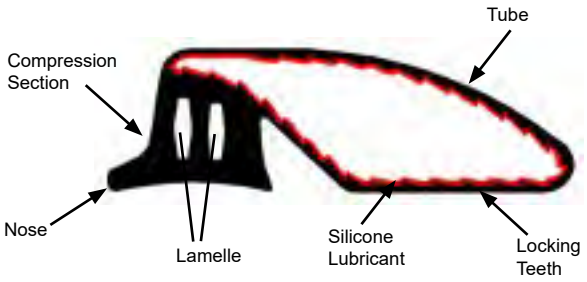
Say good-bye to the lube bucket and brush.
Say hello to a fast, clean, simple installation.

The unique design of the Tylox® SuperSeal™ pipe gasket is bringing a cost-saving revolution to the field of concrete pipe gasketing and installation.

- ***No field lubrication.*** The Tylox® SuperSeal™ gasket has a thin layer of silicone lubricant installed on the inner surface of the tube during the manufacturing process, so no lube is applied at the job site. This saves time and money during installation. The lubricant is sealed in the tube so is impervious to mud, dirt and debris so, if the gasket is dropped in the trench, simply wipe the gasket surface clean and you are ready to install.
- ***No equalization required.*** The unique lamell/rolling-tube design of the Tylox® SuperSeal™ gasket means reduced gasket stretch requirement, resulting in no equalization and reduced labor needs during installation. A quick and easy gasket installation provides even more time and money savings, and no more worries about the chance of this step being overlooked at the job site.
- ***No gasket "roll" or "twist".*** Another benefit of the unique lamell/rolling-tube design is the drastic reduction in insertion forces, virtualy eliminating the gasket "roll" and "twist" associated with o-ring and standard profile gaskets. Manual coupling of up to 36" pipe is possible.
- ***Self-Centering.*** The rolling-tube design enables the pipe spigot to self-center within the bell due to the forces generated as the tube rolls into and fills the small annular space during the homing process.
- ***No Joint Kick Back.*** The small teeth within the rolling tube "lock" under rearward motion, resisting pull-out forces and maintaining the "homed" position.

- ***Reduced deflection.*** The rolling tube acts as a "filler" within the small annular space between spigot and bell, both reducing the amount of deflection under side-load, and acting as a buffer to eliminate spigot and bell spalling due to concrete-to-concrete contact.

Tylox® SuperSeal™ gaskets are available for all common combinations of annular and total annular spaces.



Making Infrastructure Watertight Today for a Greener, Sustainable Tomorrow

Available Models					
Model	Body Height	Body Width	Total Width	To Suit * Annular Space	
				Total	Small
115**	0.490	0.600	1.185	0.281	0.094
135	0.610	0.712	1.579	0.326	0.126
165	0.682	0.791	1.785	0.422	0.146
166**	0.680	0.780	1.615	0.422	0.094
170	0.682	0.808	1.290	0.375	0.126
185	0.740	0.896	2.061	0.446	0.146
186**	0.758	0.890	1.631	0.446	0.094
200	0.798	0.950	1.793	0.500	0.146
200L	0.885	1.049	2.549	0.500	0.175
201**	0.807	0.949	1.964	0.500	0.094
225	0.914	1.085	2.787	0.525	0.175
226**	0.900	1.048	2.318	0.525	0.094
245	0.965	1.120	2.010	0.590	0.190

* For informational purposes only. Consult your Hamilton Kent representative for sizing to suit your specific joint details.
** These models do not have locking teeth.

Materials and Identification

Tylox® SuperSeal™ gaskets are manufactured from a variety of synthetic rubber compounds to meet or exceed the material requirements of ASTM C361, C443, C425, C1619 and CSA A257.3.

The applicable specification(s) and usage mode for a particular gasket are identified by a colored stripe around the periphery of the gasket:

Standard

ASTM C443, C1619 Class C, CSA A257.3 White Stripe
ASTM C361, C1619 Class A, CSA A257.3 Blue Stripe
ASTM C425, California Greenbook Green Stripe

Oil-Resistant

ASTM C443, C1619 Class D, CSA A257.3 Orange Stripe
Nitrile rubber
ASTM C443, C1619 Class D, CSA A257.3 Yellow Stripe
Neoprene rubber

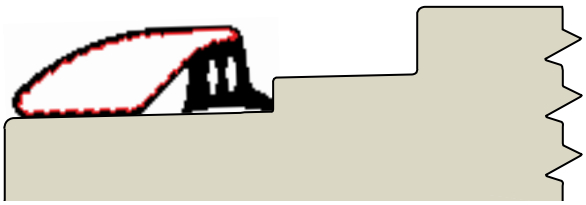
The above listing covers the standard, North American specifications. Gaskets materials are available to meet many other specifications. Please consult your Hamilton Kent representative regarding materials to meet your particular specifications.

Pressure Rating

Tylox® SuperSeal™gaskets are suitable for use in systems with up to 13 psig (30 ft Head) pressure requirements. Higher head pressures have been obtained with certain joint designs.

Installation

1. Ensure that bell and spigot are free from cracks, chips, or other defects.
2. Brush loose dirt and debris from the inside surface of the bell, the spigot and the gasket.
3. Stretch gasket around the spigot, with the nose against the step, and the tube laying flat against the spigot.



4. Do not lubricate the gasket or joint as this could adversely affect the performance of the gasket and the joint.
5. Align the spigot with the bell, ensuring that the gasket is in contact with the bell around the complete periphery, then thrust pipe home using suitable manual or mechanical means. The homing process will cause the lubricated tube to roll over itself, above the compression section, allowing the pipe to slide forward.

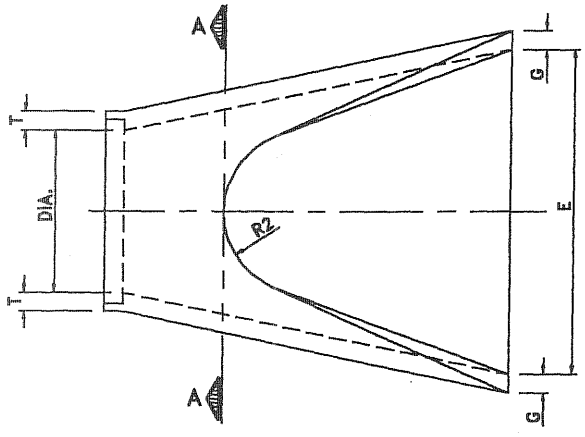
Once fully homed, the compression section seals the total annular space; the rolling tube comes to rest within the small annular space acting as a cushion against side loads; and the tube acts to resist pipe pull-out.

Hamilton Kent
Sealing Your Connection

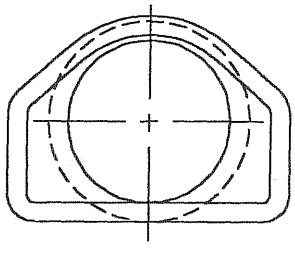
TEL: (800) 268 8479
FAX: (888) 674 6960
WEB: www.hamiltonkent.com
E-MAIL: sales@hamiltonkent.com

Lit_TSS_Pipe_English_R9

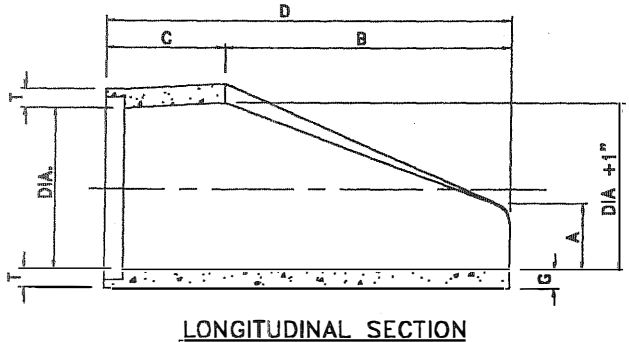
Upper Peninsula
Concrete Pipe Co.
Ph. 800-233-7473
Fax 906-786-2622
P.O. Box 313
Escanaba, MI 49829
www.upconcretepipe.com



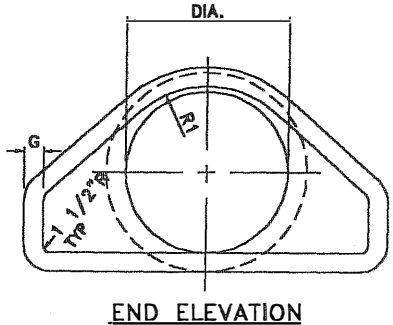
PLAN VIEW



SECTION "A–A"

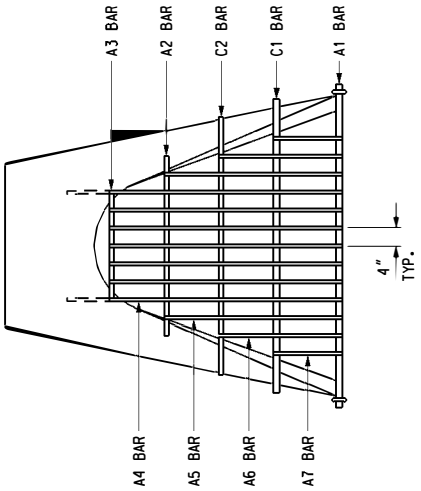


LONGITUDINAL SECTION



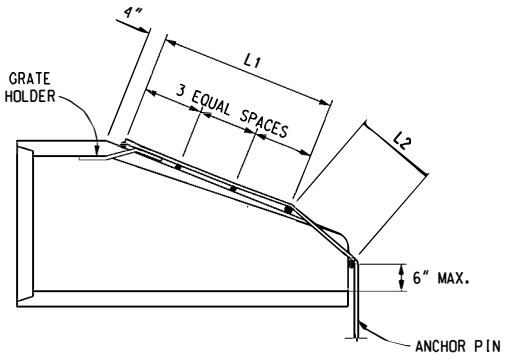
END ELEVATION

DIA.	T(MIN)	A(MIN)	"B"	"C"	"D"	"E"	"G"	R1	R2	"X"	"Y"	APPROX. WT. LBS.
12"	2"	5"	23"	51"	74"	24"	2"	10 1/8"	9"	8"	18"	800
15"	2 1/4"	7"	27"	48"	75"	30"	2 1/4"	12 1/2"	11"	8"	18"	1,100
18"	2 1/2"	11"	25"	49"	74"	36"	2 1/2"	15 1/2"	12"	8"	18"	1,300
21"	2 3/4"	11"	33"	42"	75"	42"	2 3/4"	16 1/8"	13"	8"	18"	1,500
24"	3"	12"	43"	32"	75"	48"	3"	16 3/16"	14"	8"	18"	1,800
30"	3 1/2"	14"	53"	22"	75"	60"	3 1/2"	18 1/2"	15"	8"	18"	2,400
36"	4"	17"	62"	37"	99"	72"	4"	24 5/16"	20"	8"	18"	4,200
42"	4 1/2"	22"	62"	37"	99"	78"	4 1/2"	27 1/2"	22"	10"	24"	5,600
48"	5"	24"	72"	26"	98"	84"	5"	28 1/2"	22"	10"	24"	7,400
54"	5 1/2"	27"	65"	33 1/4"–35"	98 1/4"–100"	90"	5"	–	–	10"	24"	8,040
60"	6"	30"	60"	39"	99"	96"	5"	–	–	12"	24"	8,730
[illegible]"	6 1/2"	24"	72"–78"	21"–27"	99"	102"	5 1/2"	–	–	12"	24"	10,630
[illegible]"	7"	24"	78"	21"	99"	108"	6"	–	–	12"	24"	12,520
78"	7 1/2"	24"	78"	21"	99"	114"	6 1/2"	–	–	12"	24"	14,430
84"	8"	36"	90 1/2"	21"	111 1/2"	120"	6 1/2"	–	–	12"	24"	18,160



PLAN VIEW

STEEL REINFORCEMENT QUANTITIES										
DIAMETER		24"			27"			30"		
BAR	BAR SIZE	NUMBER REQUIRED	LENGTH	WEIGHT (LBS)	NUMBER REQUIRED	LENGTH	WEIGHT (LBS)	NUMBER REQUIRED	LENGTH	WEIGHT (LBS)
A1	#10	1	60"	21	1	66"	23	1	72"	25
A2	#8	1	32"	7	1	34"	7	1	40"	9
A3	#8	1	24"	5	1	24"	5	1	24"	5
A4	#6	7	45 1/4"	39	7	52 1/4"	46	7	58 1/4"	51
A5	#6	2	34 3/4"	9	2	40 1/4"	10	2	45	11
A6	#6	2	24 1/2"	6	2	28 1/4"	7	2	31 3/4"	8
A7	#6				2	18 1/4"	4	2	18 1/2"	5
C1	#10	1	60"	21	1	62"	22	1	68"	24
C2	#8	1	52"	11	1	54"	12	1	60"	13
ANCHOR PIN	#6	2	36"	9	2	36"	9	2	36"	9
GRATE HOLDER	#6	2	20"	5	2	20"	5	2	20"	5
TOTAL STEEL WEIGHT (LBS)				133			150			165



LONGITUDINAL SECTION

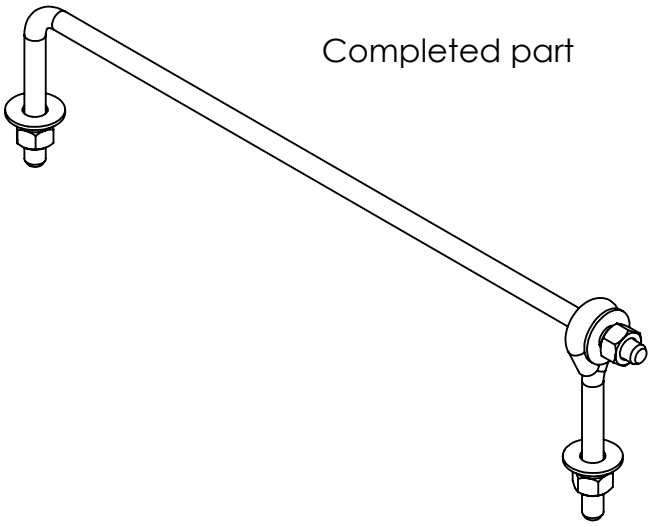
DIMENSIONS		
DIAMETER	L1	L2
24"	31 1/4"	14"
27"	36"	16 1/4"
30"	39 1/2"	18 1/2"

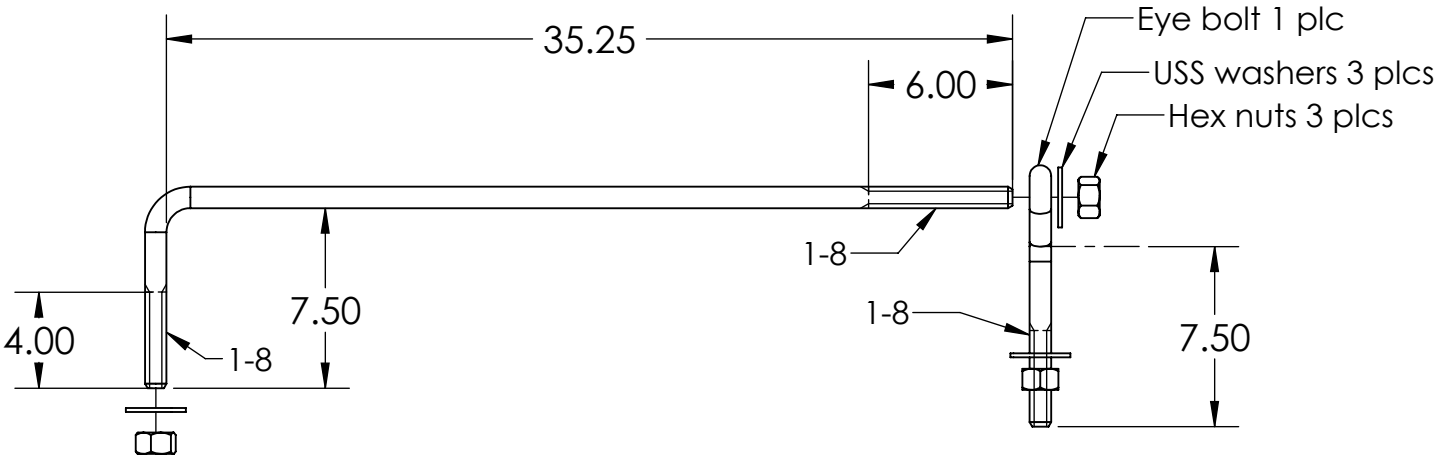
GRATE FOR 24" THROUGH 30" DIAMETER PIPE WITH CONCRETE END SECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR

STEEL GRATES FOR END SECTIONS

9-14-2001 F.H.W.A. APPROVAL	2-26-2001 PLAN DATE	R-92-C	SHEET 2 OF 6





Notes:

1. Unit is made from A1018 steel and is hot dip galvanized after fabrication per ASTM F2329.
2. Fasteners are galvanized to ASTM F2329.
3. All material is domestic melted and made.

		Part # 3116			
		Desc. 1.0"x7.5" Adjustable Tie Rod-DOM STD.			
MATERIAL:		**Configuration:** Default			
WEIGHT:	11.83	DIMENSIONS ARE IN INCHES	**Title:** 3116		
FINISH:	Galvanized	DRAWN BY: Caleb S.	6/18/2012		
		REVISED: caleb	12/11/2017	REV: 1+	*DO NOT SCALE DRAWING	SHEET 2 OF 2

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	9

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/20/2020	**1.01.A.12**	**01330**	**StormWater Management System**

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[X]	**For review & comment**	[ ]	_____				

REMARKS: Please Review the 72in Manhole Elevations, Most of the Cored Holes Are Through And/Or Above the Cover.

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 4/20/2020

Upper Peninsula Concrete Pipe Co.
ESCANABA
STRUCTURE, STRENGTH & LONGEVITY...comes delivered on our trucks!

P.O. Box 313 - Escanaba, MI 49837
(906) 786-0934

LETTER OF TRANSMITTAL

DATE: 4/21/2020 JOB NO. 6-20

ATTN:

RE: SHIRAS STEAM PLANT - ASH POND - REV1

TO: MJ VANDAMME

WE ARE SENDING YOU.....

[✔] Attached..... [ ] Under separate cover via_____ the following items:

[✔] Shop drawings [ ] Prints [ ] Plans [ ] Samples [ ] Specifications
[ ] Copy of Letter [ ] Change Order [ ] Other

PAGES	DATE	NO.	DESCRIPTION
10			72IN DRAINAGE STRUCTURES, MH STEPS, MH BUTYL, JOINT INSTALLATION
2			EJ1581 FRAME/ EJ1580- M1 GRATE
7			24IN RCP, 30 RCP, TSS PIPE GASKET, 30IN CES, 30IN CES GRATE, JOINT TIE ASSEMBLIES

THESE ARE TRANSMITTED as checked below:

[ ] For approval
[ ] For your use
[ ] As requested
[✔] For review and comment
[ ] FOR BIDS DUE:

[ ] Approved as submitted
[ ] Approved as noted
[ ] Returned for corrections
[ ]

[ ] Resubmit _____ copies for approval
[ ] Submit _____ copies for distribution
[ ] Return _____ corrected prints

PRINTS RETURNED AFTER LOAN TO US

REMARKS:
PLEASE REVIEW 72IN MANHOLE ELEVATIONS, MOST OF THE CORED HOLES ARE THROUGH THE COVER.

COPY TO:

SIGNED: JORDAN LACOMBE

IF ENCLOSURES NOT AS NOTED, KINDLY NOTIFY US AT ONCE

PRECAST MANHOLE (60" AND LARGER)

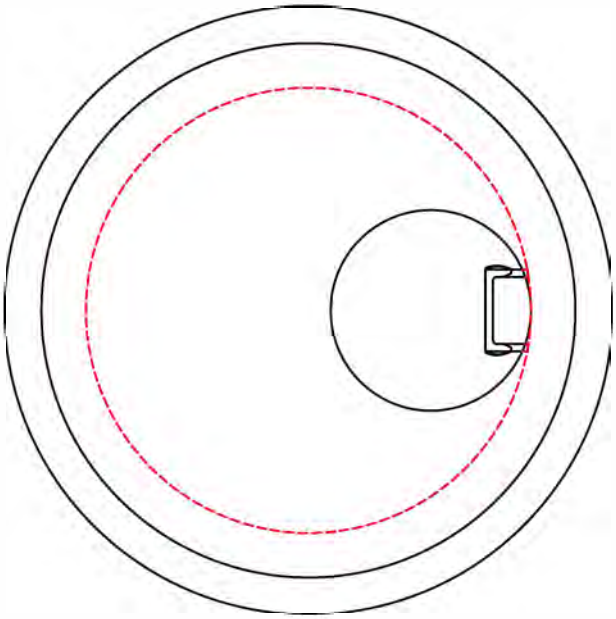
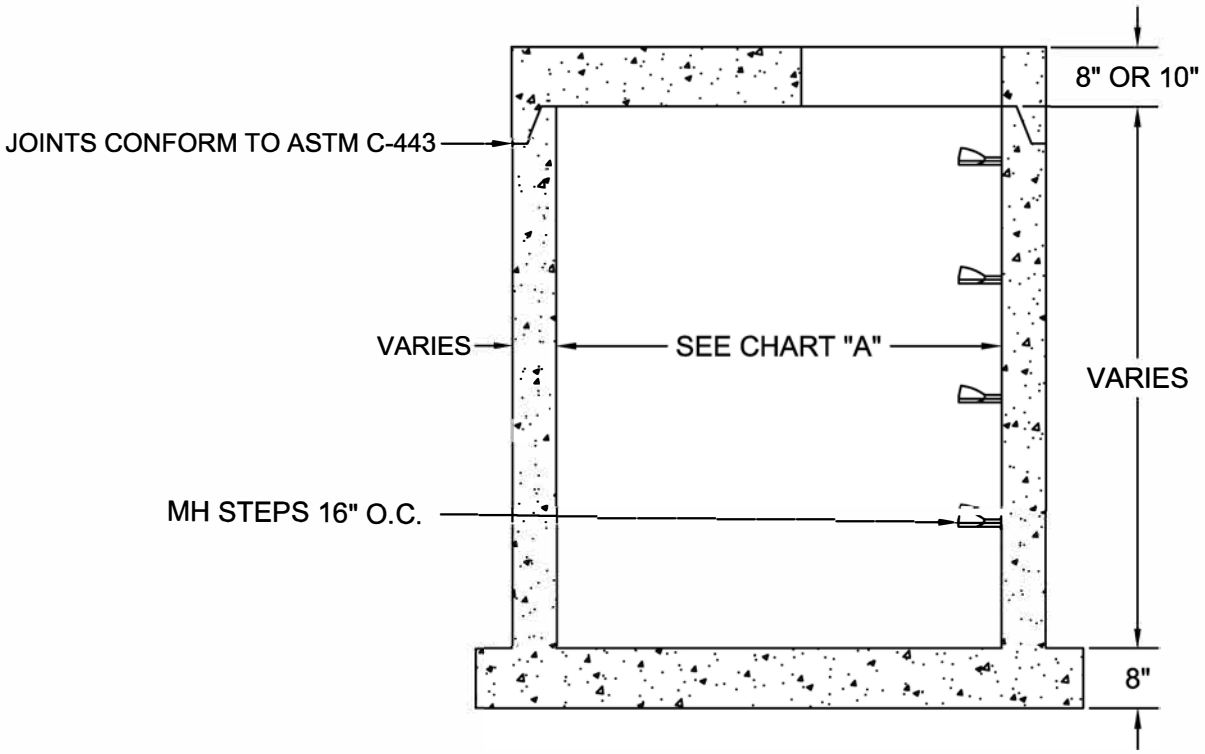


CHART "A"		
DIA.	THICK.	LBS/VFT
60"	6"	1295
72"	7"	1811
84"	8"	2409
96"	9"	3090



MANHOLE PIPE, REDUCERS, COVERS, AND BASES ARE MANUFACTURED TO ASTM C-478 SPECIFICATIONS

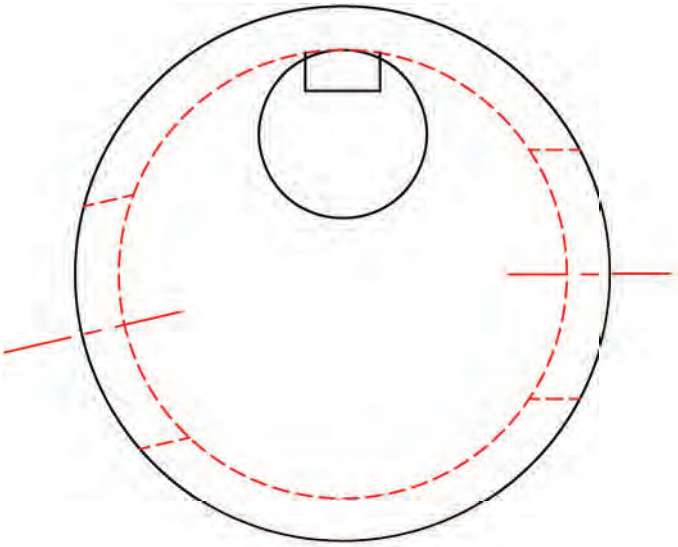
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

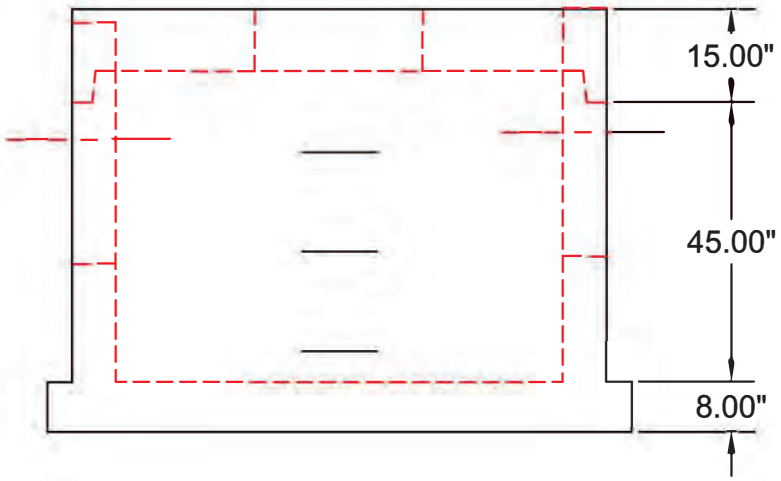
PRECAST MANHOLE (60" AND LARGER)

DRAWN BY	SHEET	SCALE	DATE
CKS	1 OF 1	NO SCALE	08-20-12

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.40	FT
LOWEST INVERT ELEV. A	-	604.90	FT
INVERT ELEV B		605.00	FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	24.0	IN
NET M.H. HEIGHT	=	60	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	30 RCP	40 IN	39 IN	47.0 IN	0.0 IN	°	0.00 IN
B	30 RCP	40 IN	40.2 IN	48.2 IN	1.2 IN	°	0.00 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	11,300

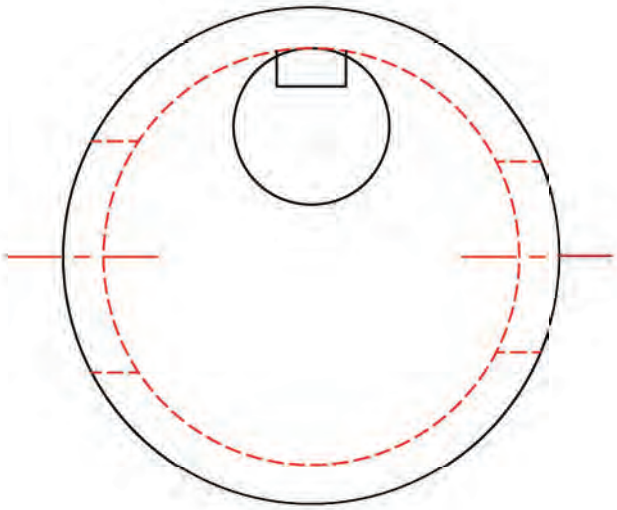
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

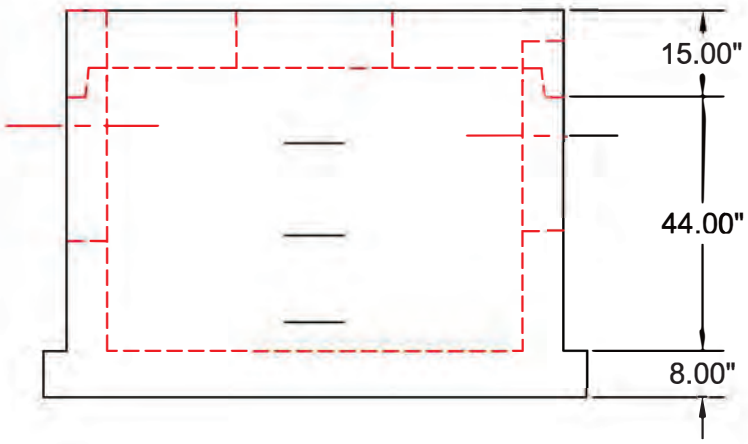
SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH1)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	2/28/2020

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.50	FT
LOWEST INVERT ELEV. A	-	605.10	FT
INVERT ELEV B		605.20	FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	24.0	IN
NET M.H. HEIGHT	=	59	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	30 RCP	IN	39 IN	47.0 IN	0.0 IN	°	0.00 IN
B	24 RCP	40 IN	37.2 IN	45.2 IN	1.2 IN	°	0.00 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	11,189

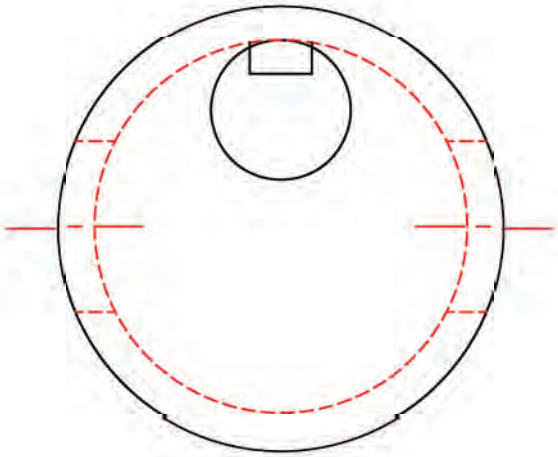
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

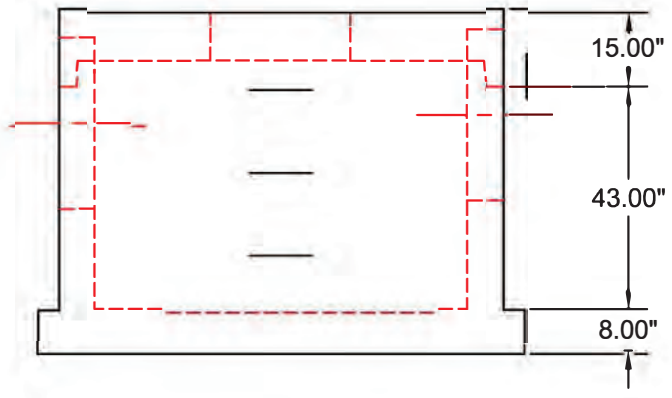
SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH2)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	2/28/2020

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.60	FT
LOWEST INVERT ELEV. A	-	605.30	FT
INVERT ELEV B		605.40	FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	24.0	IN
NET M.H. HEIGHT	=	58	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	24 RCP	33 IN	36 IN	44.0 IN	0.0 IN	°	0.00 IN
B	24 RCP	33 IN	37.2 IN	45.2 IN	1.2 IN	°	0.00 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	11,300

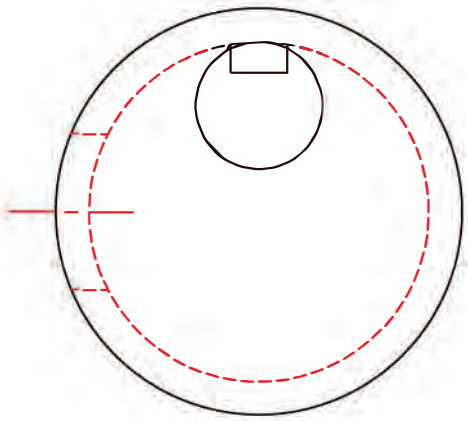
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

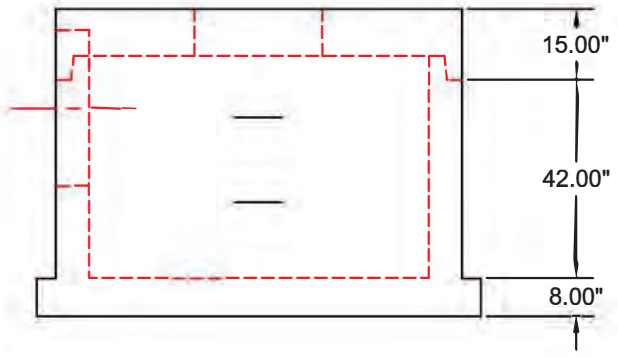
SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH3)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	2/28/2020

MANHOLE DIAMETER		72	IN
TOP RIM ELEV.	+	608.75	FT
LOWEST INVERT ELEV. A	-	605.50	FT
INVERT ELEV B			FT
INVERT ELEV C			FT
INVERT ELEV D			FT
CASTING ADJ.	-	0.5	FT
MISC. ADJUSTMENT	+	24.0	IN
NET M.H. HEIGHT	=	57	IN

ID	PIPE	HOLE	UP TO CL	BOB	INVERT	ROTATION	ARC LENGTH
A	24 RCP	33 IN	36 IN	44.0 IN	0.0 IN	°	0.00 IN
B		IN	IN	IN	IN	°	0.00 IN
C		IN	IN	IN	IN	°	0.00 IN
D		IN	IN	IN	IN	°	0.00 IN





WEIGHT (LBS)	
COVER	5,000
RING	
BASE	11,189

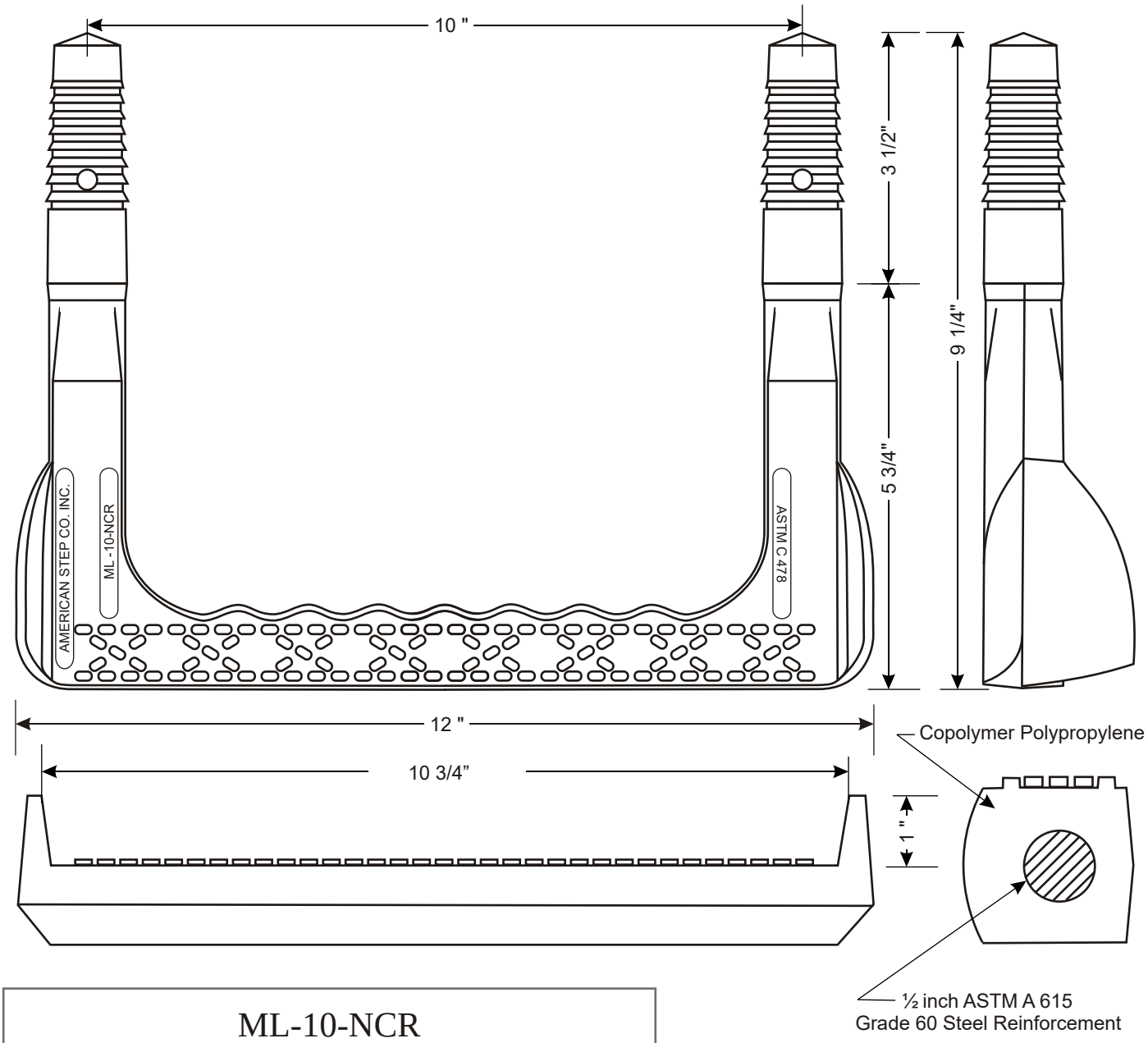
UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

SHIRAS STEAM PLANT - ASH POND CLOSURE AND STORMWATER MANAGEMENT PROJECT - (MH4)

DRAWN BY	SHEET	SCALE	DATE
JTL	1 OF 1	NO SCALE	2/28/2020

http://www.americanstep.com

ML-10-NCR



ML-10-NCR

Mechanical Lock Installation Methods
Minimum Concrete Strength Must Be 3000 psi.

Preformed Holes

Two preformed holes on 10” centers
Holes must be parallel
Diameter of holes are 1.1” tapering to 7/8” in 3 ½” of depth

Drilled Holes

Drill two 1” holes on 10” centers with a minimum depth of 3 3/4”
Use 1” masonry bit for drilling.
Holes must be parallel.

Drive step with sledge hammer until both legs are completely seated

This step meets or exceeds ASTM C 478 and OSHA Standards when properly installed.

American Step Company, Inc.
P.O. Box 137
830 East Broadway
Griffin, GA 30224-0137

800-988-STEP
770-467-9844 (OFFICE)
770-467-8011 (FAX)

http://www.americanstep.com

PRO-STIK

HIGH-PERFORMANCE PREFORMED BUTYL JOINT SEALANT

What It Is

PRO-STIK is a preformed butyl joint sealant that is supplied in rope form. It is carefully blended from uncured butyl rubber and other solids and will not shrink, crack, or dry out. Although clean to handle, it provides excellent adhesion and cohesion to a wide variety of surfaces - concrete, metal, most concrete coatings, glass, wood, and painted surfaces.

Why It's Better

- High quality rubber, 98% solids that will not harden, shrink or oxidize
- Good adhesion to dry concrete, commonly specified concrete coatings, steel, glass, or painted surfaces
- Rectangular shapes for optimal adhesion
- Coated release paper for easy installation
- Long service life
- Cohesive properties allow for joint movement
- Compatible for use with rubber O-Ring designs
- Low moisture vapor transmission rate (MVTR)
- Special primers available for use on damp, contaminated, or difficult surfaces

How It Performs

PRO-STIK BUTYL JOINT SEALANT *meets or exceeds all requirements of the following Standards, Specifications and/or Test Methods:*

ASTM C 990 - *Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants; Section 6.2 Butyl Rubber Sealants*

AASHTO M 198 - *Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets*

Typical Applications

- Sanitary Manhole Joints
- Stormwater Manhole Joints
- Irrigation and Drainage Systems
- Box Culverts
- Elliptical/Arch Pipe
- Architectural Foundations
- Underground Utility Vaults
- Stormwater Treatment Structures
- Stormwater Inlet Structures
- On-Site Treatment Tanks
- Grease Interceptors
- Wet Wells

PRESS-SEAL GASKET CORPORATION
Protecting Our Planet's Clean Water Supply
Press-Seal Gasket is an ISO 9001:2008 and ISO 14001:2004 Registered Company
800-348-7325 Fax (260) 436-1908
email: sales @press-seal.com
web: www.press-seal.com
Made in USA

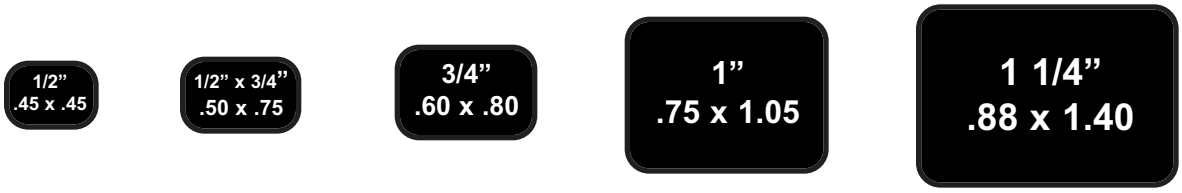
Submittal Specification

The joints and/or joint surfaces of the structures shall be sealed with a butyl-rubber-based preformed flexible sealant conforming to ASTM C-990, paragraph 6.2. The material shall be PRO-STIK or EZ-STIK as supplied by PRESS-SEAL GASKET CORPORATION, Fort Wayne, Indiana, or approved equal. The butyl material shall consists of 50% (min.) butyl rubber and shall contain 2% or less volatile matter.

For preformed joint sealants, the sealant shall be sized such that the joint is filled to 50% (min.) of its annular volume when fully assembled, and the sealant shall have the ends kneaded together at the overlap. Primer and/or adhesive as recommended by the sealant supplier shall be employed for adverse, critical, or other applications.

Testing of joints and compliance with construction requirements shall be conducted in strict conformance with the requirements of the sealant supplier.

PRO-STIK AVAILABLE SIZES



Dimensions	Round Equivalent	Roll Length	Rolls/Carton	Cartons/Pallet	Part No.
.45 X .45	1/2"	21.75 feet	12	24	279.1
.45 X .45	1/2"	26.4 feet	12	24	279.1A
.50 X .75	1/2" X 3/4"	21.75 feet	8	40	288.33
.60 X .80	3/4"	14.5 feet	8	40	279.2B
.75 X 1.05	1"	14.5 feet	6	40	279.3
.88 X 1.40	1-1/4"	14.5 feet	4	40	279.4C

All pallets are shrink-wrapped for outside storage.
Quantity discounts available - contact our Customer Service Department.

PRESS-SEAL GASKET CORPORATION
Protecting Our Planet's Clean Water Supply
Press-Seal Gasket is an ISO 9001:2008 and ISO 14001:2004 Registered Company

800-348-7325 Fax (260) 436-1908
email: sales @press-seal.com
web: www.press-seal.com

Made in USA

PRO-STIK

PHYSICAL PROPERTIES TEST RESULTS

Description

PRO-STIK is a butyl-rubber-based sealant designed to be permanently flexible, tacky and resistant to moisture and to deterioration by exposure to dilute chemical solutions. PRO-STIK meets all requirements of ASTM C-990; Section 6.2 for Butyl Rubber Sealants and AASHTO M 198.

Typical Properties

The following values represent typical test results and are not manufacturing specifications.

		SPEC.	REQUIRED	PRO-STIK
Butyl Rubber (Hydrocarbon Content %)		ASTM D4	50% min.	51%
Ash Inert Mineral Filler %		AASHTO T111	30% min.	41%
Volatile Matter	(AASHTO T47)	ASTM D6	2% max.	0.3%
Specific Gravity @ 77ºF	(AASHTO T229)	ASTM D71	1.15 - 1.50	1.25 - 1.35
Ductility @ 77ºF, cm	(AASHTO T51)	ASTM D113	5.0 min.	6.0 cm
Flash Point C.O.C.		ASTM D92	350º min.	375ºF
Fire Point C.O.C.		ASTM D92	375º min.	385ºF
Rebound Test				
@77ºF		ASTM C972	5% - 15%	9.5%
@32ºF			30% - 60%	41%
Compression Test				
@77ºF, lbf/in^3		ASTM C972	100 max.	64 lbf per cubic in.
@32ºF, lbf.in^3			200 max.	92 lbf per cubic in.
Low Temperature Flexibility				
@-10ºF		ASTM C765	180º bend, no cracking, nor loss of adhesion .	Pass - no cracking or adhesion loss.
Elevated Temperature Flexibility				
14 days @ 158ºF		ASTM C766	No sag, nor change in extruded shape.	Pass - no sag or shape change.
Adhesion After Impact		ASTM C766-84	No greater loss than 50% of adhesion.	Pass - no loss of adhesion.
Cone Penetration				
@ 77ºF, dmm		ASTM D217	50 - 100 dmm	67 dmm
@ 32ºF, dmm			40 min.	50 dmm
Chemical Resistance			No deterioration, no cracking, no swelling.	Pass-no visible change after 30 days immersion in 5% solutions of HCl, H_2SO_4,NaOH, KOH,H_2S

PRESS-SEAL GASKET CORPORATION
Protecting Our Planet's Clean Water Supply
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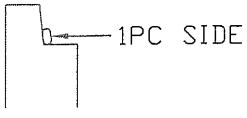
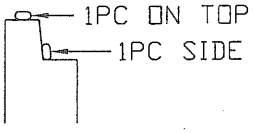
800-348-7325 Fax (260) 436-1908
email: sales @press-seal.com
web: www.press-seal.com
Made in USA

JOINT - INSTALLATION

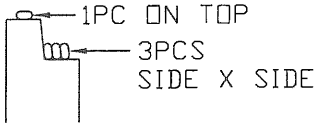
ALL JOINTS MUST BE CLEAN OF FOREIGN MATERIAL



48" MH



60" & 72" MH



84" & UP MH

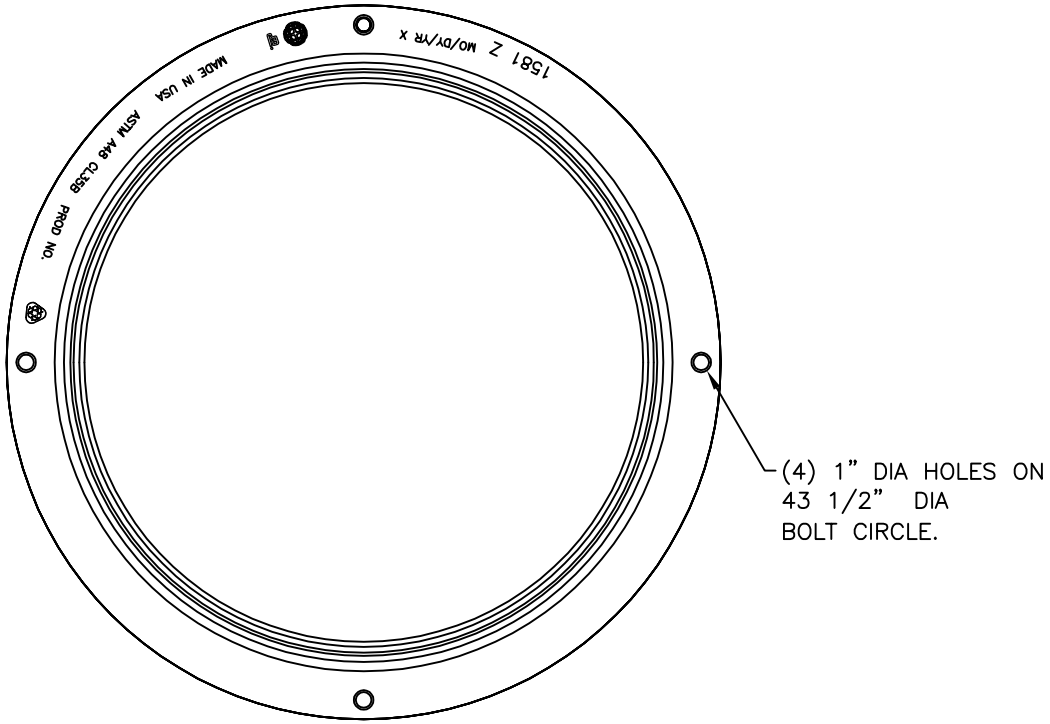
BUTYL MUST BE CONTINUOUS AROUND CIRCUMFERENCE OF JOINT. WHEN SPLICING JOINT MATERIAL, DO NOT OVERLAP STICK MATERIAL END TO END MAKING A CONTINUOUS LENGTH.

UP CONCRETE PIPE COMPANY
6480 WEST US HIGHWAY 2 & 41
ESCANABA, MICHIGAN 49829
PHONE 906-786-0934 FAX 906-786-2622

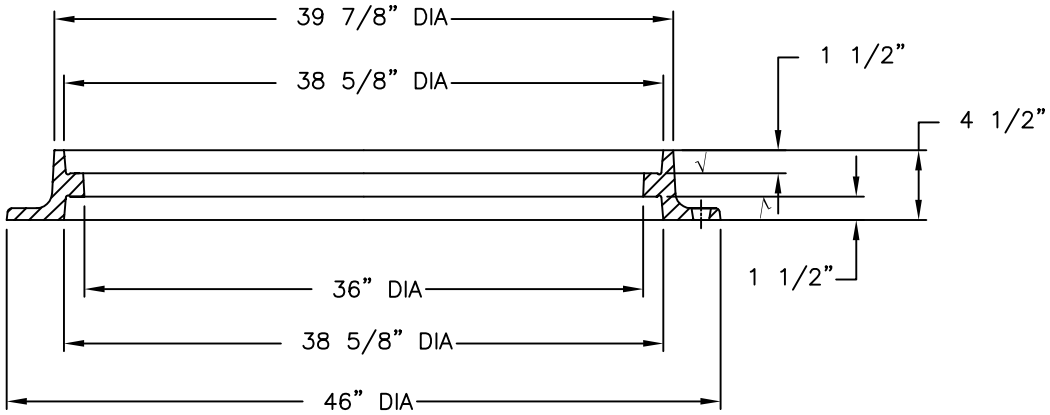
JOINT INSTALLATION - BUTYL

DRAWN BY	SHEET	SCALE	DATE
CKS	1 OF 1	NO SCALE	10-25-07

1581Z Frame



PLAN VIEW



FRAME SECTION

NOTE: FRAME IS REVERSIBLE.

Product Number

00158111

Design Features

-Materials
Gray Iron (CL35B)
-Design Load
Heavy Duty
-Open Area
n/a
-Coating
Undipped
-√ Designates Machined Surface

Certification

- ASTM A48
-
-
-Country of Origin: USA

Drawing Revision

09/25/2003 Designer: SBB
5/30/2017 Revised By: CSF

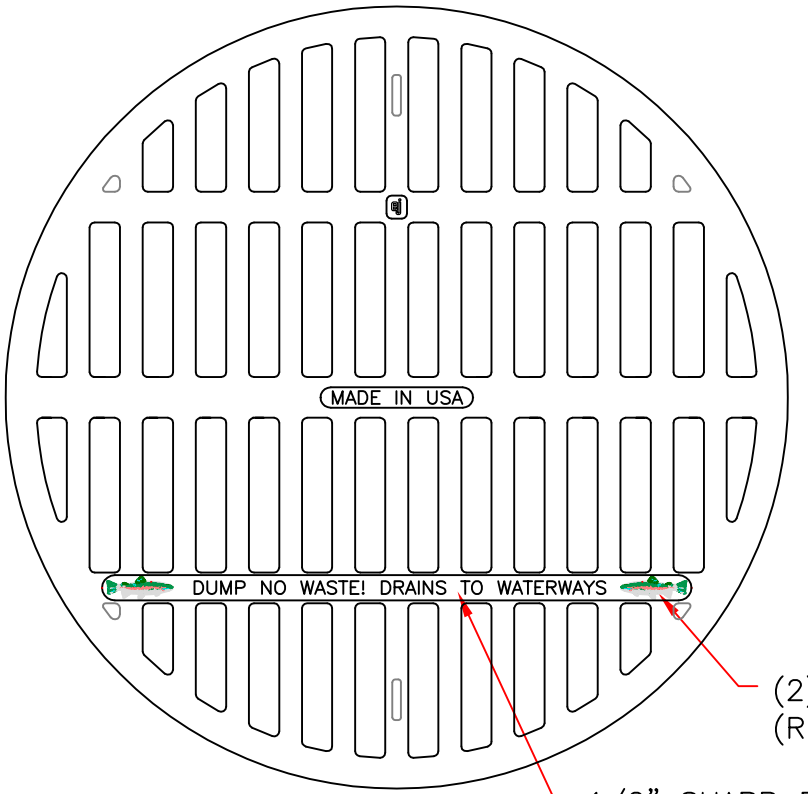
Disclaimer

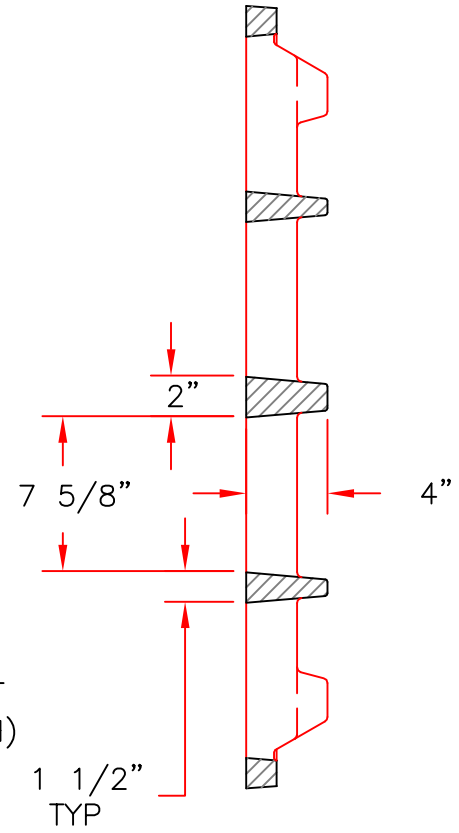
Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

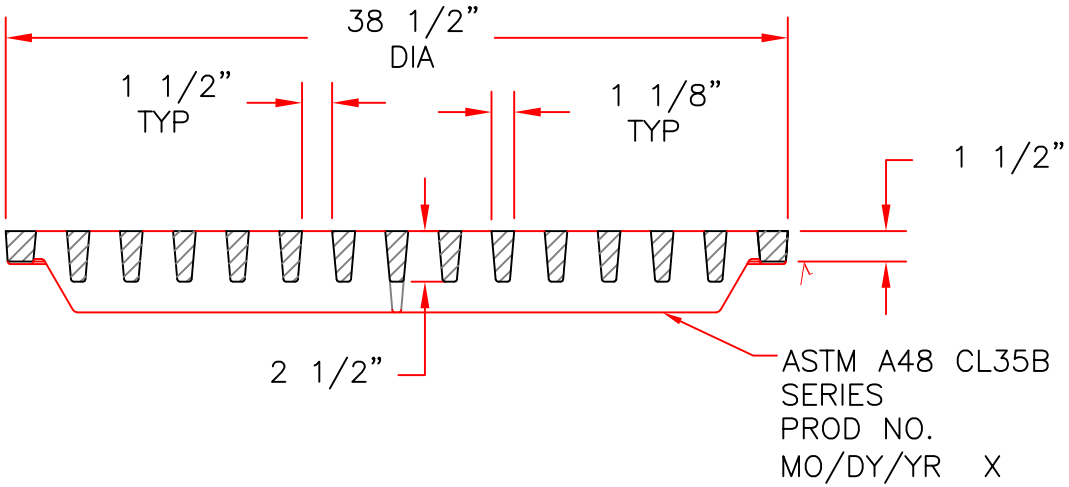
Contact

800 626 4653
ejco.com

1580M Grate







Product Number

00158030

Design Features

-Materials
Gray Iron (CL35B)
-Design Load
Heavy Duty
-Open Area
468 SQ. IN.
-Coating
Dipped
-√ Designates Machined Surface

Certification

- ASTM A48
-
-
-Country of Origin: USA

Drawing Revision

7/10/2003 Designer: DEW
1/6/2017 Revised By: DAE

Disclaimer

Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact

800 626 4653
ejco.com

Upper Peninsula Concrete Pipe Co.
ESCANABA
STRUCTURE, STRENGTH & LONGEVITY...comes delivered on our trucks!

CUSTOMER: MJVD

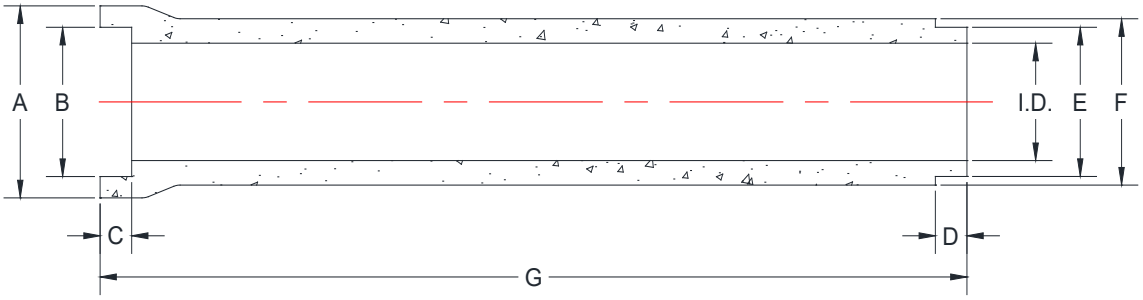
PROJECT: SHIRAS STEAM PLANT

DATE: 4/21/2020

CONFORMS TO: ASTM C76

JOINTS CONFORM TO: ASTM C443

MANUFACTURE REPRESENTATIVE SIGNATURE



DIA. I.D. (IN)	A BELL O.D. (N)	B BELL I.D. (IN)	C BELL DEPTH	D TONGUE DEPTH	E TONGUE O.D. (IN)	F PIPE O.D. (IN)	G LENGTH (FT)	LENGTH (LBS)
12	19.625	15.258	3.5	3.5	15.25	17	8	1072
15	23.125	18.709	3.5	3.5	18.701	20	8	1304
18	26.625	21.709	3.5	3.5	21.701	23	8	1552
21	29.625	24.709	3.5	3.5	24.701	26.5	8	1810
24	32.625	27.709	3.5	3.5	27.701	30	8	2288
30	39.5	34	3.5	3.5	33.992	37	8	3248
36	45.625	40	3.5	3.5	39.992	44	8	4392
42	52	46.281	4	4	46.98	51	8	N/A
48	58	52.312	4.5	4.5	52.32	58	8	6528
60	65.356	64.875	4.75	4.75	64.958	72	8	N/A

TSS Series

Tylox® SuperSeal™ Pre-lubricated Profile Gaskets for Single Offset Joints on Round, Elliptical or Arch Concrete Pipe

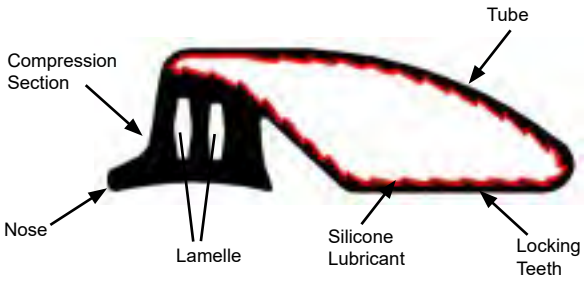
Say good-bye to the lube bucket and brush.
Say hello to a fast, clean, simple installation.

The unique design of the Tylox® SuperSeal™ pipe gasket is bringing a cost-saving revolution to the field of concrete pipe gasketing and installation.

- ***No field lubrication.*** The Tylox® SuperSeal™ gasket has a thin layer of silicone lubricant installed on the inner surface of the tube during the manufacturing process, so no lube is applied at the job site. This saves time and money during installation. The lubricant is sealed in the tube so is impervious to mud, dirt and debris so, if the gasket is dropped in the trench, simply wipe the gasket surface clean and you are ready to install.
- ***No equalization required.*** The unique lamell/rolling-tube design of the Tylox® SuperSeal™ gasket means reduced gasket stretch requirement, resulting in no equalization and reduced labor needs during installation. A quick and easy gasket installation provides even more time and money savings, and no more worries about the chance of this step being overlooked at the job site.
- ***No gasket "roll" or "twist".*** Another benefit of the unique lamell/rolling-tube design is the drastic reduction in insertion forces, virtualy eliminating the gasket "roll" and "twist" associated with o-ring and standard profile gaskets. Manual coupling of up to 36" pipe is possible.
- ***Self-Centering.*** The rolling-tube design enables the pipe spigot to self-center within the bell due to the forces generated as the tube rolls into and fills the small annular space during the homing process.
- ***No Joint Kick Back.*** The small teeth within the rolling tube "lock" under rearward motion, resisting pull-out forces and maintaining the "homed" position.

- ***Reduced deflection.*** The rolling tube acts as a "filler" within the small annular space between spigot and bell, both reducing the amount of deflection under side-load, and acting as a buffer to eliminate spigot and bell spalling due to concrete-to-concrete contact.

Tylox® SuperSeal™ gaskets are available for all common combinations of annular and total annular spaces.



Making Infrastructure Watertight Today for a Greener, Sustainable Tomorrow

Available Models					
Model	Body Height	Body Width	Total Width	To Suit * Annular Space	
				Total	Small
115**	0.490	0.600	1.185	0.281	0.094
135	0.610	0.712	1.579	0.326	0.126
165	0.682	0.791	1.785	0.422	0.146
166**	0.680	0.780	1.615	0.422	0.094
170	0.682	0.808	1.290	0.375	0.126
185	0.740	0.896	2.061	0.446	0.146
186**	0.758	0.890	1.631	0.446	0.094
200	0.798	0.950	1.793	0.500	0.146
200L	0.885	1.049	2.549	0.500	0.175
201**	0.807	0.949	1.964	0.500	0.094
225	0.914	1.085	2.787	0.525	0.175
226**	0.900	1.048	2.318	0.525	0.094
245	0.965	1.120	2.010	0.590	0.190

* For informational purposes only. Consult your Hamilton Kent representative for sizing to suit your specific joint details.
** These models do not have locking teeth.

Materials and Identification

Tylox® SuperSeal™ gaskets are manufactured from a variety of synthetic rubber compounds to meet or exceed the material requirements of ASTM C361, C443, C425, C1619 and CSA A257.3.

The applicable specification(s) and usage mode for a particular gasket are identified by a colored stripe around the periphery of the gasket:

Standard

ASTM C443, C1619 Class C, CSA A257.3 White Stripe
ASTM C361, C1619 Class A, CSA A257.3 Blue Stripe
ASTM C425, California Greenbook Green Stripe

Oil-Resistant

ASTM C443, C1619 Class D, CSA A257.3 Orange Stripe
Nitrile rubber
ASTM C443, C1619 Class D, CSA A257.3 Yellow Stripe
Neoprene rubber

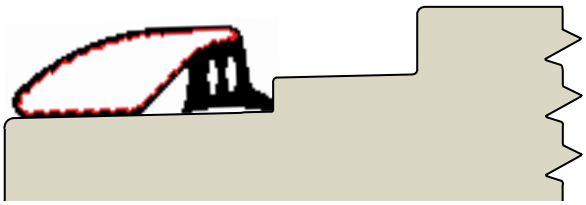
The above listing covers the standard, North American specifications. Gaskets materials are available to meet many other specifications. Please consult your Hamilton Kent representative regarding materials to meet your particular specifications.

Pressure Rating

Tylox® SuperSeal™gaskets are suitable for use in systems with up to 13 psig (30 ft Head) pressure requirements. Higher head pressures have been obtained with certain joint designs.

Installation

1. Ensure that bell and spigot are free from cracks, chips, or other defects.
2. Brush loose dirt and debris from the inside surface of the bell, the spigot and the gasket.
3. Stretch gasket around the spigot, with the nose against the step, and the tube laying flat against the spigot.



4. Do not lubricate the gasket or joint as this could adversely affect the performance of the gasket and the joint.
5. Align the spigot with the bell, ensuring that the gasket is in contact with the bell around the complete periphery, then thrust pipe home using suitable manual or mechanical means. The homing process will cause the lubricated tube to roll over itself, above the compression section, allowing the pipe to slide forward.

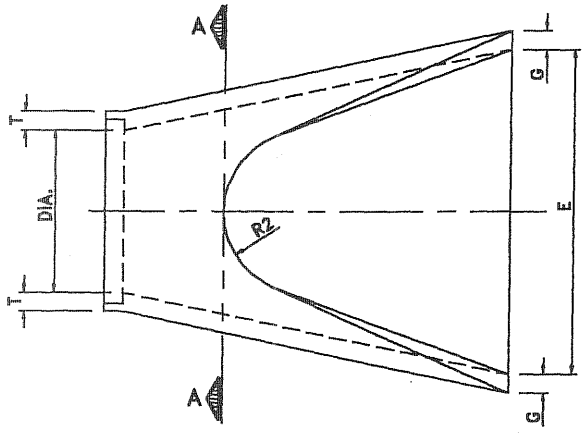
Once fully homed, the compression section seals the total annular space; the rolling tube comes to rest within the small annular space acting as a cushion against side loads; and the tube acts to resist pipe pull-out.

Hamilton Kent
Sealing Your Connection

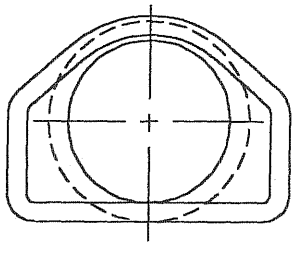
TEL: (800) 268 8479
FAX: (888) 674 6960
WEB: www.hamiltonkent.com
E-MAIL: sales@hamiltonkent.com

Lit_TSS_Pipe_English_R9

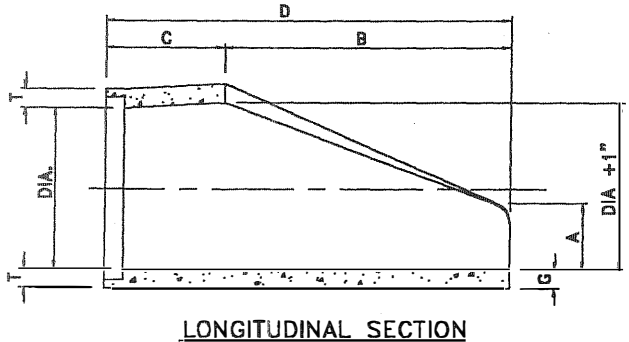
Upper Peninsula
Concrete Pipe Co.
Ph. 800-233-7473
Fax 906-786-2622
P.O. Box 313
Escanaba, MI 49829
www.upconcretepipe.com



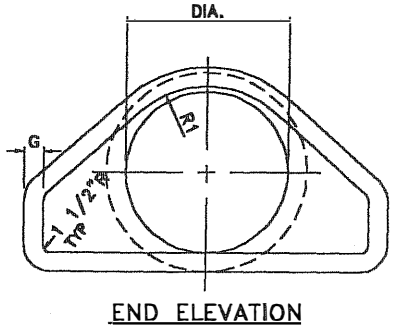
PLAN VIEW



SECTION "A–A"

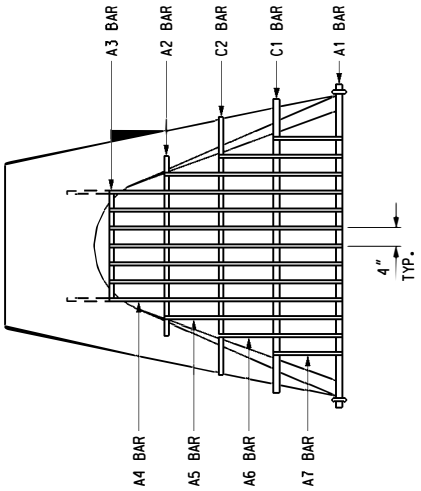


LONGITUDINAL SECTION



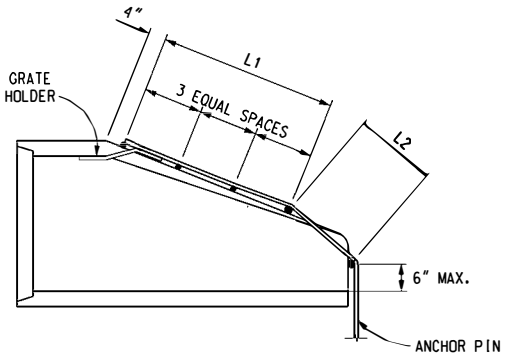
END ELEVATION

DIA.	T(MIN)	A(MIN)	"B"	"C"	"D"	"E"	"G"	R1	R2	"X"	"Y"	APPROX. WT. LBS.
12"	2"	5"	23"	51"	74"	24"	2"	10 1/8"	9"	8"	18"	800
15"	2 1/4"	7"	27"	48"	75"	30"	2 1/4"	12 1/2"	11"	8"	18"	1,100
18"	2 1/2"	11"	25"	49"	74"	36"	2 1/2"	15 1/2"	12"	8"	18"	1,300
21"	2 3/4"	11"	33"	42"	75"	42"	2 3/4"	16 1/8"	13"	8"	18"	1,500
24"	3"	12"	43"	32"	75"	48"	3"	16 3/16"	14"	8"	18"	1,800
30"	3 1/2"	14"	53"	22"	75"	60"	3 1/2"	18 1/2"	15"	8"	18"	2,400
36"	4"	17"	62"	37"	99"	72"	4"	24 5/16"	20"	8"	18"	4,200
42"	4 1/2"	22"	62"	37"	99"	78"	4 1/2"	27 1/2"	22"	10"	24"	5,600
48"	5"	24"	72"	26"	98"	84"	5"	28 1/2"	22"	10"	24"	7,400
54"	5 1/2"	27"	65"	33 1/4"–35"	98 1/4"–100"	90"	5"	–	–	10"	24"	8,040
60"	6"	30"	60"	39"	99"	96"	5"	–	–	12"	24"	8,730
[illegible]"	6 1/2"	24"	72"–78"	21"–27"	99"	102"	5 1/2"	–	–	12"	24"	10,630
[illegible]"	7"	24"	78"	21"	99"	108"	6"	–	–	12"	24"	12,520
78"	7 1/2"	24"	78"	21"	99"	114"	6 1/2"	–	–	12"	24"	14,430
84"	8"	36"	90 1/2"	21"	111 1/2"	120"	6 1/2"	–	–	12"	24"	18,160



PLAN VIEW

STEEL REINFORCEMENT QUANTITIES										
DIAMETER		24"			27"			30"		
BAR	BAR SIZE	NUMBER REQUIRED	LENGTH	WEIGHT (LBS)	NUMBER REQUIRED	LENGTH	WEIGHT (LBS)	NUMBER REQUIRED	LENGTH	WEIGHT (LBS)
A1	#10	1	60"	21	1	66"	23	1	72"	25
A2	#8	1	32"	7	1	34"	7	1	40"	9
A3	#8	1	24"	5	1	24"	5	1	24"	5
A4	#6	7	45 1/4"	39	7	52 1/4"	46	7	58 1/4"	51
A5	#6	2	34 3/4"	9	2	40 1/4"	10	2	45	11
A6	#6	2	24 1/2"	6	2	28 1/4"	7	2	31 3/4"	8
A7	#6				2	18 1/4"	4	2	18 1/2"	5
C1	#10	1	60"	21	1	62"	22	1	68"	24
C2	#8	1	52"	11	1	54"	12	1	60"	13
ANCHOR PIN	#6	2	36"	9	2	36"	9	2	36"	9
GRATE HOLDER	#6	2	20"	5	2	20"	5	2	20"	5
TOTAL STEEL WEIGHT (LBS)				133			150			165



LONGITUDINAL SECTION

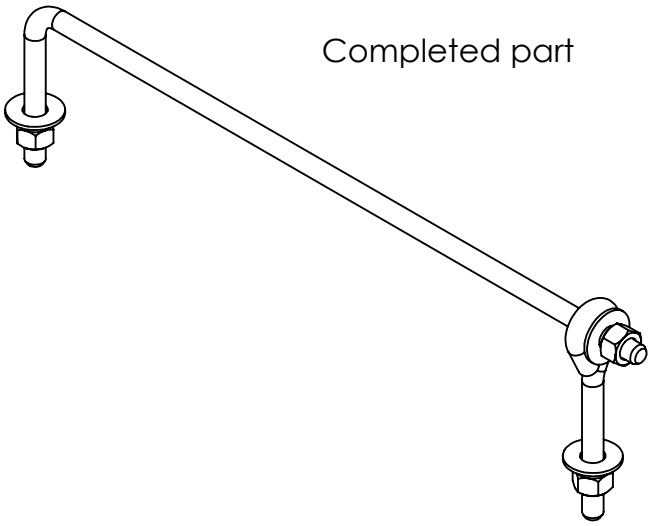
DIMENSIONS		
DIAMETER	L1	L2
24"	31 1/4"	14"
27"	36"	16 1/4"
30"	39 1/2"	18 1/2"

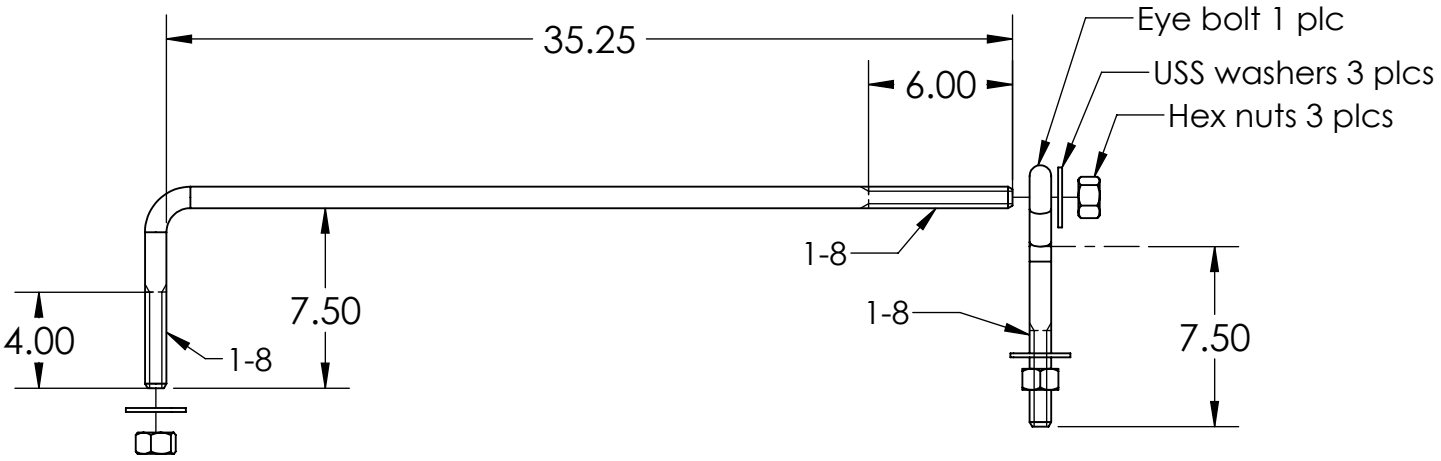
GRATE FOR 24" THROUGH 30" DIAMETER PIPE WITH CONCRETE END SECTION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES STANDARD PLAN FOR

STEEL GRATES FOR END SECTIONS

9-14-2001 F.H.W.A. APPROVAL	2-26-2001 PLAN DATE	R-92-C	SHEET 2 OF 6





Notes:

1. Unit is made from A1018 steel and is hot dip galvanized after fabrication per ASTM F2329.
2. Fasteners are galvanized to ASTM F2329.
3. All material is domestic melted and made.

		Part # 3116			
		Desc. 1.0"x7.5" Adjustable Tie Rod-DOM STD.			
MATERIAL:		**Configuration:** Default			
WEIGHT:	11.83	DIMENSIONS ARE IN INCHES	**Title:** 3116		
FINISH:	Galvanized	DRAWN BY: Caleb S.	6/18/2012		
		REVISED: caleb	12/11/2017	REV: 1+	*DO NOT SCALE DRAWING	SHEET 2 OF 2

MJ VanDamme Inc.
301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	10

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	4/29/2020	**1.01.A.12**	**01330**	**Silt Fence MDOT spec**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: _____

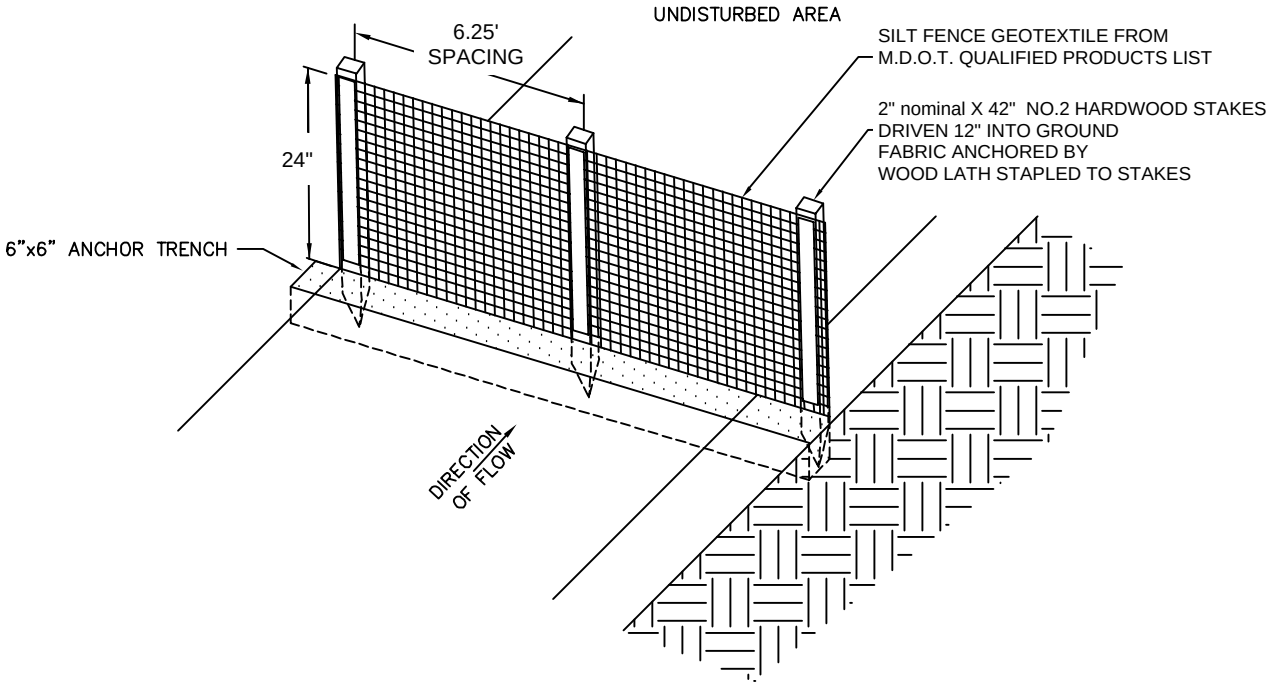
Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

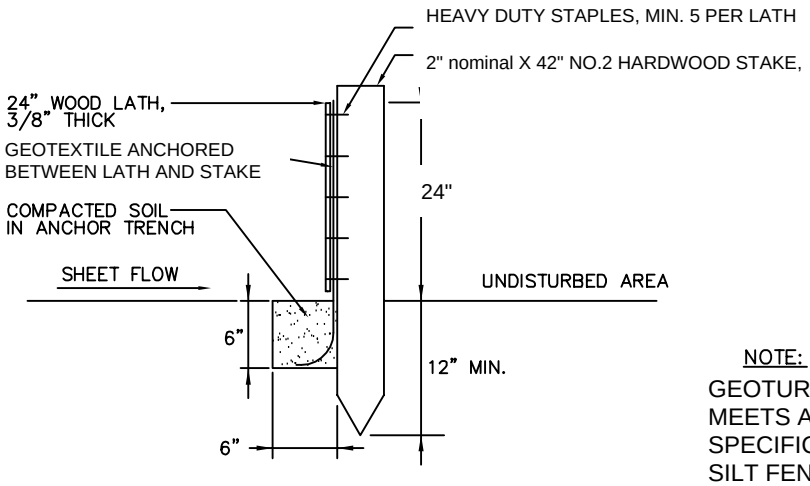
Date: 4/29/2020

CSI Geoturf

Highland • Byron Center • Traverse City
(800) 621-7007 • (888) 208-5772 • (231) 943-4002
www.geoturf.com



SILT FENCE – PLAN VIEW



SILT FENCE – SECTIONAL VIEW

NOTE:
GEOTURF 36" SILT FENCE MEETS ALL M.D.O.T. SPECIFICATIONS FOR SILT FENCE

NOT TO SCALE

GEOTURF 36" SILT FENCE 6.25' STAKE SPACING		
PREPARED BY CSI/GEOTURF, INC. 1500 ALLOY PARKWAY HIGHLAND, MI 48357		SHEET 1
	05-16-07	OF 1

Geoturf® S1240 - 36" MDOT

Woven Silt Fence Geotextile

Geoturf S1240 is a polypropylene black woven silt fence fabric. It is non-biodegradable and resistant to most soil chemicals, acids, and alkali with PH range of 3 to 12 and is manufactured to meet or exceed the following values:

October 2014

Property	Test Method	Minimum Average Roll Value* ENGLISH	
Grab Tensile Strength	ASTM D-4632	124 x 110	lbs.
Grab Elongation	ASTM D-4632	15 x 15	%
Mullen Burst	ASTM D-3786	200	psi
Puncture	ASTM D-4833	60	lbs.
Trapezoid Tear	ASTM D-4533	50	lbs.
UV Stability (500 hrs)	ASTM D-4355	70	%
A.O.S.	ASTM D-4751	30	U.S. Sieve
Permittivity	ASTM D-4491	0.1	sec^{-1}
Water Flow Rate	ASTM D-4491	8.0	gpm/ft^2

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	11

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	5/1/2020	**1.01.A.12**	**01330**	**Erosion Contol Blanket**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
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[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: _____

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 5/1/2020

"Blanketing Nature With Nature"

Chad Lipscomb, PE (CO), CPESC
Director, Technical Services
Western Excelsior Corporation
4609 E. Boonville-New Harmony Rd.
Evansville, IN 47725
(970) 682-4594 Direct (Voice/Text)
chad@westernexcelsior.com

Effective: 6/27/2017

RE: Certificate of Conformance: Excel SR-1™

To Whom it May Concern:

This letter is to certify that Western Excelsior manufactures the Rolled Erosion Control Product (RECP) marketed as EXCEL SR-1. Each blanket is subjected to Western Excelsior's Quality Assurance Program and is manufactured to the specifications listed in document number WE_EXCEL_SR1_SPEC. Further, Western Excelsior utilizes industry standardized test procedures to develop performance references for Excel SR-1. Document number WE_EXCEL_SR1_PERF presents the industry standardized testing and results. Installation instructions are provided in document numbers WE_EXCEL_SR1_SII and WE_EXCEL_SR1_CII for hillslope and channel installations, respectively. A copy of document number WE_EXCEL_SR1_SPEC is attached; all other documentation may be obtained by calling Western Excelsior Technical Services at 1-866-540-9810, at www.westernexcelsior.com or by email at wexcotech@westernexcelsior.com.

Regards,

Chad M. Lipscomb, PE (CO), CPESC
Director, Technical Services
Western Excelsior Corporation

Specifications

Western Excelsior manufactures a full line of Rolled Erosion Control Products (RECPs). Excel SR-1 temporary Erosion Control Blanket is composed of a 100% weed free agricultural straw matrix mechanically (stitch) bonded on two inch centers to a single synthetic, photodegradable net. The net is secured to the top of the RECP to restrain the straw matrix once installed. Excel SR-1 blanket is intended for use in channels or on slopes requiring erosion protection for a period up to twelve months. Actual field longevity is dependent on soil and climatic conditions.

Each roll of EXCEL SR-1 is made in the USA and manufactured under Western Excelsior's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness. Typical manufactured properites are provided in Table 1 and product characteristics are provided in Table 2.

Table 1- Specified Expected Values

Tested Property	Test Method	Value
Tensile Strength (MD) x (TD)	ASTM D6818	4.8 lb/in (0.8 kN/m) x 4.8 lb/in (0.8 kN/m)
Elongation (MD) x (TD)	ASTM D6818	15 % x 20 %
Mass Per Unit Area	ASTM D6475	8.0 oz/yd^2 (271 g/m^2)
Thickness	ASTM D6525	0.28 in (7 mm)
Light Penetration	ASTM D6567	22 % open
Water Absorption	ASTM D1117	450 %

Table 2 - Netting

Top Net Type	Synthetic, Photodegradable
Bottom Net Type	No Net
Top Net Opening Dimensions	0.5 in (13 mm) x 0.5 in (13 mm)
Bottom Net Opening Dimensions	N/A

Excel SR-1 is available in multiple roll sizes ranging in width from 8.0 ft to 16.0 ft. and 112.5 ft to 600 ft in length. Standard roll sizes are 100 square yards, measuring 8.0 ft wide by 112.5 ft long. Custom roll sizes are available upon request.

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	12

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	5/1/2020	**1.01.A.12**	**01330**	**Geotextile Fabric**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

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[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: _____

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 5/1/2020

Geoturf® N600

Nonwoven Geotextile

A nonwoven geotextile fabric supplied by CSI Geoturf, Inc., is manufactured from polypropylene staple fiber. The fibers are randomly oriented and form a cohesive / stabilized needle punched fabric for use in many applications, such as separation, drainage, filtration, etc. This fabric has been UV stabilized and is resistant to commonly encountered chemicals, mildew and insects found in soil.

May 2019

Property	Test Method	Minimum Average Roll Value* ENGLISH	
Grab Tensile Strength	ASTM D-4632	160	lbs.
Grab Elongation	ASTM D-4632	50	%
Trapezoid Tear	ASTM D-4533	60	lbs.
Puncture (CBR)	ASTM D-6241	410	lbs.
Permittivity	ASTM D-4491	1.5	sec-1
A.O.S.	ASTM D-4751	70	U.S. Sieve
UV Stability (500 hrs)	ASTM D-4355	70	%
Water Flow Rate	ASTM D-4491	110	gpm/ft2

Notes:	-Mullen Burst ASTM D3786 removed. Not recognized by ASTM D35 on Geosynthetics. -Puncture ASTM D4833 is not recognized by AASHTO M288 and has been replaced with CBR Puncture ASTM D6241. -Properties subject to change without notice.

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	13

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	5/11/2020	**1.01.A.12**	**01330**	**Seed Mix**
				Fertilizer Mix

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

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[ ]	**For review & comment**	[ ]					

REMARKS: The supplier recommends an application rate of approximately 6 lbs per 1,000 Sq Ft.

The supplier could only give separate product data for each item in their fertilier mix of 19-19-19. See attached data.

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 5/11/2020

MEL'S LAWN GARDEN & FEED CENTER INC
1620 6TH AVENUE N
ESCANABA, MI 49829

MEL'S MVOT5 MIX

LOT: 93613.20

TEST DATE: MAR, 2020

CONTENTS:	%	GERM:	ORIGIN:
LXQ 330 BRAND CREEPING RED FESCUE**	39.22%	90%	CAN
EUREKA II HARD FESCUE	29.69%	85%	OR
FIESTA 4 PERENNIAL RYEGRASS	19.91%	90%	CAN
LXQ 110 BRAND KENTUCKY BLUEGRASS**	9.87%	85%	WA

**VARIETY NOT STATED

OTHER CROP: 0.01% WEED SEED: 0.01% INERT: 1.29%
NET WT. 50 LBS (22.68 KG)
NOXIOUS WEED: NONE FOUND AMS# 2352

03485

Rays Feed Mill, Inc.
FEED - SEED - FERTILIZER
1076 Old Hwy. 2 & 41 - Bark River. Michigan 49807
906-466-2231 or 466-2232
1-800-832-1822 FAX 906-466-2500

To: Mj Vandamme
346 2643

Urea 46-0-0
is the first No.

M11020

Trade Name: Urea Fertilizer 46-0-0
Registration No: None

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	Not applicable	Solubility in Water:	67 gm/100 gm H_2O @ 32°F
Specific Gravity:	1.335	% Volatiles (by volume):	0
Flashpoint:	Non-flammable	Vapor Pressure, mm Hg:	Not applicable
pH:	Not listed	Reaction with Water:	None
Appearance:	White prills or granules.		
Extinguishing Media:	Use media suitable to extinguish source of fire.		

SECTION 10 STABILITY AND REACTIVITY

Stability (Normal Conditions): Stable
Conditions to Avoid: Extremely high temperatures.
Incompatibility (Material to Avoid): Strong oxidizing agents. Prolonged contact may cause oxidation of unprotected metals.
Hazardous Decomposition Products: During extremely high temperature fire conditions, the product may reach melting point and decompose to release NH_3, SO_x, PO_x or CN.
Hazardous Polymerization: Will not occur

SECTION 11 TOXICOLOGY INFORMATION

Acute Oral Toxicity: LD_{50} (rat) is 14,300 mg/kg (ppm); not acutely toxic by oral exposure. (TFI Product Testing Results)
Acute Aquatic Toxicity: Fish 96-hour LC_{50} is greater than 9,100 mg/L (ppm); daphnia 24-hour EC_{50}: greater than 10,000 mg/L. Non-toxic to aquatic organisms. (TFI Product Testing Results)

SECTION 12 ECOLOGICAL INFORMATION

None listed.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal Procedures: Pick up with a shovel and broom and use as a fertilizer by applying to soil using good agricultural and soil management.

SECTION 14 TRANSPORT INFORMATION

Shipping name:	Not regulated by DOT		
Hazard Class:	None	C.A.S. Number:	57-13-6
Reportable Quantity (RQ):	None	D.O.T. Number:	None
Labels Required:	None	Haz Waste No:	None
Placard:	None	EPA Regist No:	None

SECTION 15 REGULATORY INFORMATION

Carcinogenicity: by IARC?: Yes ( ) No (X) by NTP?: Yes ( ) No (X)

Not on the 302 list of SARA reportable quantities.

SECTION 16 OTHER INFORMATION

Flash Point (Test Method):	Non-flammable	**Flammable Limits**	**LOWER**	**UPPER**
Autoignition Temperature:	Not applicable	**(% BY VOLUME)**	N/A	N/A

MSDS Version Number: 4 (revisions to Section 11)

Reviewed by: The Department of Regulatory Affairs
June 2001 (206) 672-2700

Material Safety Data Sheet
J. R. Simplot Company
AgriBusiness

Trade Name: Urea Fertilizer 46-0-0 **M11020**
Registration No: None

SECTION 1 CHEMICAL PRODUCT AND COMPANY INFORMATION

Manufacturer or Formulator: J.R. Simplot Company
P.O. Box 912
Pocatello, ID 83204
Emergency Phone - Chemtrec: 1-800-424-9300

Product Name: Urea Fertilizer 46-0-0
Common Name: ~~46-0-0~~
Chemical Type: Inorganic Chemical Fertilizer

SECTION 2 COMPOSITION INFORMATION

Chemical Name and Synonyms	C.A.S. No.	Chemical Formula	WT%	TLV	PEL
			Hazardous		
None listed					
			Non-Hazardous		
Urea	57-13-6	$CO(NH_2)_2$	98.7	NE	Not available
Non-hazardous ingredients			1.3		

SECTION 3 HAZARDS IDENTIFICATION

Ingestion: Minimal hazard under normal conditions and use. Ingestion of large quantities may cause gastrointestinal discomfort, vomiting, weakness or other medically related problems.
Inhalation: Dusty conditions may cause mechanical aggravation to respiratory mucous membranes.
Eye Contact: Dust from this product may cause particulate discomfort to eyes.
Skin Absorption: Not normally absorbed through the skin.
Skin Contact: Slight dermal abrasion is possible with prolonged contact, especially around cuffs and collars.
Effects of Overdose: Ingestion of large doses may cause diarrhea, nausea, abdominal cramps or formation of methemoglobinemia. Seek medical attention.

SECTION 4 FIRST AID MEASURES

Ingestion: If large amount is ingested, give 2-3 glasses of water and induce vomiting. Seek medical attention.
Inhalation: Remove to fresh air. Seek medical attention if condition persists.
Eyes: Flush eyes with running water for at least 15 minutes. Seek medical attention if condition persists.
Skin: Wash with soap and water. Seek medical attention if condition persists.
Notes to Physician: Consult standard literature. Treatment based on the sound judgment of the physician and the individual reactions

SECTION 5 FIRE FIGHTING MEASURES

Extinguishing Media: Use media suitable to extinguish source of fire.
Special Fire Fighting Procedures: Product is not combustible.
Unusual Fire and Explosion Hazards: During extremely high temperature fire conditions, the product may reach melting point and decompose to release NH_3, SO_x PO_x or CN.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Environmental Precautions: Keep out of water supplies, lakes, ponds, streams and rivers. This product is a fertilizer and may promote algae growth.
Steps to be taken in case material is released or spilled:
Keep from entering waterways. Sweep up material and place in suitable container for use as a fertilizer or for disposal.

SECTION 7 HANDLING AND STORAGE

Precautions to be taken in handling and storing:
Store in a cool, dry area. Prevent spillage and separate from strong oxidizers. Use normal safety procedures and good personal hygiene. Keep out of the reach of children.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation Protection: Adequate ventilation.
Respiratory Protection: Approved dust respirator when necessary.
Protective Clothing: Normal clean work clothing.
Eye Protection: In dusty conditions, safety glasses with side shields or goggles may be necessary.

PURINA CHOWS

Rays Feed Mill, Inc.

FEED - SEED - FERTILIZER
1076 Old Hwy. 2 & 41 - Bark River, Michigan 49807
906-466-2231 or 466-2232
1-800-832-1822 FAX 906-466-2500

5/7/2020

To: Mj Vandomme
Fax 906 346 2643

Diammonium Phosphate

is the middle no.

Agrico
Corp. Safety Dept. (504) 562-3501
Uncle Sam, Louisiana 70792-9999

MATERIAL SAFETY DATA SHEET (MSDS)

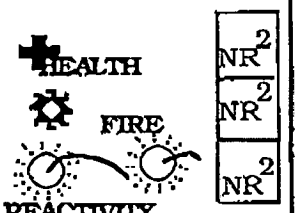
MSDS NUMBER 2001 (REV. 2/89)

SECTION I	NAME
PRODUCT	D.A.P., Diammonium Phosphate
CHEMICAL/ SYNONYNS	Ammonium Phosphate Dibasic
CHEMICAL FAMILY	Ammonium Phosphates
FORMULA $(NH_4)_2HPO_4$	C.A.S. NUMBER 7783-28-0

24-HOUR EMERGENCY ASSISTANCE

CHEMTREC
800-424-9300

NFPA HAZARD RATING 1
LEAST 0 SLIGHT 1
MODERATE 2 HIGH 3
EXTREME 4



SECTION II PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

A NIOSH approved dust respirator (either single use or multiple use) should be worn when applicable dust standards are exceeded.

ENGINEERING CONTROLS

Adequate ventilation should be available to maintain dust levels below applicable dust standards.

SKIN PROTECTION

No protection normally required. If irritation occurs, long sleeves and impervious gloves should be worn.

EYE PROTECTION

When appropriate, suitable eye protection should be used.

OTHER PROTECTIVE EQUIPMENT

Washing facilities should be available.

SECTION III HEALTH INFORMATION

OSHA Permissible Exposure Limit (PEL):	ACGIH Threshold Limit Value (TLV):
None*	None*

LISTED AS A CARCINOGEN IN: IARC Monographs No NPT List No OSHA No STEL None

OSHA HEALTH HAZARD CLASSIFICATION:	PRIMARY ROUTE(S) OF ENTRY
None	Inhalation

SYMPTOMS OF OVEREXPOSURE

ACUTE: At high dust concentrations, irritation of eyes, skin, and mucous membranes by chemical or mechanical action may occur.

CHRONIC: None found

AGGRAVATED MEDICAL CONDITION	TOXIC DATA:
Pre-existing respiratory disease including asthma and emphysema.	None established

*Nuisance Dust: PEL : Total 15 mg/m^3 ; Respirable 5 mg/m^3
TLV: 10 mg/m^3

SECTION IV EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT:

If eye irritation occurs, flush with copious amounts of water. Get medical attention if irritation persists.

SKIN CONTACT:

If irritation occurs, wash skin with water and mild detergent. Get medical attention if irritation persists.

INHALATION:

If breathing difficulty occurs because of dust inhalation, remove to fresh air. If discomfort continues, seek medical attention.

INGESTION:

If the person is conscious, give large amounts of water. Do not induce vomiting. Get medical attention.

NOTE TO THE PHYSICIAN:

Symptomatic treatment only.

SECTION V INGREDIENTS

The composition of diammonium phosphate varies according to raw materials. Typical analysis shows:

COMPOSITION	PERCENT
$(NH_4)_2HPO_4$	Approx. 86%
F	1.4 - 1.7%
Water	1.8 - 2.2%
Iron	1.0 - 1.6%
Aluminum	0.6 - 1.0%
Sulfur	1.8 - 2.3%
Calcium	0.1 - 0.3%
Magnesium	0.3 - 0.6%

SECTION VI TITLE III INFORMATION

EHS	ACUTE	CHRONIC	FIRE	PRESSURE	REACTIVE	313
No	No	No	No	No	No	No

SECTION VII PHYSICAL DATA

BOILING POINT (°F) Decomposes at 225 degrees	**MELTING POINT** (°F) 311	**VAPOR PRESSURE** (mmHg) NA[3]
SPECIFIC GRAVITY (H2O = 1) 1.619	**%VOLATILE BY VOLUME** NA[3]	**VAPOR DENSITY** (AIR = 1)1/619 NA[3]
SOLUBILITY IN WATER Soluble	**EVAPORATION RATE** (BUTYL ACETATE = 1) NA[3]	**MOLECULAR WEIGHT** 132.05
PHYSICAL STATE Solid	**DENSITY** 59 lbs. per cu ft (bulk)	**pH** 8.5

APPEARANCE AND ODOR

Gray, granular solid, slight ammonia odor.

SECTION VIII REACTIVITY

STABILITY:		HAZARDOUS POLMERIZATION	
[ ] UNSTABLE	[X] STABLE	[ ] MAY OCCUR	[X] WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID

None

HAZARDOUS DECOMPOSITION PRODUCTS

Decomposes to ammonia and monoammonium phosphate.

SECTION IX FIRE AND EXPLOSIONS HAZARDS

FLASH POINT AND METHOD USED	FLAMMABLE LIMITS - % VOLUME IN AIR	LOWER	UPPER
NA^3		NA^3	NA^3

EXTINGUISHING MEDIA

Use media needed to control surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

Wear self-contained positive pressure breathing apparatus and full protective clothing.

AUTOIGNITION TEMPERATURE NA^3 °C NA^3 °F

UNUSUAL FIRE AND EXPLOSION HAZARDS

None; considered stable.

SECTION X STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORING PRECAUTIONS

None

OTHER PRECAUTIONS

None

SECTION XI TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION	REPORTABLE QUANTITY
NA[3]	NA[3]

DOT PROPER SHIPPING NAME	UN/NA IDENTIFICATION NUMBER
NA[3]	NA[3]
	STANDARD TRANSPORTATION COMMODITY CODE
	NA[3]

OTHER REQUIREMENTS

NA[3]

SECTION XII EMERGENCY ACTION - SPILL OR LEAK

EMERGENCY ACTION:

Prevent large quantities from contact with waterways or vegetation.

SMALL SPILLS:

If uncontaminated, recover and reuse as product. Consult with state or federal environmental regulatory agencies for acceptable disposal procedures.

LARGE SPILLS:

Consult with state or federal environmental regulatory agencies for acceptable disposal procedures.

FOOTNOTES:

1. This NFPA rating applies only to short-term exposure such as might be encountered under fire or related emergency conditions.
2. Note: NR means Not Rated
3. Note: NA means Not Applicable

PURINA CHOWS

Rays Feed Mill, Inc.

FEED - SEED - FERTILIZER
1076 Old Hwy. 2 & 41 - Bark River, Michigan 49807
906-466-2231 or 466-2232
1-800-832-1822 FAX 906-466-2500

5/7/20

To: Mj Vandamme

Potash 0-0-60

is the third No.

Material Safety Data Sheet

Revision Issued: **JUL 27, 2001** Supercedes: MAY 31, 2001 First Issued:

Section I - Product and Company Identification

Product Name: DAP (Diammonium Phosphate)

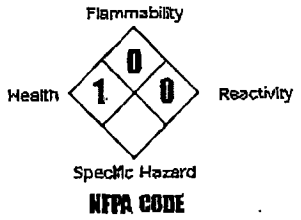
PotashCorp MSDS No: 4
ERG No: None

1101 Skokie Blvd., Northbrook, IL 60062
Phone (800) 241-6908* (847) 849-4200

PCS Sales

Suite 500, 122 - 1st Avenue South
Saskatoon, Saskatchewan Canada S7K 7G3
Phone (800) 667-0403 from Canada* (800) 667-3930 from USA

Emergencies (800) 424-9300 (CHEMTREC)
Web Site www.potashcorp.com
Health Emergencies, Contact Your Local Poison Center



NFPA CODE

Common Name: Diammonium Phosphate **Formula:** $(NH_4)_2HPO_4$ **Synonym:** DAP, DAPLG **Use:** Agricultural

Section II - Composition/Information On Ingredients

Chemical Name(s)	CAS No.	Exposure Limits								% by Weight
		OSHA PEL		TLV - TWA		STEL		CEIL		
		mg/m³	ppm	mg/m³	ppm	mg/m³	ppm	mg/m³	ppm	
Diammonium Phosphate, as P_2O_5***	7783-28-0	15/5*		10/3**						46
Total Nitrogen, as N***										18
Fluorides, as F		2.5		2.5						1

* For particulates not otherwise regulated, standard is 15 mg/m³ total dust and 5 mg/m³ for respirable fraction.
** For particulates (insoluble) not otherwise specified, adopted value is 10mg/m³ for inhalable fraction and 3 mg/m³ for respirable fraction.
*** Product contains diammonium phosphate as essential ingredient with small amounts of monammonium phosphate, ammonium sulfate, urea, and aluminum/calcium/iron/magnesium phosphate compounds.

Section III - Hazard Identification

Potential Acute Health Effects:

Eyes and Skin:	Contact may cause eye irritation and prolonged contact with skin may cause some irritation.
Inhalation:	High dust concentrations of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. Inhalation of decomposition gases can cause irritation and corrosive effects on the respiratory system. Some lung effects may be delayed.
Ingestion:	Ingestion of small quantities are unlikely to cause toxic effect. Large quantities may give rise to gastro-intestinal disorders.
Potential Chronic Health Effects:	No adverse effects are known.
Carcinogenicity Lists:	**IARC Monograph:** No **NTP:** No **OSHA:** No

Section IV - First Aid Measures

Eyes:	Immediately flush eyes (holding eyelids apart) with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.
Skin:	Wash skin thoroughly with soap and water.
Ingestion:	Do not induce vomiting. Drink large amounts of water (or milk if available) to dilute stomach contents. Small quantities are unlikely to cause toxic effect. Get medical attention if a large amount of DAP is ingested (small children, more than 50g).
Inhalation:	Remove from source of exposure to dusts. Obtain medical attention if the effects occur. Persons who have inhaled decomposition gases (e.g. in a fire) should obtain immediate medical attention.

Section V - Fire Fighting Measures

Flash Point: None **Autoignition Temperature:** None

Lower Explosive Limit: None **Upper Explosive Limit:** None

Unusual Fire and Explosion Hazards:	DAP is a non-flammable inorganic salt and is not flammable however when strongly heated, DAP will decompose giving off ammonia.
Extinguishing Media:	Chemical type foam, CO_2 (Carbon Dioxide), dry chemical, water fog.
Special Firefighting Procedures and Equipment:	Keep personnel removed from and upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Section VI - Accidental Release Measures

Small Spill:	Spillage should be swept up and placed in chemical waste container to be disposed at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal. Adequate ventilation is required.
Large Spill:	Contain spill and transfer the material to appropriate containers for reclamation or disposal. Dispose of material at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal. Adequate ventilation is required.
Release Notes:	If spill could potentially enter any waterway, including intermittent dry creeks, contact the local authorities. If in the U.S., contact the US COAST GUARD NATIONAL RESPONSE CENTER toll free number 800-424-8802. In case of accident or road spill notify: CHEMTREC IN USA at 800-424-9300; CANUTEC in Canada at 613-996-6666 CHEMTREC in other countries at (International code)+1-703-527-3887.
Comments:	See Section XIII for disposal information and Section XV for regulatory requirements. Large and small spills may have a broad definition depending on the user's handling system. Therefore, the spill category must be defined at the point of release by technically qualified personnel.

Section VII - Handling and Storage

Ventilation:	Use with adequate ventilation.
Handling:	Use appropriate personal protective equipment as specified in Section VIII. Avoid excessive generation of dust and avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.
Storage:	Store in dry, well ventilated area, away from potential sources of heat and fire.

Section VIII - Exposure Controls/ Personal Protection

Engineering Controls:	Avoid high dust concentration and provide ventilation where necessary.
Personal Protection:	
Eye Protection:	Wear tight fitting goggles in dusty areas to reduce dust exposure to the eyes.
Protective Clothing:	Wear suitable gloves when handling this product over long periods. If skin irritation occurs, wear long sleeves
Respiratory Protection:	Wear NIOSH approved respiratory protective equipment when exposure exceeds the OSHA nuisance dust standard of 15 mg/m³ or the ACGIH nuisance dust limit of 10 mg/m³ for the eight hour time weighted average. When stored in closed area, a self-contained breathing apparatus is required to protect against ammonia gas.
Other Protective Clothing or Equipment:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Section IX - Physical and Chemical Properties

Appearance/Color/Odor: Granular solid with color ranging from gray to brown/black. Product has ammonia odor when confined.

Melting Point/Range:	311°F (Decomposes)	**Viscosity:**	Not applicable
Solubility in Water:	1g/1.7 mL @ 68°F	**Boiling Point:**	Loses water at 212°F
Specific Gravity:	1.6	**Vapor Pressure (mmHg):**	<0.75 mm Hg @ 68°F
Vapor Density:	Not Applicable	**Molecular Weight:**	132
Bulk Density:(Loose)	58 lbs/ft³	**%Volatiles:**	Gradually loses 8% nitrogen
Bulk Density:(Tamped)	67 lbs/ft³	**Evaporation Rate:**	Not applicable
pH:	8 in 1% solution		

Section X - Stability and Reactivity

Stability:	This product is stable under normal conditions of storage, handling and use.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Welding or hot work on equipment or plant which may have contained fertilizer should not be done without first washing thoroughly to remove all fertilizer.
Materials to Avoid (Incompatibilities):	Alkalis, strong acids, copper and its alloys.
Hazardous Decomposition Products:	Ammonia is released upon reaction with strong bases or from thermal decomposition.

Section XI - Toxicological Information

Significant Routes of Exposure:	Eyes, Digestive Tract, Respiratory System, Skin.
Toxicity to Animals:	**Acute Oral Toxicity:** LD_{50}, OECD Guideline 425 (rat): >2,000 mg/kg **Acute Dermal Toxicity:** LD_{50}, OECD Guideline 402 (rat): >5,000 mg/kg
Special Remarks on Toxicity to Animals:	Not found to be toxic by oral and dermal exposure as defined by OSHA. Based on toxicity data for another ammonium compound (i.e., ammonium nitrate), not expected to be toxic by inhalation exposure as defined by OSHA.
Other Effects on Humans:	No human data are available for this product.
Special Remarks on Chronic Effects on Humans:	None
Special Remarks on Other Effects on Humans:	None

Section XII - Ecological Information

Ecotoxicity:	**Acute Toxicity to Fish:** 96 hour LC_{50}: >31 - 1,506.3 mg/L **Algae, OECD Guideline 201 (green alga, Selenastrum):** No toxicity at up to 97.1 mg/L; stimulation observed at 6.41 mg/L and higher.
Environmental Fate:	Phosphates, whether water or citrate soluble, are translocated in the soil only over very short periods and are then immobilized. Possible eutrophication in confined surface waters in case of massive spillage.
Toxicity:	Non-toxic to aquatic organisms as defined by USEPA.
Degradation Products:	Phosphates are converted to calcium or iron/aluminum phosphates or are incorporated with the organic soil matter.

Section XIII - Disposal Considerations

Product Disposal:	Dispose of waste at an appropriate waste disposal facility according to applicable laws and regulations. Collect in appropriate containers. Dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations and product characteristics at time of disposal.
General Comments:	None

Section XIV - Transportation Information

	USDOT	TDG - Canada
Proper Shipping Name:	Not regulated	Not regulated
Hazard Class:		
Identification Number:		
Packing Group (Technical Name):		
Labeling/ Placarding:		

Authorized Packaging: No special requirements

Notes:

European Transportation:

Section XV - Regulatory Information

UNITED STATES:

SARA Hazard Category: This product has been reviewed according to the EPA Hazard Categories promulgated under Section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire: No **Pressure Generating:** No **Reactivity:** No **Acute:** Yes **Chronic:** No

40 CFR Part 355 - Extremely Hazardous Substances: None
40 CFR Part 370 - Hazardous Chemical Reporting: Applicable
All intentional ingredients listed on the TSCA Inventory.

SARA Title III Information: This product contains the following substances subject to the reporting requirements of Title III (EPCRA) of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

Chemical	CAS No.	Percent by Weight	CERCLA RQ (lbs.)	SARA (1986) Reporting		
				311	312	313
Diammonium Phosphate, as P_2O_6	7783-28-00	46	None	Yes	Yes	No

CERCLA/Superfund, 40 CFR Parts 117,302: If this product contains components subject to substances designated as **CERCLA Reportable Quantity (RQ) Substances**, it will be designated in the above table with the **RQ** value in pounds. If there is a release of **RQ Substance** to the environment, notification to the National Response Center, Washington D.C. (1-800-424-8802) is required.

CANADA:

WHMIS Hazard Symbol and Classification: This product is WHMIS controlled. Category D1a, E

Ingredient Disclosure List: This product does contain ingredient(s) on this list.

Environmental Protection: All intentional ingredients are listed on the DSL (Domestic Substance List).

Section XVI - Other Information

NFPA Hazard Rating: **Health** 1 **Fire** 0 **Reactivity** 0 **Special Hazards** _____

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

Comments: None

Section(s) changed since last revision: All, New Format

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	13

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	5/11/2020	**1.01.A.12**	**01330**	**ELASTEC Turbidity Curtain**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: _____

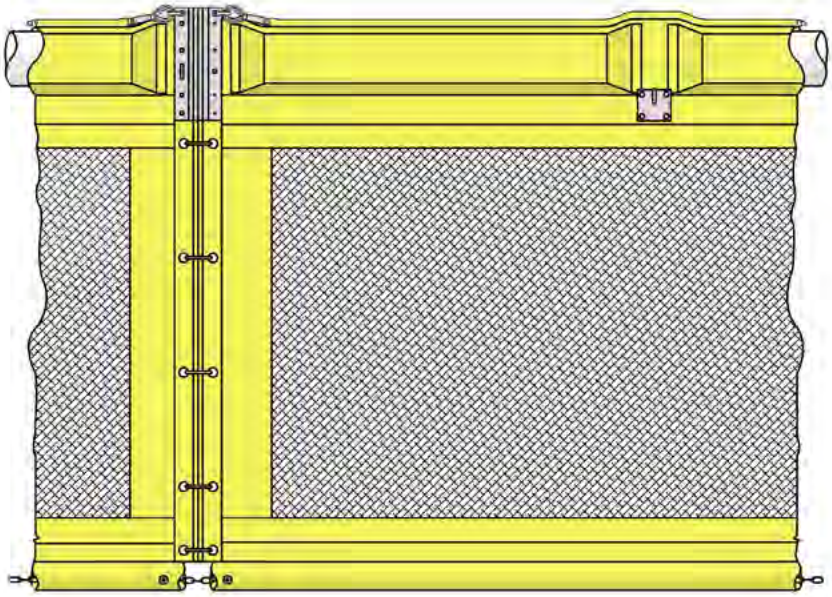
Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 5/11/2020

1309 W. Main St. Carmi, IL 62821
Tel: +1 (618) 382 2525 Fax: +1 (618) 382 3610
E-mail: elastec@elastec.com
Web Page: www.elastec.com

SILTMAX TYPE III DOT



Suitable for use in tidal zones, rivers, and bays, SiltMax Type III DOT Turbidity Curtain is designed for rapid deployment and is engineered for medium flows. This curtain is permeable to allow water flow while retaining the silt and sediment. The sturdy design of Elastec SiltMax Type III DOT ensures reliable performance while resisting clogging. Different filter cloths can be used to accommodate the design of the project and the type of sediment present.

Siltmax Type III Turbidity Curtain meets AASHTO M-288-92 Erosion Class A specifications. The permeable, woven geotextile skirt is standard on the SiltMax Type III. This curtain is equipped with dual tension cables under the flotation.

Fabric	18oz vinyl PVC (Permeable and impermeable skirts standard)
Color	High visibility safety yellow
Flotation Size	6 inch / 15 cm square EPS marine grade
Load Carrying Components	5/16 inch galvanized steel cable (10,540 lb tensile strength)
	5/16 inch galvanized steel chain (7,600 lb tensile strength)
Ballast	5/16 inch galvanized chain (Heavier available at additional cost)
Section Connections	Universeal ASTM, laced grommets, shackle chain to chain
Height	Standard 5 ft / 1.5 m (other depths available on request)
Length	100 ft / 30 m Standard (other lengths available on request)

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	15

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	5/14/2020	**1.01.A.12**	**01330**	**Coarse Gravel (Modified MDOT 4AA)**

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REMARKS: _____

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 5/14/2020

A. Lindberg & Sons Inc
Quality Test Report

Plant #2-480 Portable
Product 933-4AA
Specification MIDOT 4 AA

Sample Information

Sample No 396802834
Date Sampled 08/09/2019 09:23
Sampled By Brad Nicholas
Type Production
Method Bucket Blend
Location 11005 480 North
Weather Sunny

Split Sample ☐
Resample ☐

Gradation Results

Date Completed 08/09/2019 09:23 **Tested By** Brad Nicholas

Unit	Moist Mass	Dry Mass	Wash Mass	Moisture %	Wash Loss %	Procedure
g	2256.00	2246.00		0.4		

Sieve	Mass Retained	Cum Mass Retained	Ind % Retained	% Retained	% Passing	Target	Specification	Comment
2 1/2" (63mm)	0.00	0.00	0	0	100		100-100	
2" (50mm)	0.00	0.00	0	0	100		90-100	
1 1/2" (37.5mm)	949.00	949.00	42	42	58		40-60	
1" (25mm)	1016.00	1965.00	45	87	13			
3/4" (19mm)	169.00	2134.00	8	95	5		0-12	
1/2" (12.5mm)	91.00	2225.00	4	99	1			
#200 (75µm)	18.00	2243.00	0.8	99.9	0.1		0-2	
Pan	3.00	2246.00	0.1	100.0	0.0			

Other Test Results

Test Name	Date / Procedure	Result / Lab	Unit	Target	Specification / Tested By	Comment
Grad Loss	08/09/2019 09:23	0.000	%			
		480 Portable			Brad Nicholas	
Total Moisture	08/09/2019 09:23	0.45	%			
		480 Portable			Brad Nicholas	

301 Avenue A
Gwinn, MI 49841

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TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	16

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	5/14/2020	**1.01.A.12**	**01330**	**Filter Gravel (34R)**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

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REMARKS: _____

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 5/14/2020

A. Lindberg & Sons Inc
Quality Test Report

Plant #2-480 Portable
Product 9861-34R
Specification MIDOT 34R

Sample Information

Sample No 338597295
Date Sampled 10/07/2019 15:29
Sampled By Brad Nicholas
Type Production
Method Bucket Blend
Location 11000 480 Wash Plant
Weather Sunny
Temp 60

Split Sample ☐
Resample ☐

Test Note
34R
Darryl

Gradation Results

Date Completed 10/07/2019 15:29
Tested By Brad Nicholas

Unit	Moist Mass	Dry Mass	Wash Mass	Moisture %	Wash Loss %	Procedure
g	1436.00	1354.00	1339.00	6.1	1.1	

Sieve	Mass Retained	Cum Mass Retained	Ind % Retained	% Retained	% Passing	Target	Specification	Comment
1/2" (12.5mm)	0.00	0.00	0	0	100		100-100	
3/8" (9.5mm)	0.00	0.00	0	0	100		90-100	
#8 (2.36mm)	1310.00	1310.00	97	97	3		0-5	
#200 (75µm)	29.00	1339.00	2.1	98.9	1.1		0-3	
Pan	0.00	1339.00	1.1	100.0	0.0			

Other Test Results

Test Name	Date / Procedure	Result / Lab	Unit	Target	Specification / Tested By	Comment
-#200 (75um)	10/07/2019 15:29	1.11 480 Portable	%		Brad Nicholas	
Grad Loss	10/07/2019 15:29	0.000 480 Portable	%		Brad Nicholas	
Total Moisture	10/07/2019 15:29	6.06 480 Portable	%		Brad Nicholas	
Wash Loss (#200/75um)	10/07/2019 15:29	1.1 480 Portable	%		Brad Nicholas	

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REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	17

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	5/14/2020	**1.01.A.12**	**01330**	**Pipe Bedding (25A)**

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[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: _____

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 5/14/2020

A. Lindberg & Sons Inc

Quality Test Report

Plant #2-480 Portable
Product 925-25A
Specification MIDOT 25 A

Sample Information

Sample No 373011953
Date Sampled 06/27/2019 09:36
Sampled By Brad Nicholas
Type Investigative
Method Bucket Blend
Location 11008 480 West
Weather Sunny

Split Sample[ ]
Resample[ ]

Gradation Results

Date Completed 06/27/2019 09:36 **Tested By** Brad Nicholas

Unit	Moist Mass	Dry Mass	Wash Mass	Moisture %	Wash Loss %	Procedure
g	1974.00	1901.00	1860.00	3.8	2.2	

Sieve	Mass Retained	Cum Mass Retained	Ind % Retained	% Retained	% Passing	Target	Specification	Comment
3/4" (19mm)	0.00	0.00	0	0	100		100-100	
5/8" (16mm)	0.00	0.00	0	0	100			
1/2" (12.5mm)	79.00	79.00	4	4	96		95-100	
3/8" (9.5mm)	464.00	543.00	24	29	71		60-90	
#4 (4.75mm)	1071.00	1614.00	56	85	15		5-30	
#8 (2.36mm)	88.00	1702.00	5	90	10		0-12	
#200 (75µm)	158.00	1860.00	8.3	97.8	2.2		0-3	
Pan								

Other Test Results

Test Name	Date / Procedure	Result / Lab	Unit	Target	Specification / Tested By	Comment
-#200 (75um)	06/27/2019 09:36	2.16 480 Portable	%		Brad Nicholas	
Grad Loss	06/27/2019 09:36	0.000 480 Portable	%		Brad Nicholas	
Total Moisture	06/27/2019 09:36	3.84 480 Portable	%		Brad Nicholas	
Wash Loss (#200/75um)	06/27/2019 09:36	2.2 480 Portable	%		Brad Nicholas	

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	18

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	5/18/2020	**1.01.A.12**	**01330**	**HMA Mix Designs**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: Attached are the two mix designs intended for use for 3105 - HMA Paving

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 5/18/2020

Michigan Department of Transportation form 1931

Report of Test
SUPERPAVE ™ HMA Design Mix Formula

File 300 _____

ACCEPTED

Distribution: Project Engineer (1) -- TMI (1) -- Mix Design (1) -- Contractor (1) -- Bit File (1)

Control Section	Job Number	Project Engineer	Engineering Firm	Date
HRRR 52000	202665A	Al Anderson	MDOT-Ishpeming TSC	April 28, 2020

Contractor	Plant Location	Plant No.
PAYNE & DOLAN, INC.	Morgan Meadows Pit 52-75	350-01

Mix Type	Mix Design Number	Project Location	Specification
4E3	20MD149	US-41; County Road HQ to W of Brickyard Rd	SPECIAL PROVISION

% Air Voids	VMA	VFA	$P200/P_{be}$	AWI	AI
4.00	14.93	73.2	1.15	296	43.7

Gmm	Gmb	Gb	Gsb	Gse	Film Thickness
2.512	2.411	1.032	2.690	2.722	7.57

	A	B	C	D	E	F	G	H	I	J	
Pit Number	52-75	52-75	52-109	52-109	52-75	Plant				Plant	% AC
Aggregate Type	3/4 x 1/2	1/2 x 1/4	1/4" MS	Screen-ings	Nat Sand	Deg				Rap	5.11
										Rap/Ac	17.31%
Blend %	10.0%	9.0%	14.0%	16.0%	30.0%	1.0%				20.00%	Combined Gradation
Sieve Size	GRADATION							% Binder of RAP		4.42	
1 1/2" - (37.5mm)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%				100.0%	100.0%
1" - (25.0mm)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%				100.0%	100.0%
3/4" - (19mm)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%				100.0%	100.0%
1/2" - (12.5mm)	55.6%	100.0%	100.0%	100.0%	100.0%	100.0%				99.9%	95.5%
3/8" - (9.5mm)	9.9%	76.2%	100.0%	100.0%	98.5%	100.0%				94.3%	87.3%
#4 - (4.75mm)	5.2%	12.9%	100.0%	83.4%	88.0%	100.0%				75.6%	71.5%
#8 - (2.36mm)	4.4%	5.7%	71.9%	51.0%	76.4%	100.0%				59.9%	55.1%
#16 - (1.18mm)	4.0%	4.9%	39.4%	31.8%	62.6%	100.0%				47.2%	40.7%
#30 - (0.80mm)	3.7%	4.4%	22.0%	21.5%	46.9%	100.0%				36.5%	29.7%
#50 - (0.30mm)	3.1%	3.6%	10.3%	15.3%	18.9%	100.0%				22.0%	15.6%
#100 - (0.1mm)	2.3%	2.6%	3.7%	11.6%	3.8%	100.0%				12.2%	7.4%
#200 - (0.075mm)	1.7%	2.0%	1.7%	9.4%	1.9%	100.0%				8.9%	5.4%
1 FACE CRUSH %	79.5%	89.3%		100.0%	61.6%					87.1%	83.2%
2 FACE CRUSH %											-
L.A. ABRASION & YEAR	18-20	18-20		19-17	18-20						
Angularity Index			47.6	48.9	40.8					42.2	43.70
AWI FACTOR	1.0	1.0	1.0	1.0	1.0					1.0	
AWI VALUE #16	348	356	256	256	327					240	296
COMBINED Calc. Gsb	2.678	2.652	2.744	2.765	2.650					2.680	2.690
#4+ COARSE BULK S.G.	2.678	2.652								2.68	
#8 COARSE BULK S.G.			2.744	2.758							
FINE BULK S.G.			2.744	2.77	2.65					2.68	
FLAT & ELONGATED %	0.4	0.3	0	1.4	0					0	0.30%
SOFT PARTICLES %	0.7	0.6		0	2.8					0	0.80%

Asphalt Binder	Grade	A.C. Supplier I.D. #	% New AC Added
	PG 58-28	ABS 5005	4.22

REMARKS:

Breakdown goes into pit 52-75, Nat Sand

The bitumen content and aggregate characteristics are based on the submitted materials with the gradation and blend ratios indicated. Variation in materials or field conditions may require adjustments of this mix design (see TMI for form 1911 for field application). This laboratory design is valid for two construction seasons from date reported and should not be applied or adjusted without written approval of the Bituminous Services Unit. A signed copy is on file with the Bitumnous Services Unit. Tested for Information.

_____
Mix Design Engineer

Michigan Department of Transportation form 1931 B

Report of Test HMA Mix Design - Regression

Control Section: HRRR 52000
Job Number: 202665A
Mix Design: 20MD149
Date: April 28, 2020

AC%	Gmb	Gmm	Air	VMA	VFA	P200/Pbe
4.50	2.387	2.535	5.85	15.26	61.7	1.33
4.60	2.391	2.531	5.54	15.20	63.6	1.29
4.70	2.395	2.527	5.23	15.14	65.4	1.26
4.80	2.399	2.524	4.93	15.09	67.3	1.23
4.90	2.403	2.520	4.62	15.04	69.2	1.21
5.00	2.407	2.516	4.32	14.98	71.2	1.18
5.10	2.411	2.512	4.02	14.93	73.1	1.15
5.20	2.415	2.508	3.72	14.89	75.0	1.13
5.30	2.419	2.505	3.42	14.84	77.0	1.11
5.40	2.423	2.501	3.12	14.79	78.9	1.08
5.50	2.427	2.497	2.82	14.75	80.9	1.06
5.60	2.430	2.493	2.52	14.71	82.9	1.04
5.70	2.434	2.490	2.23	14.67	84.8	1.02
5.80	2.438	2.486	1.93	14.63	86.8	1.00
5.90	2.441	2.482	1.64	14.59	88.8	0.99
6.00	2.445	2.478	1.35	14.56	90.7	0.97

AC Optimized for 4% air voids

AC%	Gmb	Gmm	Air Voids	VMA	VFA	P200/Pbe
5.11	2.411	2.512	4.00	14.93	73.2	1.15

AC Optimized for 3.5% air voids

AC%	Gmb	Gmm	Air Voids	VMA	VFA	P200/Pbe
5.27	2.418	2.506	3.50	14.85	76.4	1.11

AC Optimized for 3% air voids

AC%	Gmb	Gmm	Air Voids	VMA	VFA	P200/Pbe
5.44	2.424	2.499	3.00	14.78	79.7	1.08

Michigan Department of Transportation form 1931

Report of Test
SUPERPAVE ™ HMA Design Mix Formula

File 300 _____

ACCEPTED

Distribution: Project Engineer (1) -- TMI (1) -- Mix Design (1) -- Contractor (1) -- Bit File (1)

Control Section	Job Number	Project Engineer	Engineering Firm	Date
HRRR 52000	202665A	Al Anderson	MDOT-Ishpeming TSC	May 5, 2020

Contractor	Plant Location	Plant No.
PAYNE & DOLAN, INC.	Morgan Meadows Pit 52-75	350-01

Mix Type	Mix Design Number	Project Location	Specification
5E3	20MD239	US-41 at various locations	SPECIAL PROVISION

% Air Voids	VMA	VFA	$P200/P_{be}$	AWI	AI
4.00	15.86	74.8	1.09	311	44.0

Gmm	Gmb	Gb	Gsb	Gse	Film Thickness
2.493	2.393	1.032	2.685	2.721	7.87

	A	B	C	D	E	F	G	H	I	J	
Pit Number	52-75	52-109	52-109	52-75	Plant					Plant	% AC
Aggregate Type	1/2 x 1/4	1/4" MS	Screen-ings	Nat Sand	Deg					Rap	5.59
										Rap/Ac	15.80%
Blend %	12.0%	14.0%	18.0%	35.0%	1.0%					20.00%	Combined Gradation
Sieve Size	GRADATION							% Binder of RAP		4.42	
1 1/2" - (37.5mm)	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%	100.0%
1" - (25.0mm)	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%	100.0%
3/4" - (19mm)	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%	100.0%
1/2" - (12.5mm)	100.0%	100.0%	100.0%	100.0%	100.0%					99.9%	100.0%
3/8" - (9.5mm)	76.2%	100.0%	100.0%	98.5%	100.0%					94.3%	95.5%
#4 - (4.75mm)	12.9%	100.0%	83.4%	88.0%	100.0%					75.6%	77.5%
#8 - (2.36mm)	5.7%	71.9%	51.0%	76.4%	100.0%					59.9%	59.6%
#16 - (1.18mm)	4.9%	39.4%	31.8%	62.6%	100.0%					47.2%	44.2%
#30 - (0.80mm)	4.4%	22.0%	21.5%	46.9%	100.0%					36.5%	32.2%
#50 - (0.30mm)	3.6%	10.3%	15.3%	18.9%	100.0%					22.0%	16.6%
#100 - (0.1mm)	2.6%	3.7%	11.6%	3.8%	100.0%					12.2%	7.7%
#200 - (0.075mm)	2.0%	1.7%	9.4%	1.9%	100.0%					8.9%	5.6%
1 FACE CRUSH %	89.3%		100.0%	61.6%						87.1%	85.1%
2 FACE CRUSH %											-
L.A. ABRASION & YEAR	18-20	19-17	19-17	18-20							
Angularity Index		47.6	48.9	40.8						42.2	44.00
AWI FACTOR	1.0	1.0	1.0	1.0						1.0	
AWI VALUE #16	351	333	333	299						240	311
COMBINED Calc. Gsb	2.652	2.744	2.765	2.650						2.680	2.690
#4+ COARSE BULK S.G.	2.652									2.68	
#8 COARSE BULK S.G.		2.744	2.758								
FINE BULK S.G.		2.744	2.77	2.65						2.68	
FLAT & ELONGATED %	0.3		1.4	0						0	0.30%
SOFT PARTICLES %	0.6		0	2.8						0	0.80%

Asphalt Binder	Grade	A.C. Supplier I.D. #	% New AC Added
	PG 58-28	ABS 5005	4.71

REMARKS: Breakdown goes into pit 52-75, Nat Sand

The bitumen content and aggregate characteristics are based on the submitted materials with the gradation and blend ratios indicated. Variation in materials or field conditions may require adjustments of this mix design (see TMI for form 1911 for field application). This laboratory design is valid for two construction seasons from date reported and should not be applied or adjusted without written approval of the Bituminous Services Unit. A signed copy is on file with the Bitumnous Services Unit. Tested for Information.

_____
Mix Design Engineer

Michigan Department of Transportation form 1931 B

Report of Test HMA Mix Design - Regression

Control Section: HRRR 52000
Job Number: 202665A
Mix Design: 20MD239
Date: May 5, 2020

AC%	Gmb	Gmm	Air	VMA	VFA	P200/Pbe
5.00	2.378	2.515	5.46	15.87	65.6	1.24
5.10	2.380	2.511	5.22	15.87	67.1	1.21
5.20	2.383	2.508	4.98	15.88	68.6	1.19
5.30	2.385	2.504	4.74	15.88	70.1	1.16
5.40	2.388	2.500	4.49	15.87	71.7	1.14
5.50	2.390	2.496	4.24	15.87	73.3	1.11
5.60	2.393	2.493	3.98	15.86	74.9	1.09
5.70	2.396	2.489	3.72	15.84	76.5	1.07
5.80	2.399	2.485	3.46	15.83	78.2	1.05
5.90	2.402	2.481	3.19	15.81	79.8	1.03
6.00	2.406	2.478	2.91	15.78	81.6	1.01
6.10	2.409	2.474	2.63	15.76	83.3	0.99
6.20	2.412	2.470	2.35	15.73	85.1	0.98
6.30	2.416	2.467	2.06	15.69	86.9	0.96
6.40	2.419	2.463	1.77	15.66	88.7	0.94
6.50	2.423	2.459	1.47	15.62	90.6	0.93

AC Optimized for 4% air voids

AC%	Gmb	Gmm	Air Voids	VMA	VFA	P200/Pbe
5.59	2.393	2.493	4.00	15.86	74.8	1.09

AC Optimized for 3.5% air voids

AC%	Gmb	Gmm	Air Voids	VMA	VFA	P200/Pbe
5.78	2.399	2.486	3.50	15.83	77.9	1.05

AC Optimized for 3% air voids

AC%	Gmb	Gmm	Air Voids	VMA	VFA	P200/Pbe
5.97	2.405	2.479	3.00	15.79	81.0	1.02

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	19

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	6/8/2020	**1.01.A.19**	**01330**	**HydroSeeder Specifications**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: Hydroseeder Specifications are attached.

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 6/8/2020

HydroSeeder® | Model T170

The FINN T170 HydroSeeder boasts a top-notch 1,500 gallon tank working capacity engineered to tackle a wide array of mid to larger-sized hydroseeding projects. From large residential and commercial properties, highway roadsides, industrial parks, sports fields, mine reclamation sites and more, the T170 is an economical choice for optimum power, performance and production.

FINN developed HydroSeeder technology in 1953, and we've been the industry leader in quality and innovation ever since. With the FINN T170, you have proven and reliable FINN quality for all your hydroseeding applications.

High Production. Big Value.

The FINN T170 HydroSeeder features an unequaled engine and pump package resulting in utmost pump pressure, slurry flow and high performance capabilities. The T170 is equipped with the time-tested and field proven "clump" technology. The "clump" (clutch/pump) technology uses a unique single shaft design to maximize mechanical efficiency, making it the most efficient pump available.

Extreme Efficiency.

The T170 is all about operator convenience. The discharge boom is located in a centralized location to increase operator comfort and rear sweeping pattern; an engine control panel is integrated into the discharge boom tower featuring a new electronic display panel, as well as engine start/stop, throttle switch, and safety horn; a loading hatch with a larger opening, rotated lid and stainless steel bag cutter enables a simpler, more efficient loading process; and enhanced operator platform and access ladder are perfect for greater comfort and accessibility. Also standard on the T170 HydroSeeders are the conveniently located fill port for sump filling and the heavy-duty suction line gate valve.

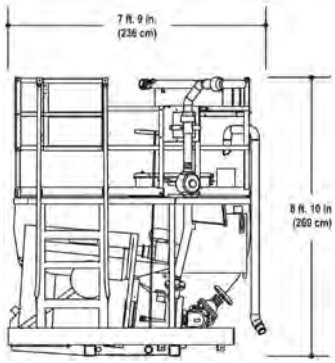
As the world leader for over 80 years in the design and manufacture of innovative, quality equipment for the green industry, and as the inventor of the HydroSeeder, FINN Corporation is committed to your complete satisfaction.

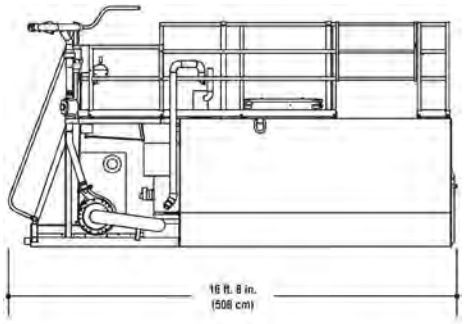
Model shown may include optional equipment.

HydroSeeder®

Model T170 with Tier 4Final Diesel Engine

T170 HYDROSEEDER®





FINN MODEL T170 TECHNICAL SPECIFICATIONS

POWER	Cummins QSF 2.8 Diesel Tier 4F, 65hp (48 kW), with over-center clutch. Vibration isolated. Controls include: clutch, agitator direction and speed, discharge boom and recirculation control valves, engine throttle, safety horn, and engine start/stop
ENGINE SAFETY SYSTEM	Low oil pressure, electronic engine control and monitoring
TANK SIZE	1,750 gallon (6,625 liter) liquid capacity, 1,500 gallon (5,678 liter) working capacity
LOADS PER ACRE[1]	2
FUEL TANK CAPACITY	38 gallon (145 liter)
PUMP	Centrifugal 4” x 2” (10.2 cm x 5 cm), 320 GPM @ 115 psi (1,210 lpm @ 792 kPa), 1” (2.54 cm) solid clearance
PUMP DRIVE	In-line single clutch/pump shaft design with over-center clutch. Pump drive is independent of agitator drive.
AGITATION	Mechanical paddle agitation and liquid recirculation.
AGITATOR DRIVE	Reversible, variable speed hydraulic motor drive (0-130 rpm)
DISCHARGE DISTANCE	Up to 200 ft. (61 m) from discharge tower
MATERIAL CAPACITY	5,000 lbs. (2,268 kg) granular solids, 750 lbs. (340 kg) fiber mulch
NOZZLES	(2) narrow fan, (2) wide fan, (2) long distance
EMPTY WEIGHT[2]	6,770 lbs. (3,071 kg)
WORKING WEIGHT[2]	24,300 lbs. (11,022 kg)

[1]Loads per acre based on an application rate of 1500 lbs. mulch/acre.

[2]Working weights are approximate and do not include options or stored materials. Working weights assume maximum tank liquid capacity and maximum granular solids material capacity.

FINN Corporation has a policy of continuous product improvement, and reserves the right to change design and specifications without notice.

9281 LeSaint Drive • Fairfield, OH 45014-5457
Toll Free 800.543.7166 / 513.874.2818
FINNcorp.com

301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	20

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	6/8/2020	**1.01.A.19**	**01330**	**Concrete Blocks**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

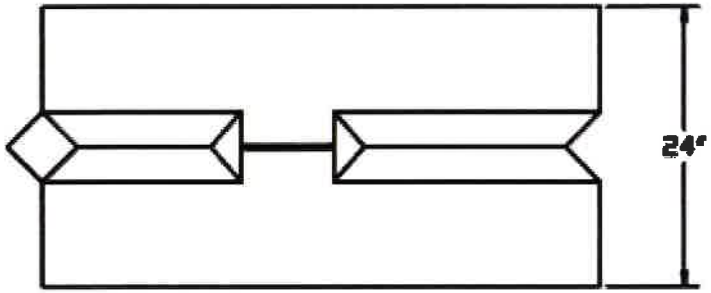
REMARKS: Shop drawing of the proposed concrete blocks intended for use around perimeter of site as shown on drawings.

Mike Nowaczyk

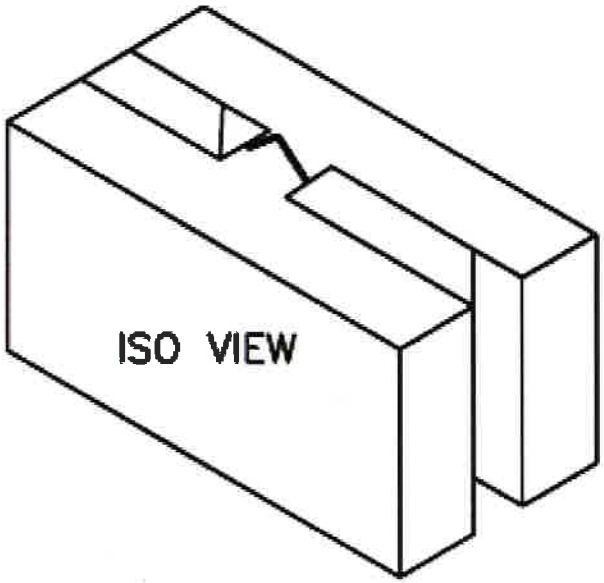
Mike Nowaczyk - Project Manager
MJ VanDamme Inc

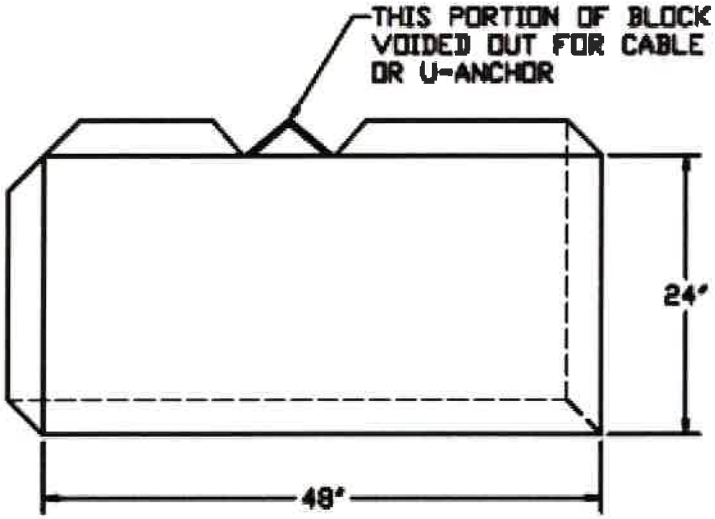
Date: 6/8/2020

V-INTERLOCK 2'X 2'X 4'STRAIGHT

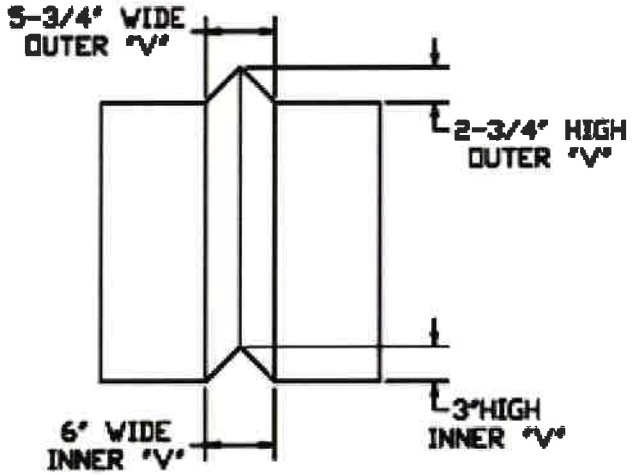


TOP VIEW





FRONT VIEW



END VIEW

WEIGHT: 2,400 Lbs.
VOLUME: 16.00 Cft

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES

DRAWN BY: KN

DATE: 08/17

MJ VanDamme Inc.
301 Avenue A
Gwinn, MI 49841

TRANSMITTAL FORM

TO: GEI Consultants of Michigan, P.C.
109 W. Baraga Ave
Marquette, Michigan 49855
www.geiconsultants.com

ATTENTION:	Steffanie Pepin
REFERENCE:	MBLP Ash Pond Clean Closure Project
PROJECT NO:	1903625
TRANSMITTAL NO.:	21

ITEM(S) SUBMITTED INCLUDE: [X] **Attached**

COPIES	DATE	NO.	SECTION NO	DESCRIPTION
1	6/24/2020	**1.01.A.17**	**01330**	**Quality Control Plan**

THESE ITEMS ARE TRANSMITTED AS INDICATED BELOW:

[X]	**For Approval**	[ ]	**Approved as submitted**	[ ]	**Resubmit**	____	**copies for approval**
[ ]	**For your use**	[ ]	**Approved as noted**	[ ]	**Submit**	____	**copies for distribution**
[ ]	**As requested**	[ ]	**Returned for corrections**	[ ]	**Return**	____	**corrected prints**
[ ]	**For review & comment**	[ ]	_____				

REMARKS: Quality Control Plan Attached

Mike Nowaczyk

Mike Nowaczyk - Project Manager
MJ VanDamme Inc

Date: 6/24/2020

Construction Quality Control Plan

MBLP Ash Pond Clean Closure & Stormwater Management Project Marquette, MI.

Contract No. 35961
MJVD Project Number: 200040

Prepared For: GEI Consultants of Michigan, P.C.

Prepared By: M.J. VanDamme Trucking, Inc.

Table of Contents

1.0 INTRODUCTION

This Construction Quality Control Plan (QCP) will be implemented by M.J. VanDamme Trucking, Inc. (MJVD), to ensure construction procedures are performed in compliance with the plans and specifications under this contract. This QCP will provide a means to maintain effective quality control on the Marquette Board of Light and Power (MBLP) Ash Pond Clean Closure & Stormwater Management Project. The quality control measures as presented herein include quality control organization; methods of performing and enforcing quality control operations of both MJVD and their subcontractors; inspections to be performed; and protocol describing corrective actions.

Overall management of the QCP will be the responsibility of the MJVD's Quality Control Manager (QCM). The QCM will have the authority to act in all Construction Quality Control (CQC) matters and will be responsible for ensuring that all materials and work comply with the contract specifications. The QCM will report any deviations from the QCP independently to the On-site Project Manager.

2.0 SITE LOCATION & PROJECT DESCRIPTION

This project is located at the MBLP Shiras Steam Plant facility, which is located on the shore of Lake Superior in Marquette, Michigan (hereinafter referenced as Site). The Work consists of removing surface deposits of coal combustion residual (CCR) from several former ash dewatering areas, removing CCR from the ash ponds (5 cells enclosed and divided by sheet pile walls) at the northwest corner of the site, and hauling and disposing CCR off site consistent with requirements of Title 40 Code of Federal Regulations (40 CFR) Part 257, Subpart D - Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments. In addition, the Work consists of removing remaining coal and coal yard grading, constructing stormwater management improvements, and removing ash pond sheet pile walls.

3.0 PROJECT ORGANIZATION

MJVD's key personnel assigned to this project shall possess a broad range of construction experience and skills. All have experience dealing with the handling of industrial wastes and will be familiar with requirements of day-to-day work under this contract. The functional responsibilities of key technical personnel are summarized as follows.

3.1 HOME OFFICE PERSONNEL

Vice President

The Contractor's Vice President will ultimately be responsible for the project's success. He will provide the required resources to ensure that the project is successfully executed. He will be kept informed of the project's progress and maintain that the project is meeting its goals. The Vice President will resolve problems that cannot be resolved by the On-site Project Manager or General Manager.

General Manager

The Contractor's General Manager will oversee the project at the corporate level and report directly to the Vice President. He will communicate with the On-site Project Manager regarding all aspects of the project including, but not limited to, project problems, progress, payments, schedules, administrative duties, and QCM oversight. He will also resolve problems that cannot be resolved by the On-site Project Manager and will periodically visit the site and be acquainted with personnel and procedures.

Corporate Director of Health and Safety

Regarding safety and occupational health, the Contractor will:

- Maintain overall responsibility of Site safety.

- Be responsible for assigning Site Safety and Health Officer (SSHO) responsibilities.
- Ensure that all activities are carried out in compliance with the corporate Health and Safety Plan.

MJVD's Corporate Director of Health and Safety is responsible for the preparation, implementation, and enforcement of the Health and Safety Plan (HASP). The SSHO will report site safety activities to the Corporate Director of Health and Safety on a regular basis, including all safety and occupational health issues. All job safety records generated will be thoroughly reviewed by the Corporate Director of Health and Safety. The SSHO will also perform job-site safety inspections. He will prepare a summary of findings for each inspection, including identification of deficiencies requiring corrective action.

3.2 FIELD PERSONNEL

On-site Project Manager

MJVD's On-site Project Manager, will be the primary contact person at the site with whom the Engineer/Owner will interact with daily under this contract. The On-site Project Manager will ensure that:

- Appropriate resources are allocated and balanced to ensure best value to the project.
- All tracking and reporting is carried out in a manner compliant with the project specifications.
- All tasks are conducted in accordance with the HASP and project specifications.

MJVD's field personnel should rely on home office support throughout the course of the project. The Vice President and On-site Project Manager will become and remain personally involved until each problem is resolved and appropriate corrective measures are implemented. They will typically communicate at least once daily on the progress of the project. The Project Manager will be present on the jobsite, to ensure that the project is progressing as scheduled.

The On-site Project Manager is responsible for implementation and support of the QCP and will oversee all aspects of work under this contract for construction at the site, including:

- All procurements.
- The Site is maintained and secure.
- All tasks are carried out safely and in compliance with the project specifications.

His responsibilities include:

- Contractor coordination.
- Acting as site liaison between the Engineer/Owner.
- Maintaining charge of all field operations.

Quality Control Manager

The QCM will report laterally to the On-site Project Manager with matters concerning quality control. He will have both the authority and the duty to halt any operation appearing to be out of compliance with contract specifications.

The QCM is responsible for keeping and maintaining all records related to personnel, supplies, equipment use, and equipment calibration. The QCM's function will be to ensure compliance with the contract plans and specifications.

QCM responsibilities include:

- Performing field observations.
- Scheduling, reviewing, certifying, and managing project submittals.
- Maintaining the Submittal Register.
- Coordinating and tracking preparatory, initial, and follow-up inspections.
- Tracking construction deficiencies and ensuring timely corrective action.
- Coordinating field sampling activities (as required).
- Reviewing calibration of equipment (as necessary).

- Maintenance of as-built drawings.
- Coordinating responses to vendors' requests for information and technical issues.
- Serving as main point of contact at the site for Engineer/Owner questions and discussions on quality and technical issues.

Site Safety and Health Officer

The SSHO will report to the Corporate Director of Health & Safety and be responsible for the implementation of the HASP; including conducting required safety inspections, safety briefings, and reports of safety-related activities.

Superintendent

The project Superintendent will be responsible for supervising all field activities. The Superintendent's duties include supervision of the craft labor (equipment operators, truck drivers, and laborers), technical staff, and all subcontractors. The designated Superintendent is also responsible for the maintenance of all on-site construction equipment.

4.0 QUALITY CONTROL METHODS

The QCP will be implemented to ensure compliance with the specifications for construction as detailed in the contract specifications. The basis of the QCP is nationally recognized standards published by the American Society for Testing and Materials (ASTM) and the Project Specifications. In addition, procedures utilized within the QCP should reflect the experience gained by MJVD in completing construction projects similar to the MBLP Ash Pond Clean Closure Project.

Quality control measures will extend to staffing; types of material and equipment to be used; means and methods of performing the work and enforcing quality control operations of MJVD's work and all subcontractors.

As previously stated, maintenance of the QCP will be the responsibility of the QCM. The QCM will be responsible for ensuring that all materials and work comply with

the contract specifications.

4.1 IMPLEMENTATION

The QCM will be responsible for implementing the QCP by ensuring that quality materials and supplies are provided for the proposed project, and that good workmanship is provided in all aspects of this contract. The QCM will report laterally to the On-site Project Manager and they will complete site inspections to ensure compliance with the quality control specifications.

It is anticipated that the Engineer/Owner representative and the MJVD's QCM will meet frequently in order to forecast and/or prevent any potential problems from arising. A briefing will be conducted on a weekly basis as part of the weekly progress meeting in order to review performance during the previous one-week period and prepare for the upcoming two-week period. It is anticipated that the MJVD's On-site Project Manager, Superintendent, and Engineer/Owner representatives will attend this meeting.

5.0 Inspections

To ensure that all construction and remedial activities comply with the project specifications, the QCM will complete, in conjunction with the subcontractors, three phases of site inspections for each feature of work. These inspections will include the following:

PHASE I - PREPARATORY INSPECTION

Preparatory inspections will be performed prior to beginning work on any definable feature of the project and will include:

- Review of submittal requirements and all other Contract requirements with the performance of the work.
- Check to assure that provisions have been made to provide required field quality control testing.
- Examine the work area to ascertain that all preliminary work has been completed.

- Verify all field dimensions and advise Engineer/Owner of any discrepancies.
- Perform a physical examination of materials and equipment to assure that they conform to approved shop drawings or submittal data and that all required materials and/or equipment are on hand and comply with the Contract requirements.

Subsequent to the preparatory inspection and prior to commencement of work, the Contractor shall instruct each applicable worker on the level of workmanship required to meet contract specifications.

PHASE II - INITIAL INSPECTIONS

Initial phase inspections will be performed as soon as a representative portion of the feature of work has been accomplished. Initial inspections include, but are not limited to, examination of the quality of workmanship; review of control testing for compliance with control requirements; and identification of defective or damaged materials, omissions, and dimensional requirements.

The initial phase inspection is the time to discuss and agree on the required level of quality associated with a given work activity. Any discrepancies relative to work quality should be addressed at this time.

PHASE III - FOLLOW-UP INSPECTIONS

Follow-up inspections will be performed daily as work progresses to ensure continuing compliance with contract requirements, including control testing, until completion of the feature of work. Final follow-up inspections will be conducted, and deficiencies corrected prior to beginning new work.

6.0 SUBMITTALS

The QCM will follow standard procedures concerning submittals. Each submittal form may contain more than one submittal specific to that specification section. A submittal register listing major submittals will be prepared by the QCM and this register will be prepared in conjunction with the anticipated remaining submittals.

The QCM will be responsible for the review and approval of submittals prior to their submittal to Engineer/Owner representative. This includes reviews of materials and suppliers' catalog cuts, as well as subcontractor submittals. The QCM will review the submittal for completeness and compliance with the contract specifications. Variations to a submittal will be noted on the transmittal form. The QCM will actively participate during procurement activities to ensure purchase orders and subcontracts comply with the contract.

7.0 DOCUMENTATION

Construction activities will be recorded on the daily construction report. Concerns or deviations from the required material specifications and the actions taken to correct the problems will be noted on the report. Information recorded on the daily construction report will include:

- Definable features of work that are addressed.
- Description of trades working on the project.
- Numbers of personnel.
- Weather conditions.
- Nature of defects or cause for rejection.
- Proposed corrective action(s).
- Corrective action taken and date.
- Delays encountered.
- Directions received from the Engineer/Owner and actions taken.
- Health and safety issues or deficiencies and how they were resolved.
- Deficiencies.

8.0 REVISIONS TO WORK

The Contractor will be responsible for ensuring total compliance of field work to the project specifications. Should modifications or revisions to the specifications become necessary, MJVD will make the request, in writing to the Engineer/Owner. Approval from Engineer/Owner must be received prior to allowing the modifications or revisions to be made in the field.

9.0 DEFINABLE FEATURES OF WORK

Listed below are the general categories and types of work that will be performed under this contract. These items, known as Definable Features of Work, have been grouped into the various categories in which work will be performed, and correlate to measurement and payment. Suitable quality control methods and procedures will be utilized in order to ensure that all work is performed to the standards and quality required by the specifications.

The following are the definable features of work that will be performed under this contract:

- Pre-Construction Preparation Activities
- Mobilization
- Site Preparation
- SESC Implementation
- Surface CCR Cleanup
- CCR Surface Deposit Excavation & Handling
- Utility Location & Abandonments
- Construction of New Stormwater management System
- HMA Paving
- Ash Pond Dewatering
- Ash Pond CCR Excavation & Handling
- Ash Pond Demolition
- Transportation and Disposal of Ash/Coal/CCR Materials
- Restoration
- Demobilization

Appendix I

Subgrade Sample Photos

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 1 – June 24, 2020

Photo No. 2 – June 24, 2020

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 3 – June 24, 2020

Photo No. 4 – June 29, 2020

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

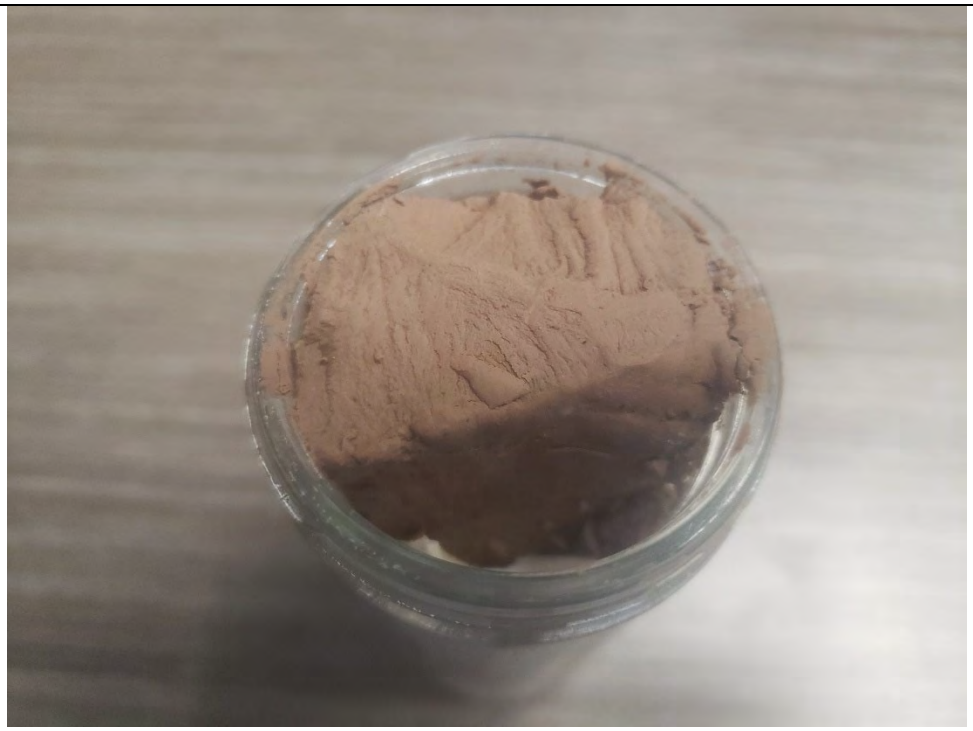


Photo No. 5 – June 30, 2020

Photo No. 6 – July 7, 2020

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 7 – July 7, 2020

Photo No. 8 – July 28, 2020

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 9 – August 4, 2020

Photo No. 10 – August 11, 2020

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 11 – August 12, 2020

Photo No. 12 – August 13, 2020 – Final Subgrade Sample #1

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 13 – August 13, 2020 – Final Subgrade Sample #2

Photo No. 14 – August 13, 2020 – Final Subgrade Sample #3

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 15 – August 13, 2020 – Final Subgrade Sample #4

Photo No. 16 – August 13, 2020 – Final Subgrade Sample #5

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 17 – August 13, 2020 – Final Subgrade Sample #6

Photo No. 18 – August 14, 2020 – Final Subgrade Sample #7

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 19 – August 13, 2020 – Final Subgrade Sample #8

Photo No. 20 – September 1, 2020 – Final Subgrade Sample #9

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 21 – September 1, 2020 – Final Subgrade Sample #10

Photo No. 22 – August 14, 2020 – Final Subgrade Sample #11

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 23 – August 13, 2020 – Final Subgrade Sample #12

Photo No. 24 – September 1, 2020 – Final Subgrade Sample #13

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 25 – September 1, 2020 – Final Subgrade Sample #14

Photo No. 26 – August 13, 2020 – Final Subgrade Sample #15

Subgrade Sample Photos

GEI Project No.: 1903625
Client: Marquette Board of Light & Power

Photo No. 27 – August 13, 2020 – Final Subgrade Sample #16

Photo No. 28 – September 4, 2020 – Overall Final Subgrade