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CHAIRMAN

DAVID F. BRANDT
VICE-CHAIRMAN

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COMMISSIONER

HENRY GINOP
COMMISSIONER

Cheboygan County Road Commission

5302 South Straits Highway
Indian River, Michigan 49749

Phone: (231) 238-7775

Fax: (231) 238-0830

877-257-2272

R. BRENT SHANK
ENGINEER/MANAGING DIRECTOR

DANA S. STEMPKY
CLERK

2019 Elliot Creek Culverts

The Cheboygan County Road Commission will accept sealed bids for supplies pertaining to Culvert Materials. All Materials shall meet current ***MDOT Standard Specifications for Construction, 2012***.

The Culverts shall be made of Aluminum unless otherwise specified. Lengths and Sizes specified on Bid Sheet.

Bids shall be submitted on the enclosed CCRC Bid Sheet (attached) in a sealed envelope clearly indentifying the bidder and marked "2019 Elliot Creek Culverts".

Bidders shall include written statement of allowable discounts and terms of payment. Bid prices shall be valid for a period of one year from date of award.

All prices shall be F.O.B. Cheboygan County Road Commission garage at 5302 S. Straits Hwy, Indian River, MI 49749. CCRC will unload materials from delivery vehicle with a forklift, material shall come palletized (5,000 pound maximum weight per lift).

Bids are due at **9:00 a.m. on Tuesday, February 19, 2019**, at which time, the bid will be publicly opened and read aloud.

Cheboygan County Road Commission reserves the right to accept or reject any and all bids, in whole or in part; to waive irregularities or informalities; and to award bids, in whole or in part, as deemed to be in the best interest of the Cheboygan County Road Commission.

Travis Horrocks, P.S.
Engineer Technician
engtech@chcrc.com
(231)238-7775

Enclosures

Cheboygan County Road Commission
2019 Elliot Creek Culverts

(To be completed by bidder in ink or typewritten)

Company Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Contact Person w/Title: _____ E-Mail: _____

Alpena State Road at Elliot Creek, Section 35, T38N, R1W, Benton Township

- Main Channel: 18 foot 7 inch by 5 foot 4 inch by 60 feet long Aluminum Plate Arch Box Culvert (with bottom). Ends square, no headwalls and no wing walls (see attached plans). Plan Prints including lifting detail for crane setting this structure and all Hardware included. Cover is approximately 3.0 feet. Attached is the approved DEQ Permit.

Specify Thickness: _____ Specify Manufacture: _____

\$ _____ Lead Time: _____

Seffren Road at Elliot Creek, Section 28, T38N, R1W, Benton Township

- Main Channel: 18 foot 7 inch by 5 foot 4 inch by 74 feet long Aluminum Plate Arch Box Culvert (with bottom). Ends square, with headwalls and one wing walls per end (see attached plans). Plan Prints including lifting detail for crane setting this structure and all Hardware included. Cover is approximately 2.0 feet. Attached is the approved DEQ Permit.
-

Specify Thickness: _____ Specify Manufacture: _____

\$ _____ Lead Time: _____

Notes:

- All materials shall be labeled for each road.
- Attached are plans for both sites.
- We are currently anticipating a construction schedule: Seffren Road in April-May 2019 and Alpena State Road July to August 2019.
- All prices shall be F.O.B. Cheboygan County Road Commission garage at 729 N. Main Street, Cheboygan, MI 49721. CCRC will unload materials from delivery vehicle with a Loader or forklift, material shall come palletized (5,000 pound maximum weight per lift).
- **All materials must meet current MDOT Stand Specifications for Construction, 2012.**

Allowable discounts & payment terms: _____

Authorized Signature

Date

Printed Name

The Cheboygan County Road Commission is an Equal Opportunity Employer. All programs, activities and services are provided equally without regard to race, color, religion, sex, national origin or handicap.



NOTICE OF AUTHORIZATION

Permit Number: WRP014938 v. 1

Site Name: 16-Alpena State Road over Elliot Creek

Date Issued: January 3, 2019

Expiration Date: January 3, 2024

The Michigan Department of Environmental Quality, 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 the existing 30 -foot long by 4 -foot diameter dual corrugated metal circular culverts and install a 60 -foot long by 18.6 -foot span by 5.3 -foot rise corrugated metal box culvert with 2-foot recess. Place 13 cubic yards of riprap for erosion protection. Project needs 355 cubic yards fill and 300 cubic yards excavation.

To be conducted at property located in: Cheboygan County, Waterbody: Elliot Creek
Section 35, Town 38N, Range 01W, Benton Township

Permittee:

Brent Shank

Cheboygan County Road Commission

5302 South Straits Highway

Indian River, MI 49749

Issued By:

Luke Golden
Cadillac District Office
Water Resources Division
989-370-1569

*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.*

DEQ-WRD
WRP014938 v1.0
Approved
Issued On:01/03/2019
Expires On:01/03/2024



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY WATER RESOURCES DIVISION PERMIT

Issued To:

Brent Shank
Cheboygan County Road Commission
5302 South Straits Highway
Indian River, MI 49749

Permit No: WRP014938 v.1
Submission No.: HNJ-WFKG-YAVXX
Site Name: 16-Alpena State Road over Elliot Creek
Issued: January 3, 2019
Revised:
Expires: January 3, 2024

This permit is being issued by the Michigan Department of Environmental Quality (MDEQ), Water Resources Division (WRD), 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 the existing 30 -foot long by 4 -foot diameter dual corrugated metal circular culverts and install a 60 -foot long by 18.6 -foot span by 5.3 -foot rise corrugated metal box culvert with 2-foot recess. Place 13 cubic yards of riprap for erosion protection. Project needs 355 cubic yards fill and 300 cubic yards excavation.

Waterbody Affected: Elliot Creek
Property Location: Cheboygan County, Benton Township, Town/Range/Section 38N01W35
Property Tax No. NA

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.

DEQ-WRD
WRP014938 v1.0
Approved
Issued On:01/03/2019
Expires On:01/03/2024

- 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. Permittee shall notify the MDEQ within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of the MDEQ.
- K. 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.
- L. 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).
- M. In issuing this permit, the MDEQ 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, the MDEQ may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- N. 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.
- O. 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, the MDEQ 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.
- P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from the MDEQ. 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 the MDEQ prior to being implemented.
- Q. This permit may be transferred to another person upon written approval of the MDEQ. The permittee must submit a written request to the MDEQ to transfer the permit to the new owner. The new owner must also submit a written request to the MDEQ 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 of the above information may be provided to the MDEQ. The MDEQ will review the request and, if approved, will provide written notification to the new owner.
- R. 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.
- S. 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.
- T. 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).
- U. 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.
- V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
- W. 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.
- X. 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.
- Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:
1. All work shall be completed in accordance with plans attached; kept on file at the MDEQ's WRD, Transportation Review Unit.
 2. Authority granted by this permit does not waive compliance requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA. Any discharge of sediment into waters of the state and/or off the road.

right-of-way is a violation of this permit, Part 91, and Part 31, Water Resources Protection, of the NREPA. A violation of these parts subjects the permittee to potential fines and penalties.

3. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
4. The permittee is responsible for acquiring all necessary easements or rights-of-way before commencing any work authorized by this permit. All construction operations relating to or part of this project shall be confined to the existing right-of-way limits or other acquired easements.
5. Temporary soil erosion and sedimentation control measures shall be installed before or upon commencement of the earth change and shall be maintained daily. Temporary soil erosion and sedimentation control measures shall be maintained until permanent soil erosion and sedimentation control measures are in place and the area is stabilized. Permanent soil erosion and sedimentation control measures for all slopes, channels, ditches, or any disturbed area shall be installed within five (5) calendar days after final grading or the final earth change has been completed.
6. 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.
7. All raw earth within 100 feet of a lake, stream, or wetland that is not brought to final stabilization by the end of the active growing season shall be temporarily stabilized with mulch blankets in accordance with the following dates: September 20th for the Upper Peninsula, October 1st for the Lower Peninsula north of US-10, and October 10th for the Lower Peninsula south of US-10.
8. This 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.
9. 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 the MDEQ, will be for a five-year period beginning at the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.
10. All dredge/excavated spoils including organic and inorganic soils, vegetation, and other material removed shall be placed on upland (non-wetland, non-floodplain or non-bottomland), prepared for stabilization, revegetated and reseeded with native Michigan species appropriate to the site, and mulched in such a manner so as to prevent and ensure against erosion of any material into any waterbody, wetland, or floodplain.
11. During removal or repair of the existing structure, every precaution shall be taken to prevent debris from entering any watercourse. Any debris reaching the watercourse during the removal and/or reconstruction of the structure shall be immediately retrieved from the water. All material shall be disposed of in an acceptable manner consistent with local, state, and federal regulations.
12. Prior to the removal of the existing structures, cofferdams of steel sheet piling, gravel bags, clean stone, coarse aggregate, concrete or other acceptable barriers shall be installed to isolate all construction activity from the water. The barriers shall be maintained in good working order throughout the duration of the project. Upon project completion, the accumulated materials shall be removed and disposed of at an upland site.
13. All cofferdam and temporary steel sheet pile shall then be removed in its entirety, unless specifically shown to be left in plan on the accepted plans. Cofferdam and sheet pile that is left in place shall be cut off at the elevation shown on the plans and shall be a minimum of one foot below the stream bottom.
14. The existing structure shall be kept open to pass the stream flow during removal of the existing road fill.

15. The placement of the new culvert and the initial placement of fill in the stream shall be done immediately after removal of the existing culvert. The placement shall be conducted in such a manner that all flow is immediately passed through the new culverts, allowing the major placement of fill to be done in the dry or in still water where erosion and sedimentation will be minimized. The fill material used in this initial placement shall be washed gravel, coarse aggregate, or rock and shall be placed at both ends of the culvert to a level above normal water level before backfill material is placed.
16. The culvert shall be installed to align with the center line of the existing stream at both the inlet and outlet ends and must be **recessed into the stream bed** to provide a natural channel substrate throughout the structure, as shown on the approved plans.
17. Road fill side slopes shall not be steeper than 1-on-2 (1 vertical to 2 horizontal) except where headwalls of reinforced concrete, mortar masonry, dry masonry, or other acceptable methods are used.
18. Areas to be protected by riprap shall be cleared of brush and debris. All grades shall be shaped and compacted to the required cross section. Geotextile liner shall be placed on the prepared grades. The riprap installation shall not damage the geotextile liner.
19. Any fill shall consist of clean inert material.
20. Any alterations to the existing road grade elevations other than that shown on the plans will require prior approval from the WRD.
21. Road fill side slopes terminating in the stream and any raw streambanks resulting from the construction shall be stabilized with temporary measures in accordance with appropriate Best Management Practices based on site conditions, and if necessary, may be riprapped extending above the ordinary high water mark, before or upon commencement of the permitted activity. Temporary stabilization measures shall be maintained until permanent measures are in place.
22. All other road fill slopes, ditches, and other raw areas draining directly to the stream may be protected with riprap, sod and/or seed and mulch as may be necessary to provide effective erosion protection. The placement of riprap shall be limited to the minimum necessary to ensure proper stabilization of the side slopes and fill in the immediate vicinity of the structure.
23. All riprap shall be properly sized and graded 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 allowed.
24. If the project, or any portion of the project, is stopped and lies incomplete for any length of time other than that encountered in a normal work week, every precaution shall be taken to protect the incomplete work from erosion, including the placement of temporary gravel bag riprap, temporary seed and mulch, or other acceptable temporary protection.
25. No work shall be done in the stream during periods of above-normal flows except as necessary to prevent erosion.
26. Areas to be protected by riprap shall be cleared of brush and debris. All grades shall be shaped and compacted to the required cross section. Geotextile liner shall be placed on the prepared grades. The riprap installation shall not damage the geotextile liner.
27. All fill shall consist of clean inert material.
28. Any alterations to the existing road grade elevations other than that shown on the plans will require prior approval from the WRD.
29. **No work or dredging within the water authorized by this permit is allowed from May 1 to June 30 due to critical spawning, migration, and/or recreational use periods.**

30. Prior to the start of construction, all adjacent non-work wetland areas shall be protected by properly trenched sedimentation barrier to prevent sediment from entering the wetland. Orange construction fencing shall be installed as needed to prohibit construction personnel and equipment from entering or performing work in these areas. Fence shall be maintained daily throughout the construction process. Upon project completion, the accumulated materials shall be removed and disposed of at an upland site, the sedimentation barrier shall then be removed in its entirety and the area restored to its original configuration and cover.
31. Stormwater shall not directly outlet to the stream.

Issued By:



Luke Golden
Cadillac District Office
Water Resources Division
989-370-1569

cc: Benton Township Clerk
Cheboygan County Drain Commissioner
Cheboygan County CEA

HURON PINES IN COOPERATION WITH CHEBOYGAN COUNTY ROAD COMMISSION

PLANS OF PROPOSED IMPROVEMENTS
ALPENA STATE ROAD OVER ELLIOT CREEK
SECTION 35, T38N, R1W, BENTON TOWNSHIP
CHEBOYGAN COUNTY, MICHIGAN



- INDEX TO SHEETS
 TITLE SHEET
 SHEET 1
 SHEET 2
 SHEET 3
 SHEET 4
 SHEET 5

GENERAL NOTES:

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE SPECIFICATIONS, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL BY A MINIMUM OF 100 VOLTS AND SHALL LOCATE ALL UTILITIES AND RECORD THEM. ALL UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THIS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE OBLIGATION TO LOCATE ALL UTILITIES WHO MAY NOT BE A PART OF THE MISS DIG ALERT SYSTEM.

TITLE SHEET

SCALE 1/8" = 1'	ENGINEER RHW/ARD	DATE MARCH 5, 2018	SITE NUMBER GCBM 005	JOB NUMBER 18 004	
SHEET NO. 1					

CONTRACT FOR: CULVERT REPLACEMENT, AGGREGATE BASE, AND SLOPE RESTORATION	PREPARED UNDER SUPERVISION OF REBECCA E. RIVABO REGISTERED PROFESSIONAL ENGINEER REGISTRATION NO. 56487
HURON ENGINEERING AND SURVEYING, INC. ORGANIZATION 3205 US-23 SOUTH, ALPENA, MI 49707 ADDRESS	



TYPICAL AND NOTE SHEET

GENERAL PLAN NOTES

UNDERGROUND UTILITIES FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

SOIL EROSION MEASURES AND MULCH AS SOON AS POSSIBLE. CRITICAL GRADES SHOULD BE PROTECTED WITH MULCH BLANKETS AS DIRECTED BY THE ENGINEER. CIRCLED NUMBERS ON PLANS REFER TO ITEMS ON THE MOOT STANDARD PLAN R-96-SERIES.

PARCEL CORNERS CONTRACTOR SHALL PRESERVE AND/OR REPLACE ANY EXISTING PARCEL CORNERS ENCOUNTERED DURING THE WORK, INCLUDED IN PAYMENT FOR OTHER ITEMS OF WORK.

PUBLIC UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER ASSUMES NO RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

NAME OF OWNER
 PRESQUE ISLE ELECTRIC AND GAS CO-OP
 1901 M-98 HWY
 ONAWAY, MI 49785
 CONTACT: ANDY BISCHER
 1-800-424-6834 EXT 872

KIND OF UTILITY
 ELECTRICAL

ROAD STANDARD PLANS

R-242 BEDDING AND FILLING AROUND PIPE CULVERTS
 R-81-C UTILITY TRENCHES
 R-81-E SOIL EROSION & SEDIMENTATION CONTROL MEASURES
 R-100-H SEEDING AND TREE PLANTING
 R-105-C GRADING CROSS-SECTIONS

NOTES APPLYING TO STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS, THEY ARE TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

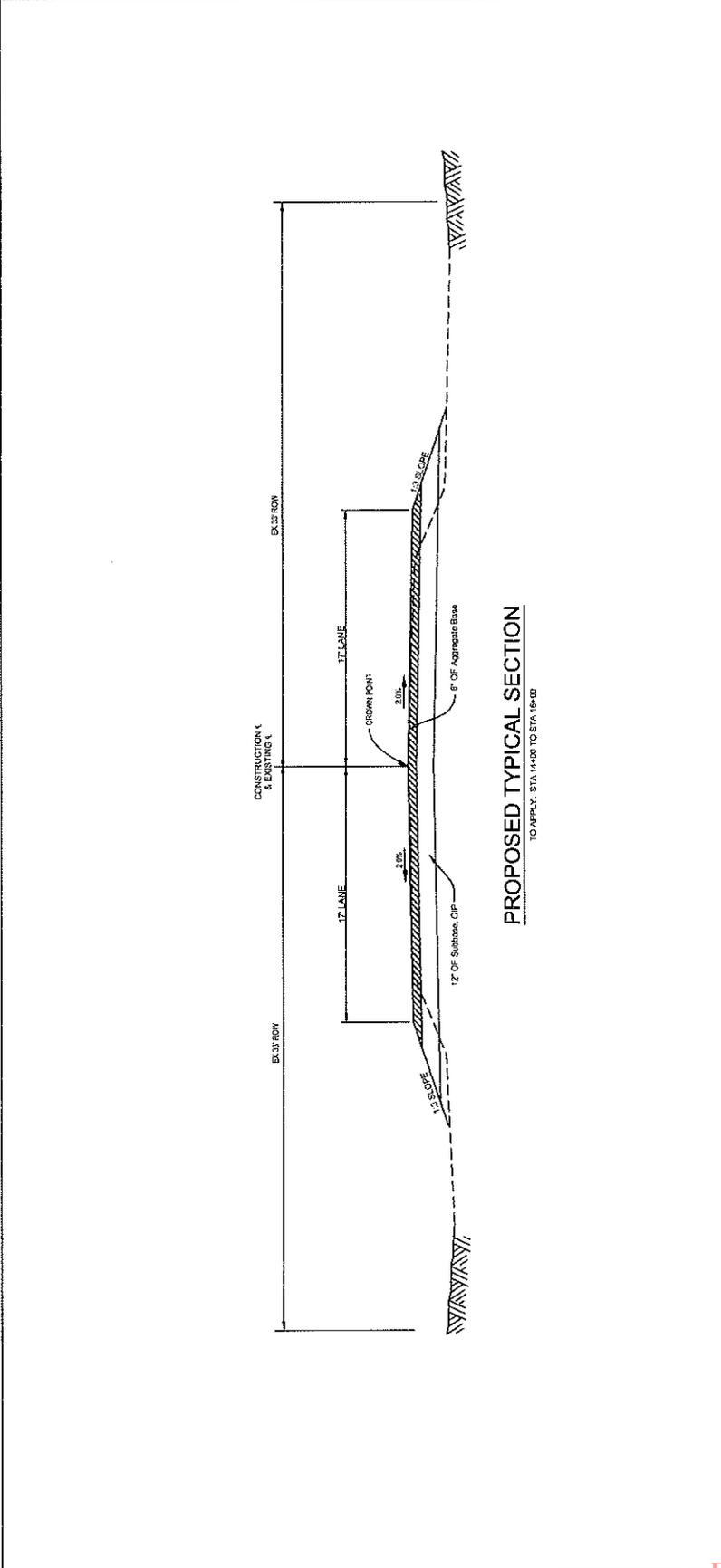
MISCELLANEOUS ESTIMATES

THE FOLLOWING ITEMS OF WORK ARE ESTIMATED FOR THE ENTIRE PROJECT AND ARE NOT TO BE CONSIDERED AS PART OF THE CONTRACT WORK WHERE SHOWN ON THE PLANS OR DESIGNATED BY THE ENGINEER.

20	Cyd	MISCELLANEOUS ITEMS
100	Ft	Erosion Control, Maintenance, Sediment Removal

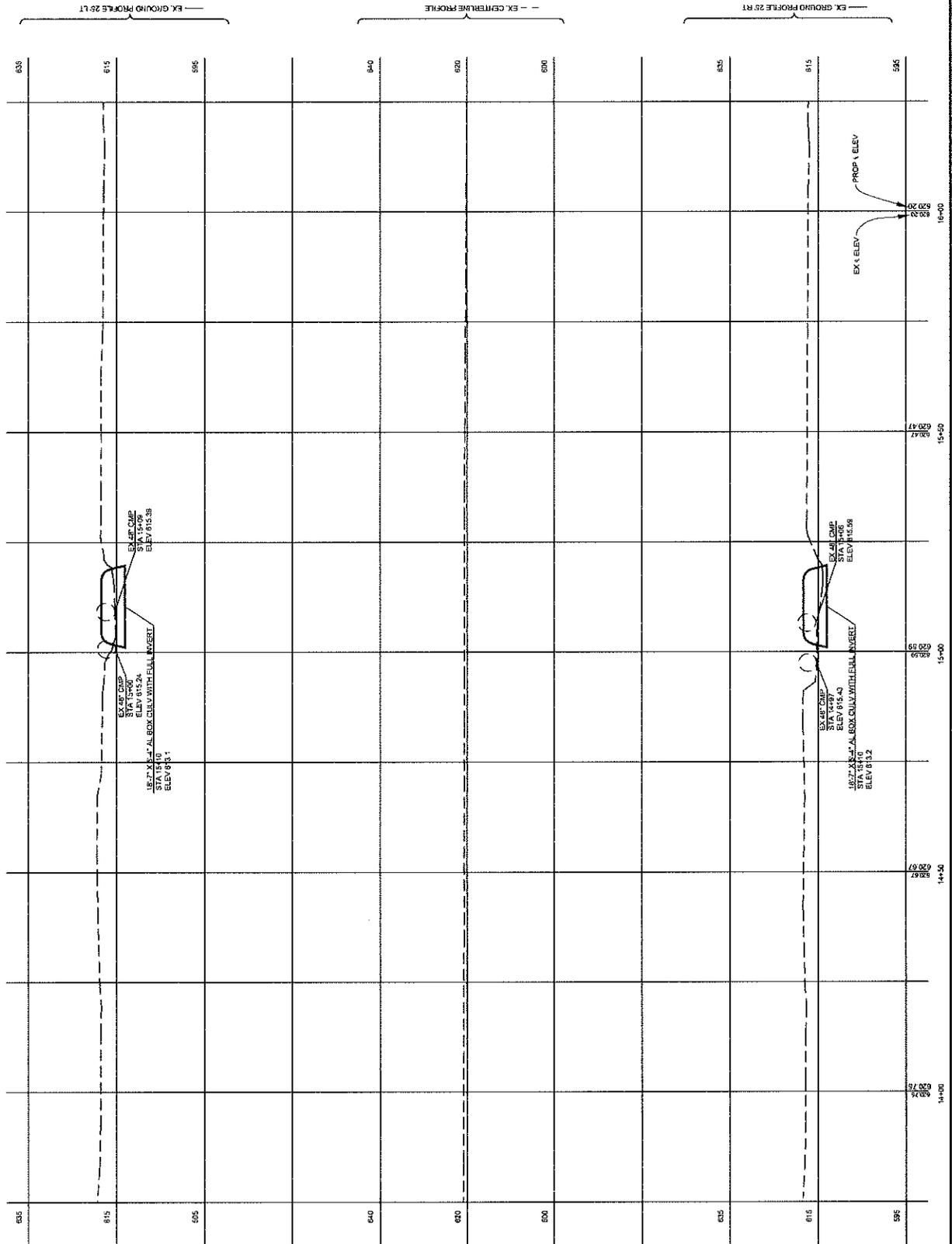
THE FOLLOWING ITEMS OF WORK ARE ESTIMATED FOR THE ENTIRE PROJECT FOR SLOPE RESTORATION WORKS DESIGNATED BY THE ENGINEER.

2	Sls	MISCELLANEOUS ITEMS
		Slope Rehabilitation, Noorpad



<p>WATER & DRAINAGE SYMBOLS</p> <ul style="list-style-type: none"> EXISTING CATCH BASIN PROPOSED CATCH BASIN EXISTING MANHOLE PROPOSED MANHOLE EXISTING CULVERT END SECTION PROPOSED CULVERT END SECTION EXISTING HEADWALL PROPOSED HEADWALL WATER SHUTOFF (Service Valve) GATE VALVE GATEWELL WATER METER WATER MANHOLE EXISTING FIRE HYDRANT PROPOSED FIRE HYDRANT ADJUST FIRE HYDRANT ADJUST DRAINAGE STRUCTURE ADJUST DRAINAGE STRUCTURE W/COVER ADJUST DRAINAGE STRUCTURE BY OTHERS RELOCATE - BY OTHERS SIDEWALK RAMP TYPE CHECK DAM (PROFILES) DIKE (PROFILES) W.T. m WATER TABLE (PROFILES) POST WATER WELL 		<p>UTILITIES SYMBOLS</p> <ul style="list-style-type: none"> POWER POLE TELEPHONE POLE GUY POLE LIGHT POLE POWER LIGHT POLE TELEPHONE MANHOLE POWER TOWER GAS VALVE WALKING-WALK GUY ANCHOR RAILROAD SIGNAL ELECTRICAL MANHOLE ELECTRICAL HANDHOLE TELEPHONE PEDESTAL/RISER FIBER OPTIC MARKER 		<p>UTILITY PATTERNS</p> <ul style="list-style-type: none"> ELECTRICAL LINE GAS LINE OIL LINE TELEPHONE LINE WATER LINE CABLE TV FIBER OPTICS POWER TRANSMISSION LINE 		<p>DRIVE/APPROACH LEGEND</p> <ul style="list-style-type: none"> CONCRETE HMA AGGREGATE 		<p>REMOVAL LEGEND</p> <ul style="list-style-type: none"> REMOVING ABANDONING SAVE BULKHEAD REMOVING CURB & GUTTER 		<p>LEGEND SHEET</p>		<p>SPECIAL LEGEND THIS PROJECT</p> <ul style="list-style-type: none"> STANDARD PLAN R-96E SOIL EROSION & SEDIMENTATION SILT FENCE STANDARD PLAN R-96E SOIL EROSION & SEDIMENTATION CHECK DAM ROAD BORING LOCATION 		<p>REAL ESTATE SYMBOLS</p> <ul style="list-style-type: none"> PROPERTY OWNERSHIP ARROW CONTIGUOUS PROPERTY SYMBOL PARCEL NUMBER BOX PARCEL LINES 		<p>MISCELLANEOUS SYMBOLS</p> <ul style="list-style-type: none"> RIPRAP SIGN STUMP SWAMP DECIDUOUS TREE CONIFEROUS TREE BUSH MAIL BOX FLAG BAR & CAP SECTION CORNER QUARTER SECTION BENCHMARK USGS MARKER CONTROL POINT BEAM G. R. RUN NUMBER (EXISTING) BEAM G. R. RUN NUMBER (PROPOSED) USED WITH UNDERGROUND GAS & FLAMMABLE MATERIAL USED WITH UNDERGROUND UTILITY USED WITH FIBER OPTICS LINES PROF 36" EX 12' CMP PROPOSED CULVERT/SEWER EXISTING CULVERT/SEWER 		<p>TOPO PATTERNS</p> <ul style="list-style-type: none"> HEDGE LINE TREE LINE EXISTING FENCE PROPOSED FENCE EXISTING GUARD RAIL PROPOSED GUARD RAIL DRAINAGE CRIDGE OF WATER WETLANDS AREA ABANDON ANY UTILITY CITY LIMITS RAILROAD SOUND ABATEMENT WALL CONCRETE MEDIAN BARRIER SLOPE STAKE LINE 		<p>R.O.W. PATTERNS</p> <ul style="list-style-type: none"> EX. LIMITED ACCESS R.O.W. EXISTING R.O.W. PROP. LIMITED ACCESS R.O.W. PROP. FREE ACCESS R.O.W. SECTION LINE GRADING EASEMENT 		<p>SCALE</p> <p>SCALE: N/A</p>		<p>DATE</p> <p>MARCH 5, 2018</p>		<p>ENGINEER</p> <p>REWARD</p>		<p>SITE NUMBER</p> <p>GC/M 008</p>		<p>JOB NUMBER</p> <p>18 004</p>		<p>ENGINEERING & SURVEYING, INC.</p> <p>HURON</p>		<p>SHEET NO.</p> <p>3</p>	
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PROFILE SHEET





NOTICE OF AUTHORIZATION

Permit Number: WRP014939 v. 1
Site Name: 16-Seffren Road over Elliot Creek

Date Issued: January 3, 2019
Expiration Date: January 3, 2024

The Michigan Department of Environmental Quality, 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 the existing 61-foot long by 4 -foot diameter single corrugated metal circular culvert and install a 74 -foot long by 18.6 -foot span by 5.3 -foot rise corrugated metal arch with headwall and 2-foot recess. Place 8.2 cubic yards of riprap for erosion protection. Project needs 355 cubic yards fill and 409 cubic yards excavation.

To be conducted at property located in: Cheboygan County, Waterbody: Elliot Creek
Section 26, Town 38N, Range 01W, Benton Township

Permittee:
Brent Shank
Cheboygan County Road Commission
5302 South Straits Highway
Indian River, MI 49749

Issued By:

Luke Golden
Cadillac District Office
Water Resources Division
989-370-1569

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.

DEQ-WRD
WRP014939 v1.0
Approved
Issued On:01/03/2019
Expires On:01/03/2024



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY WATER RESOURCES DIVISION PERMIT

Issued To:

Brent Shank
Cheboygan County Road Commission
5302 South Straits Highway
Indian River, MI 49749

Permit No: WRP014939 v.1
Submission No.: HNJ-WFWK-EFX2W
Site Name: 16-Seffren Road over Elliot Creek
Issued: January 3, 2019
Revised:
Expires: January 3, 2024

This permit is being issued by the Michigan Department of Environmental Quality (MDEQ), Water Resources Division (WRD), 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 the existing 61-foot long by 4-foot diameter single corrugated metal circular culvert and install a 74-foot long by 18.6-foot span by 5.3-foot rise corrugated metal arch with headwall and 2-foot recess. Place 8.2 cubic yards of riprap for erosion protection. Project needs 355 cubic yards fill and 409 cubic yards excavation.

Waterbody Affected: Elliot Creek
Property Location: Cheboygan County, Benton Township, Town/Range/Section 38N01W26
Property Tax No. NA

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.

DEQ-WRD
WRP014939 v1.0
Approved
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Expires On:01/03/2024

- 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. Permittee shall notify the MDEQ within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of the MDEQ.
- K. 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.
- L. 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).
- M. In issuing this permit, the MDEQ 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, the MDEQ may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- N. 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.
- O. 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, the MDEQ 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.
- P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from the MDEQ. 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 the MDEQ prior to being implemented.
- Q. This permit may be transferred to another person upon written approval of the MDEQ. The permittee must submit a written request to the MDEQ to transfer the permit to the new owner. The new owner must also submit a written request to the MDEQ 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 of the above information may be provided to the MDEQ. The MDEQ will review the request and, if approved, will provide written notification to the new owner.
- R. 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.
- S. 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.
- T. 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).
- U. 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.
- V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
- W. 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.
- X. 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.
- Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:
1. All work shall be completed in accordance with plans attached; kept on file at the MDEQ's WRD, Transportation Review Unit.
 2. Authority granted by this permit does not waive compliance requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA. Any discharge of sediment into waters of the state and/or off the road

right-of-way is a violation of this permit, Part 91, and Part 31, Water Resources Protection, of the NREPA. A violation of these parts subjects the permittee to potential fines and penalties.

3. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
4. The permittee is responsible for acquiring all necessary easements or rights-of-way before commencing any work authorized by this permit. All construction operations relating to or part of this project shall be confined to the existing right-of-way limits or other acquired easements.
5. Temporary soil erosion and sedimentation control measures shall be installed before or upon commencement of the earth change and shall be maintained daily. Temporary soil erosion and sedimentation control measures shall be maintained until permanent soil erosion and sedimentation control measures are in place and the area is stabilized. Permanent soil erosion and sedimentation control measures for all slopes, channels, ditches, or any disturbed area shall be installed within five (5) calendar days after final grading or the final earth change has been completed.
6. 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.
7. All raw earth within 100 feet of a lake, stream, or wetland that is not brought to final stabilization by the end of the active growing season shall be temporarily stabilized with mulch blankets in accordance with the following dates: September 20th for the Upper Peninsula, October 1st for the Lower Peninsula north of US-10, and October 10th for the Lower Peninsula south of US-10.
8. This 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.
9. 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 the MDEQ, will be for a five-year period beginning at the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.
10. All dredge/excavated spoils including organic and inorganic soils, vegetation, and other material removed shall be placed on upland (non-wetland, non-floodplain or non-bottomland), prepared for stabilization, revegetated and reseeded with native Michigan species appropriate to the site, and mulched in such a manner so as to prevent and ensure against erosion of any material into any waterbody, wetland, or floodplain.
11. During removal or repair of the existing structure, every precaution shall be taken to prevent debris from entering any watercourse. Any debris reaching the watercourse during the removal and/or reconstruction of the structure shall be immediately retrieved from the water. All material shall be disposed of in an acceptable manner consistent with local, state, and federal regulations.
12. Prior to the removal of the existing structures, cofferdams of steel sheet piling, gravel bags, clean stone, coarse aggregate, concrete or other acceptable barriers shall be installed to isolate all construction activity from the water. The barriers shall be maintained in good working order throughout the duration of the project. Upon project completion, the accumulated materials shall be removed and disposed of at an upland site.
13. All cofferdam and temporary steel sheet pile shall then be removed in its entirety, unless specifically shown to be left in plan on the accepted plans. Cofferdam and sheet pile that is left in place shall be cut off at the elevation shown on the plans and shall be a minimum of one foot below the stream bottom.
14. The existing structure shall be kept open to pass the stream flow during removal of the existing road fill.

15. The placement of the new culvert and the initial placement of fill in the stream shall be done immediately after removal of the existing culvert. The placement shall be conducted in such a manner that all flow is immediately passed through the new culverts, allowing the major placement of fill to be done in the dry or in still water where erosion and sedimentation will be minimized. The fill material used in this initial placement shall be washed gravel, coarse aggregate, or rock and shall be placed at both ends of the culvert to a level above normal water level before backfill material is placed.
16. The culvert shall be installed to align with the center line of the existing stream at both the inlet and outlet ends and must be **recessed into the stream bed** to provide a natural channel substrate throughout the structure, as shown on the approved plans.
17. Road fill side slopes shall not be steeper than 1-on-2 (1 vertical to 2 horizontal) except where headwalls of reinforced concrete, mortar masonry, dry masonry, or other acceptable methods are used.
18. Areas to be protected by riprap shall be cleared of brush and debris. All grades shall be shaped and compacted to the required cross section. Geotextile liner shall be placed on the prepared grades. The riprap installation shall not damage the geotextile liner.
19. Any fill shall consist of clean inert material.
20. Any alterations to the existing road grade elevations other than that shown on the plans will require prior approval from the WRD.
21. Road fill side slopes terminating in the stream and any raw streambanks resulting from the construction shall be stabilized with temporary measures in accordance with appropriate Best Management Practices based on site conditions, and if necessary, may be riprapped extending above the ordinary high water mark, before or upon commencement of the permitted activity. Temporary stabilization measures shall be maintained until permanent measures are in place.
22. All other road fill slopes, ditches, and other raw areas draining directly to the stream may be protected with riprap, sod and/or seed and mulch as may be necessary to provide effective erosion protection. The placement of riprap shall be limited to the minimum necessary to ensure proper stabilization of the side slopes and fill in the immediate vicinity of the structure.
23. All riprap shall be properly sized and graded 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 allowed.
24. If the project, or any portion of the project, is stopped and lies incomplete for any length of time other than that encountered in a normal work week, every precaution shall be taken to protect the incomplete work from erosion, including the placement of temporary gravel bag riprap, temporary seed and mulch, or other acceptable temporary protection.
25. No work shall be done in the stream during periods of above-normal flows except as necessary to prevent erosion.
26. Areas to be protected by riprap shall be cleared of brush and debris. All grades shall be shaped and compacted to the required cross section. Geotextile liner shall be placed on the prepared grades. The riprap installation shall not damage the geotextile liner.
27. All fill shall consist of clean inert material.
28. Any alterations to the existing road grade elevations other than that shown on the plans will require prior approval from the Water Resources Division (WRD).
29. **No work or dredging within the water authorized by this permit is allowed from May 1 to June 30 due to critical spawning, migration, and/or recreational use periods.**

30. Prior to the start of construction, all adjacent non-work wetland areas shall be protected by properly trenched sedimentation barrier to prevent sediment from entering the wetland. Orange construction fencing shall be installed as needed to prohibit construction personnel and equipment from entering or performing work in these areas. Fence shall be maintained daily throughout the construction process. Upon project completion, the accumulated materials shall be removed and disposed of at an upland site, the sedimentation barrier shall then be removed in its entirety and the area restored to its original configuration and cover.
31. Stormwater shall not directly outlet to the stream.

Issued By:

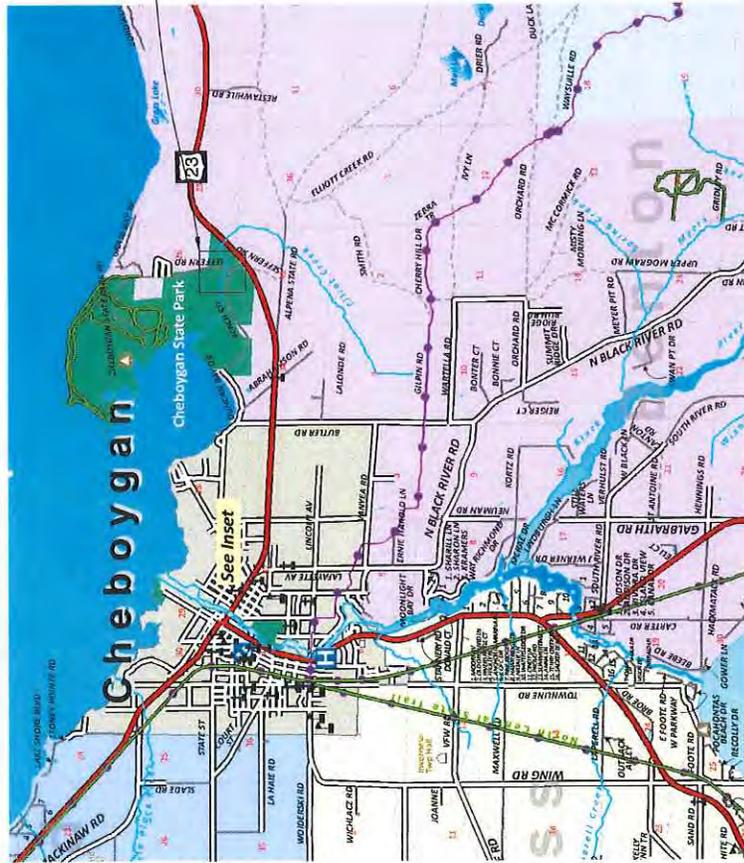
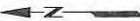


Luke Golden
Cadillac District Office
Water Resources Division
989-370-1569

cc: Benton Township Clerk
Cheboygan County Drain Commissioner
Cheboygan County CEA

HURON PINES IN COOPERATION WITH CHEBOYGAN COUNTY ROAD COMMISSION

PLANS OF PROPOSED IMPROVEMENTS
SEFFREN ROAD OVER ELLIOT CREEK
SECTION 26, T38N, R1W, BENTON TOWNSHIP
CHEBOYGAN COUNTY, MICHIGAN



INDEX TO SHEETS

TITLE SHEET	NOTE SHEET
SHEET 1	LEGEND SHEET
SHEET 2	PLAN SHEET
SHEET 3	PROFILE SHEET
SHEET 4	PROFILE SHEET

GENERAL NOTES
EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE SPECIFICATIONS, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 811 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, BEFORE ANY EXCAVATION WORK BEGINS. ALL UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THIS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE OBLIGATION TO PROTECT ALL UTILITIES OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

TITLE SHEET

SCALE	ENGINEER	DATE	SITE NUMBER	JOB NUMBER
N/A		MARCH 5, 2018	CGSM 008	18 004



SHEET NO
1

CONTRACT FOR:
CULVERT REPLACEMENT, AGGREGATE BASE, AND SLOPE RESTORATION

PREPARED UNDER SUPERVISION OF
REBECCA E. RIWARD 58497
REGISTERED PROFESSIONAL ENGINEER REGISTRATION NO.

HURON ENGINEERING AND SURVEYING, INC.
ORGANIZATION
3205 US-23 SOUTH, ALPENA, MI 49707
ADDRESS



TYPICAL AND NOTE SHEET

GENERAL PLAN NOTES

UNDERGROUND UTILITIES
FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 423, THE CONTRACTOR SHALL CALL ALL UTILITIES, MAINS, AND HOLES PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

SOIL EROSION MEASURES
ALL EXPOSED EARTH SURFACES SHALL BE PROTECTED AS PER THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AS DIRECTED BY THE ENGINEER. CIRCLED NUMBERS ON PLANS REFER TO ITEMS ON THE MOOT STANDARD PLAN R-86-358ES.

PARCEL CORNERS
RESERVE AND/OR REGRADE ANY EXISTING PARCEL CORNERS ENCOUNTERED DURING THE WORK, INCLUDED IN PAYMENT FOR OTHER ITEMS OF WORK.

PUBLIC UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE OBLIGATION TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

NAME OF OWNER
PRESQUE ISLE ELECTRIC AND GAS CO-OP
19871 M48 HWY
PO BOX 20
OSHTONVILLE, MI 48753
CONTACT: ANDY BISCHER
1-800-429-9634 EXT 872

KIND OF UTILITY
ELECTRICAL
TELECOMMUNICATIONS

ROAD STANDARD PLANS

BELOW AND FILLING AROUND PIPE CULVERTS
R-42-D
UTILITY TRENCHES
R-43-C
SOIL EROSION & SEDIMENTATION CONTROL MEASURES
R-46-E
SEEDING AND TREE PLANTING
R-103-H
GRAZING CROSS-SECTIONS
R-105-D

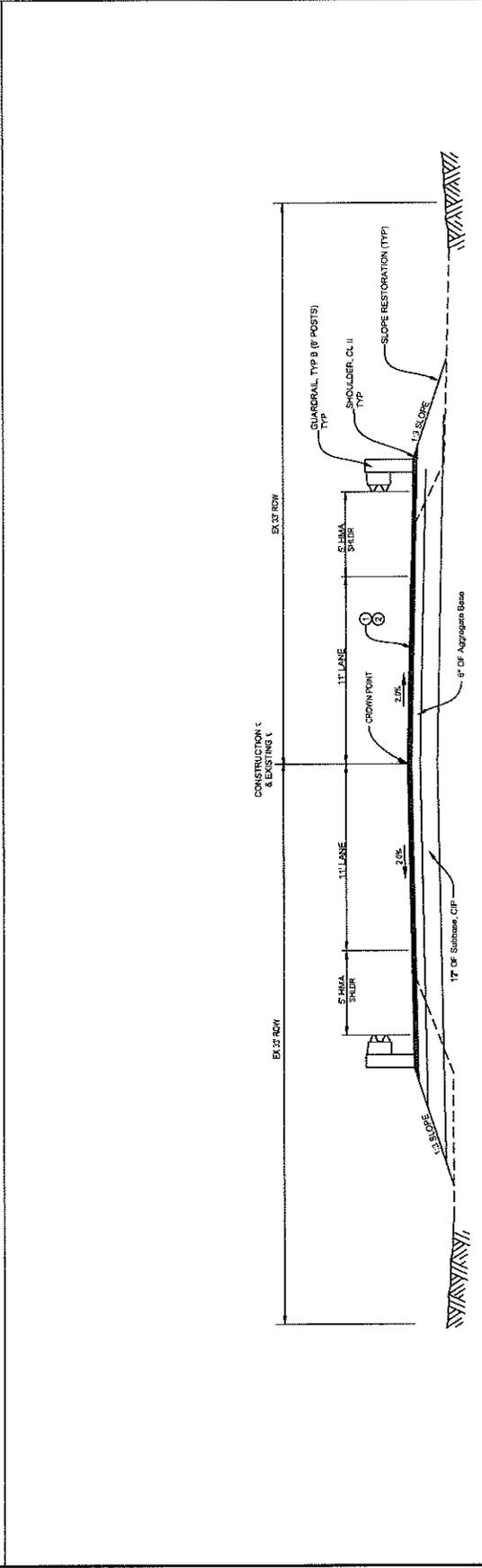
MISCELLANEOUS ESTIMATES

THE FOLLOWING ITEMS OF WORK ARE ESTIMATED FOR THE ENTIRE PROJECT FOR SLOPE RESTORATION WHERE DESIGNATED BY THE ENGINEER.

25 Cyt
100 Ft
Erosion Control, Maintenance, Settlement Removal

THE FOLLOWING ITEMS OF WORK ARE ESTIMATED FOR THE ENTIRE PROJECT FOR SLOPE RESTORATION WHERE DESIGNATED BY THE ENGINEER.

2 Sls
Slope Restoration, Modified



PROPOSED TYPICAL SECTION
TO APPLY: STA 12+50 TO STA 14+50

HMA APPLICATION TABLE

IDENT.	PAY ITEM	RATE #/SYD	PERFORMANCE GRADE	REMARKS
①	HMA-4E1	165	64-28	TOP COURSE, AWM-220
②	HMA-4E1	185	64-28	LEVELING COURSE
HMA BOND COAT: 0.05-0.15 GAL/SYD (FOR INFORMATION ONLY)				

