

**PEAINE TOWNSHIP AND ST JAMES TOWNSHIP
CHARLEVOIX COUNTY, MICHIGAN
CRITICAL SAND DUNE AREA ZONING PERMIT APPLICATION**

To construct a project within the designated Critical Sand Dune Area (CSDA) of Beaver Island Archipelago's within Charlevoix County, this CSDA zoning permit application must be completed and approved prior to starting any construction, including clearing and excavation. This Critical Sand Dune (CSD) Area permit application is to be completed in accordance with the applicable Township's CSDA Ordinance(s) and State of Michigan CSD Area legislation.

The CSDA on Beaver Island were identified on July 5, 1989, and includes 880 acres in Peaine Township and over 5.11 miles of shoreline and 766 acres in St James Township and over 2.9 miles of shoreline. The regulated area is a barrier dune defined as "the first landward sand dune formation along a shoreline of a Great Lake or a sand dune formation designated by the Department of Natural Resources." These critical dune areas are unique, irreplaceable, and a fragile resource that provide significant recreational, economic, scientific, geological, scenic, botanical, educational, agricultural, and ecological benefit of the townships and to people from the State of Michigan and from other states and countries who visit this resource.

THIS CSDA PERMIT APPLICATION MUST BE ACCOMPANIED BY ALL REQUIRED DOCUMENTATION AND SUBMITTED TO THE ZONING ADMINISTRATOR. The required documentation is noted below. This CSD Area Zoning Permit is required in lieu of the Township's Zoning Permit.

The property owner or their agent agrees that by initiating the preparation of this CSDA permit application that they are giving approval for township, state, and federal employees and their agents to enter onto their property for purposes of investigating and reporting on the elements related to this CSDA permit application approval.

This CSDA Permit will be issued by the Township Zoning Administrator once the CSDA Permit Application is determined to be following the below applicable ordinance(s) as reviewed/approved by the Township's Planning Commission, and in some cases, by the Zoning Board of Appeals:

- For Peaine Township property: Ordinance 02 of 2017 and Ordinance 03 of 2017 which cover CSDA Ordinances 6.15 and 11.9 These ordinances may be found at <https://www.peainetwp.org/Codified%20Ordinance%20Amendments.pdf>.
- For St James Township property: Ordinance 1 of 2023 which covers CSDA Ordinances 6.14, 11.08, and 12.10. This ordinance may be found at https://webgen1files1.revize.com/stjamestwpmi/Ordinance_1_of_2023.CSDA.Effective080323.pdf

These ordinances were developed in accordance with the State of Michigan's legislation Part 353, Sand Dunes Protection and Management of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). NREPA's Part 365, Section 36505 prohibits "taking" a Threatened and Endangered Species is also covered by the ordinances and is discussed herein.

In addition, the zoning permitting requirements (e.g., dimensions) of each township are listed within this application. For Peaine Township, this information is found in Ordinance No. 18, which was adopted on November 8, 2017, and any successor or amendments. For St James Township, this

information is found in Ordinance No. 24, which was adopted on April 7, 2004, and any successor or amendments.

Contact information for the sources for the required information described herein are listed in the Application for CSDA Permit which begins on page 5.

CSDA Permit Applications - All CSDA permit applications must be accompanied by the following issued permits and plans:

1. Part 91, Soil Erosion and Sedimentation Control permit, or waiver, of the Natural Resources and Environmental Protection Act 451 of 1994. This permit is issued by the Charlevoix County Department of Building Safety (CCDBS), Soil Erosion and Sedimentation Control Officer.

This permit or waiver is required if the project is within 500' of a lake or stream or you are disturbing more than one acre of land. The waiver acknowledges the project is beyond the 500' limit or any disturbance is less than one acre of land. This permit is obtained at the time any building plans are submitted and approved by the CCDBS.

2. Septic System Permit approval, if applicable. This permit is issued through the Health Department of Northwest Michigan.
3. A Vegetation Assurance Plan (VAP) is required to be prepared by the owner/agent or others who are engaged by the owner/agent to prepare this plan. The plan is to cover tree and vegetation assurance as described below. The VAP is to include this statement, "The property owner will be responsible for monitoring the growth of new vegetation for a two-year period. Any plants that fail to become established within the two-year growing seasons will be replaced." Refer to a sample Vegetation Assurance Plan included within the CSDA Permit Application package.
 - a. Assurances that the cutting and removal of trees and other vegetation will be performed in accordance with the "Forest Management Guidelines for Michigan", prepared by the Society of American Foresters in 1987, as revised in 2010. These assurances may include a program to provide mitigation for the removal of trees or vegetation by approving assurances that the applicant will plant on the site more trees and other vegetation than were removed by the proposed use.
 - b. Threatened and Endangered Species Permits covering federal and state species as issued by the Michigan Department of Natural Resources and the U.S. Fish and Wildlife Services, respectively. Contact the Beaver Island Terrestrial Invasive Species (TIS) Administrator who will perform a preliminary review and assist the applicant with their engagement with the MDNR and USFWS. Letters would be required from both agencies if such permits are not needed.
 - c. A description on how the owner/agent plans to prevent the establishment of invasive species plants. A TIS Treatment Plan will be created by the Beaver Island Terrestrial Invasive Species (TIS) Administrator. The administrator may issue a letter stating a TIS Treatment Plan is not needed. This plan or letter is to be included within the permit application.
4. A driveway/roadway permit as issued by the Charlevoix County Road Commission (CCRC) is required for this work if located on a county road. A new driveway/roadway in a critical sand dune area, regardless of being connected to a county road, needs the following:
 - a. The proposed driveway/roadway needs to be shown on the site plan with a scaled drawing as well as a cross-section(s). Only a 16-ft wide or narrower driveway is allowed in a critical sand dune area. Any existing driveway also needs to be shown.

- b. If the driveway/roadway is to be constructed within areas of slopes with a 1-foot vertical rise and 4-foot horizontal plane, or greater, a licensed professional engineer must prepare this site plan. A registered architect may prepare the site plan if the slopes are between 1-foot vertical rise and 4-foot horizontal plane and a 1-foot vertical rise and 3-foot horizontal plane. Only one driveway is allowed per these special criteria. An additional driveway may be allowed but only through a variance due to unique situations as issued by the zoning board of appeal.
 - c. If the driveway/roadway is to be constructed within an area of slopes at 1-foot vertical rise in a 3-foot horizontal plane or greater, the engineer is to certify under their seal that the accessibility measures are not likely to increase erosion or decrease stability.
 - d. All of the architect or engineer developed site plans must include:
 - i. Provisions for storm water drainage that provides for disposal of storm water without serious erosion.
 - ii. Methods for controlling erosion from wind and water.
 - iii. Restabilization, by design elements including vegetation, cut-and-fill, bridges, traverse, and such other elements as are required in the judgement of the architect or engineer to meet these requirements.
5. Project site plans must include a cross-section showing the depth of the greatest impact between the existing grade and proposed grade. Plans must note existing and proposed grades. The site plans must also include a plot plan, giving accurate dimensions on a scaled drawing for all structures and a north arrow. A rough sketch is acceptable for projects not involving a structure. Scaled drawings shall contain the following information:
- a. Existing or intended use of the structure.
 - b. Lines and dimensions of the lots to be used.
 - c. Location on the lot of all existing and proposed structures and streets.
 - d. Location and type of trees and note major areas with the type of vegetation.

Site plans must be sealed by a licensed professional engineer or registered architect and provide for the disposal of storm waters without serious soil erosion and without sedimentation of any stream or other body of water (MCL 324.25316(1)) if:

- a. The project is within 100' of the sand dunes crest on the landward side.
- b. The project impacts slopes that exceed a 1-foot vertical rise in a 4-foot horizontal plane.

Approval of a project that would impact slopes that exceed a 1-foot vertical rise in a 3-foot horizontal plane is prohibited unless a variance is approved by the Zoning Board of Appeals. For these projects, the site plans must be sealed by licensed professional engineer and provide for the disposal of storm waters without serious soil erosion and without sedimentation of any stream or other body of water (MCL 324.25316(1)). The Planning Commission must first review and sign off on the permit application relative to the completeness of the documentation, dimension issues, and all other issues other than the variance issue. Note that there are other activities which would require a variance, for example, placing a structure on the lakeward side of the crest due to site constraints. Work with the zoning administrator to determine if a variance is necessary.

6. CSDA permit applications must be accompanied by:
- a. Proof of ownership of the property.
 - b. The property address. If the address is needed, contact the Charlevoix County Equalization Department (CCED) to obtain a street number.
 - c. Other permits issued by other local jurisdictions, if this work is part of the project, need to be applied for, but not necessarily be accompanied with this application.

7. Other requirements:

- a. The property corners need to be identified for the zoning administrator to evaluate the lot lines and determine available set-back allowances. A survey may be required by the zoning administrator.
- b. Other information with respect to the proposed structure, use, lot, and/or adjoining property may need to be provided as required by the zoning administrator.

CSDA Permit Application Submittal Timeline - Each CSDA permit application must be submitted to the zoning administrator as follows:

CSDA Permit Applications must be submitted to the zoning administrator at least **two weeks*** prior to a regular meeting of the Planning Commission (PC). Prior to the meeting of the PC, the chair of the Township PC along with the zoning administrator and TIS official will perform a site visit to consider the application and confirm there appears to be no significant issues.

CSDA Permit Applications that are subject to the Zoning Board of Appeals (ZBA) review/approval, regardless if the applicant is appealing a Planning Commission (PC) rejected permit or a variance is required from the ZBA, shall be sent to the ZBA by the zoning administrator within eight days after the review of the PC. A special ZBA meeting will be set within 30 days of the PC meeting which shall include a site visit prior to any decision on the part of the ZBA. The ZBA will base their approval decision by considering if a practical difficulty would occur to the owner of the property if the variance was to be denied. Primary consideration given to assuring that human health and safety are protected.

Fee Schedule - The fees associated with the issuance of this permit are as follows:

1. A \$500 permit fee is required, payable to the applicable township. This fee amount is subject to change as determined by the Townships' Boards.
2. A \$250 permit fee is required, payable to the applicable township, for the township to develop the Vegetation Assessment Plan (VAP), including processing the T&E and TIS review.
 - a. A \$150 permit fee is required, payable to the applicable township, if the property owner/agent uses another party to develop the VAP. This fee is for the T&E and TIS work.
 - b. If permits are needed from the USFWS and/or MDNR, the property owner or agent will be responsible for these permit fees.

Application for CSDA Permit

The following pages need to be complete along with preparing/receiving the related information for submittal to the Zoning Administrator, either at the office at 37830 King's Highway during office hours or via e-mail at zoningadmin.bi@gmail.com. If you have questions regarding this permit, contact the Zoning Administrator at 231-448-2000 or 231-448-2830 (an alternative office) or via office hours.

***Special Note: Peaine and St James Township are undergoing an audit mitigation action with the Michigan Department of Environment, Great Lakes, and Energy (EGLE) such that all CSDA permits which are to be issued by either township between **August/September 2023** and **August/September 2024** require the review by officials from EGLE prior to the approval of the township. Please be aware that additional time will be required to review all CSDA permits during this time period.**

Official Use Only

Permit No: _____ ZA Review Date: _____ PC Appr/Deny Date: _____
Date Recvd: _____ ZA Aprv/Deny Date: _____ ZBA Aprv/Deny Date: _____
Denial Reason: _____ Issued Date: _____

APPLICATION FOR CSDA PERMIT

Application Notes:

- 1) To construct a project within the designated Critical Sand Dune Area (CSDA) located on the Beaver Island Archipelago of Charlevoix County, this CSDA permit must be completed and approved prior to starting any construction.
- 2) This permit is good for one year from the approval date; a second year may be approved if reasonable progress is made on the project.

1. Project Location Information

Project Address: <u>37595 LAKE Shore Rd</u>		
County: <u>Charlevoix</u>	Zip Code: <u>49782</u>	Township: <u>ST. JAMES</u>
Property Tax Identification Number: <u>15-013-525-002-00</u>		
Name of Nearest Intersection and Direction from Project: <u>Donegal Bay Rd.</u>		
Subdivision Plat and Lot Number: <u>#2</u>		
Date Lot was Recorded: <u>10-17-63</u>		

Street addresses (not a requirement for this permit application) and date lot was recorded are obtained from the Charlevoix County Equalization Department at:

www.equalization@charlevoixcounty.org

2. Applicant and Agent Information

If an agent completes this application, it is understood that the Owner has given this permission to do so.

Owner/Applicant: <u>KM Contractors Applicant - Owner - Phillip Watson</u>		
Mailing Address: <u>28300 High Island CT</u>		
City: <u>BEAVER Island</u>	State: <u>MI</u>	Zip Code: <u>49782</u>
Contact Phone Number: <u>231 499 0134</u>		
E-Mail Address: <u>Kmcontractors11c@gmail.com</u>		
Agent/Contractor: <u>Ernst MARTIN</u>		
Mailing Address: <u>Kmcontractors11c@gmail.com</u>		

City:	State:	Zip Code:
Contact Phone Number:		
E-Mail Address:		

Check if Yes:	Check if No:	Is the applicant (incl spouse) the sole owner of all project property? If no, attach letter(s) of authorization from all property owners.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is property part of an Association? If yes, name of Association: <i>Port of St. James</i>
Check if Yes:	Check if No:	Have you obtained all permits required from this Association?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>UNDERWAY</i>

The Port of St James Association is a residential subdivision. It is NOT the same entity as St James Township.

3. Project Description

If the proposed project property is within 500' of a Lake or Stream, report:

Inland Lake/Stream Name:	Lake Michigan (yes/no): <i>Yes</i>
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Check applicable proposed use:	Residential <input checked="" type="checkbox"/>	Multi-Family	Commercial:
Public/Govt:	If other, what type?		

Date Property Corners and Project Corners are staked:	<i>9-23</i>
Estimated month/year of project start:	<i>5-24</i>
Estimated month/year of project completion:	<i>5-25</i>

Summary of all proposed activities (Attach a separate statement if more room is needed): <i>move home to location, Construct Basement Foundation, Add Addition + Decks.</i>
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4. Property Information

Size of Parcel (Acres): <i>.3</i>	Size of area being impacted (Sq ft): <i>1500 Sq FT</i>
Height of proposed structures (List separate heights for each structure): <i>31.7 Feet</i>	
Does any portion of the construction area have slopes that are greater than 25% (or 1-foot vertical rise over 4-foot horizontal plane) – yes or no: <i>no</i>	

APPLICANT AUTHORIZATION

I hereby authorize the State of Michigan, County, and/or Township Officials to inspect the site of this project. Further, I certify that the information provided in this application is true and accurate.

Applicant's Signature: _____

Print Name: <i>Ernest Martin</i>	Address: <i>28300 High Island CT</i>	
City: <i>Beaver Island</i>	State: <i>MI</i>	Zip Code: <i>49782</i>
Phone number where you can be contacted during the day: <i>231-449-0136</i>		

RETURN APPLICATION/ATTACHMENTS, ALONG WITH FEE PAYMENT(S) TO THE APPLICABLE TOWNSHIP, TO:

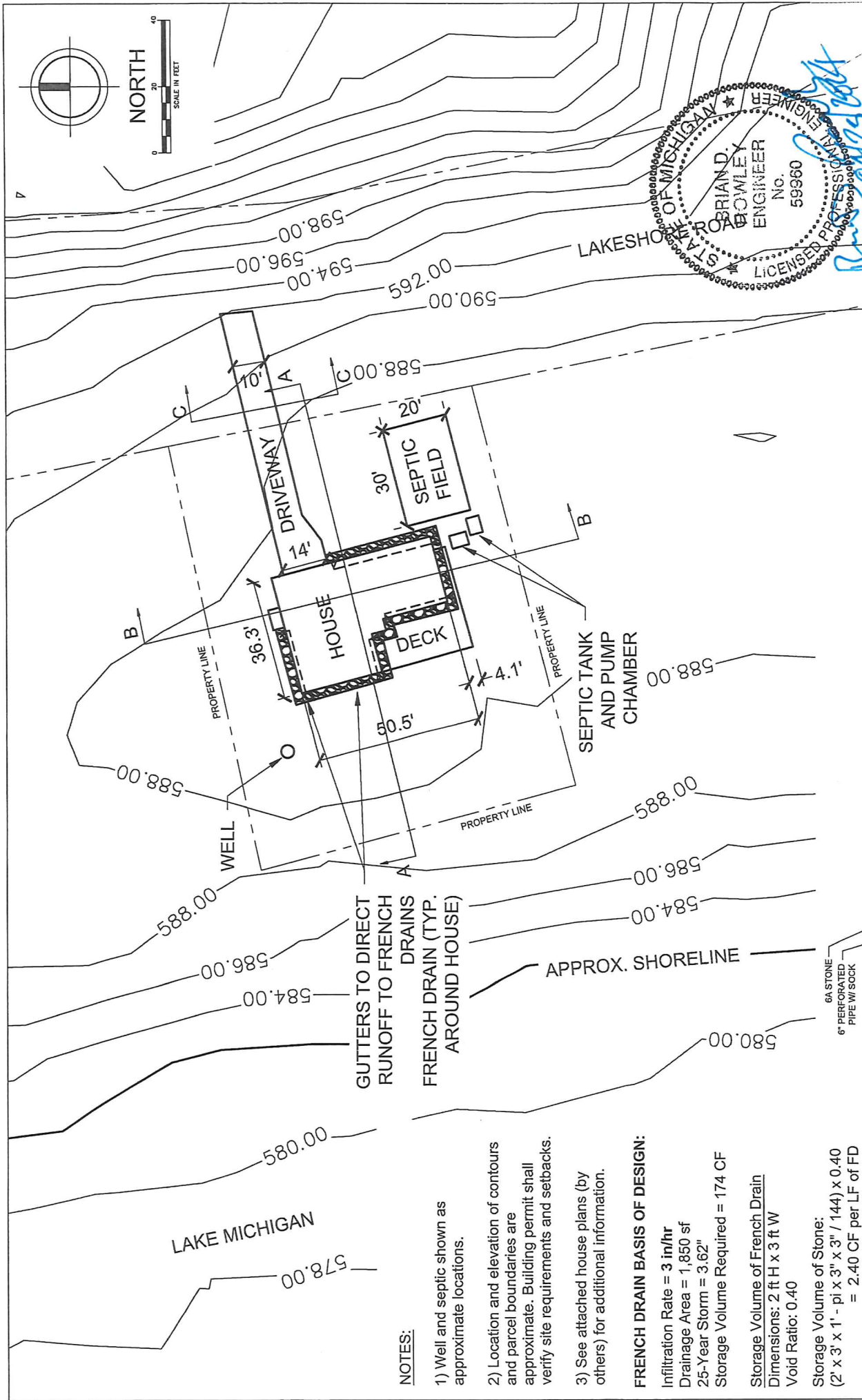
Zoning Administrator, via zoning@beaverislandmi.com, or P.O. Box 85, Beaver Island, MI 49782.

If you have questions regarding this permit, contact the Zoning Administrator at:

- 231-448-2000 or 231-448-2830 (an alternative office), or
- Via office hours or by appointment

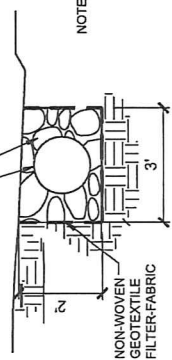
Official use only: (Same check, payable to the applicable township may be used for any combination of these fees)

Application Fee Amount	\$500	Check No:
Vegetation Assurance Plan (VAP) Fee Amount (if requested)	\$250	Check No:
VAP by others; but T&E/TIS review Fee Amount	\$150	Check No:



WATSON RESIDENCE **CHARLEVOIX COUNTY, MICHIGAN** **CRITICAL DUNE SITE PLAN** **SITE PLAN**

NOTE: LAP FABRIC OVER TOP OF STONE
UNTIL GRADING IS COMPLETE
THEN REMOVE TOP FABRIC



FRENCH DRAIN DETAIL
NOT TO SCALE

NOTES:

- 1) Well and septic shown as approximate locations.
- 2) Location and elevation of contours and parcel boundaries are approximate. Building permit shall verify site requirements and setbacks.
- 3) See attached house plans (by others) for additional information.

FRENCH DRAIN BASIS OF DESIGN:

Infiltration Rate = 3 in/hr
Drainage Area = 1,850 sf
25-Year Storm = 3.62"
Storage Volume Required = 174 CF

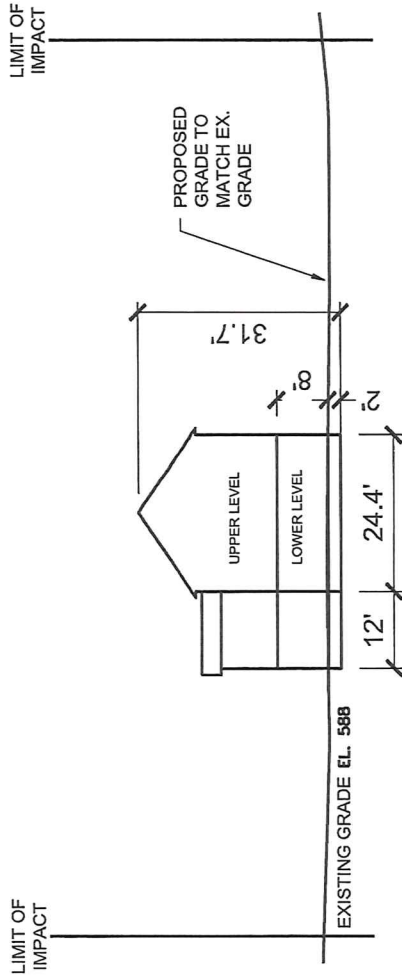
Storage Volume of French Drain
Dimensions: 2 ft H x 3 ft W
Void Ratio: 0.40

Storage Volume of Stone:
(2' x 3' x 1' - pi x 3" x 3" / 144) x 0.40
= 2.40 CF per LF of FD

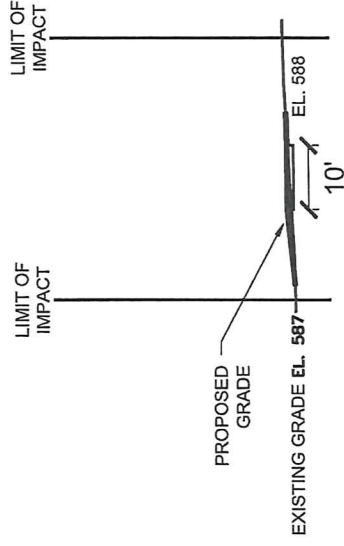
Storage Volume of 6" Pipe:
(pi x 3" x 3" / 144 x 1')
= 0.20 CF per LF of FD

Total Storage Volume of FD
= 2.60 CF per LF

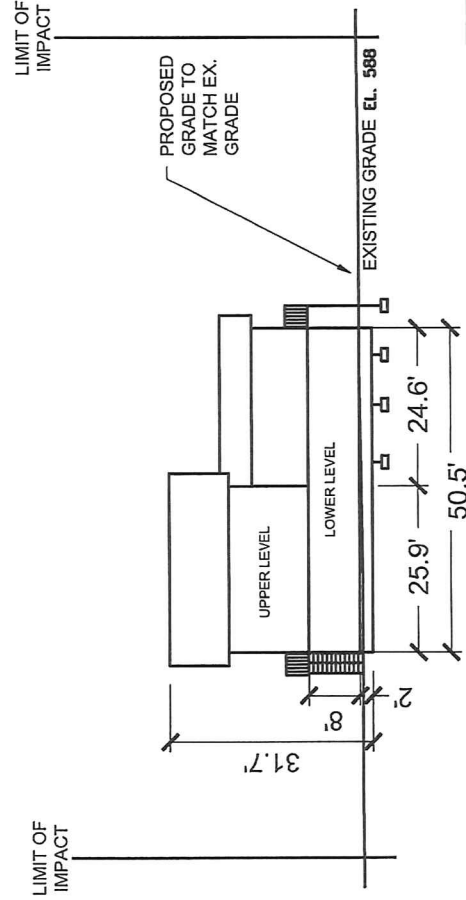
French Drain
149 total linear feet
149 LF x 2.60 CF/LF
= 387 CF



SECTION A-A



SECTION C-C



SECTION B-B

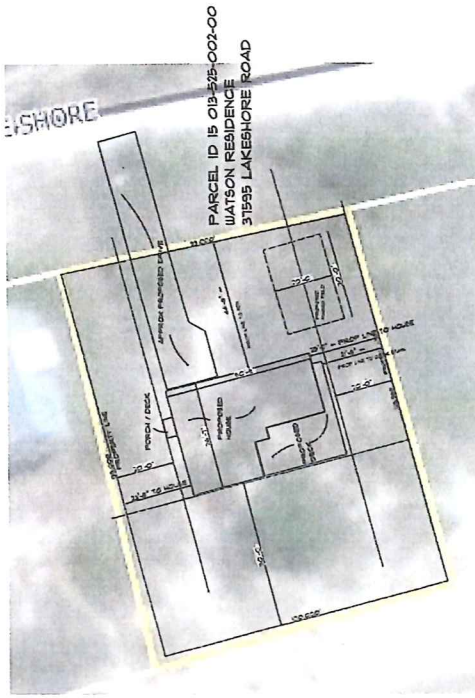
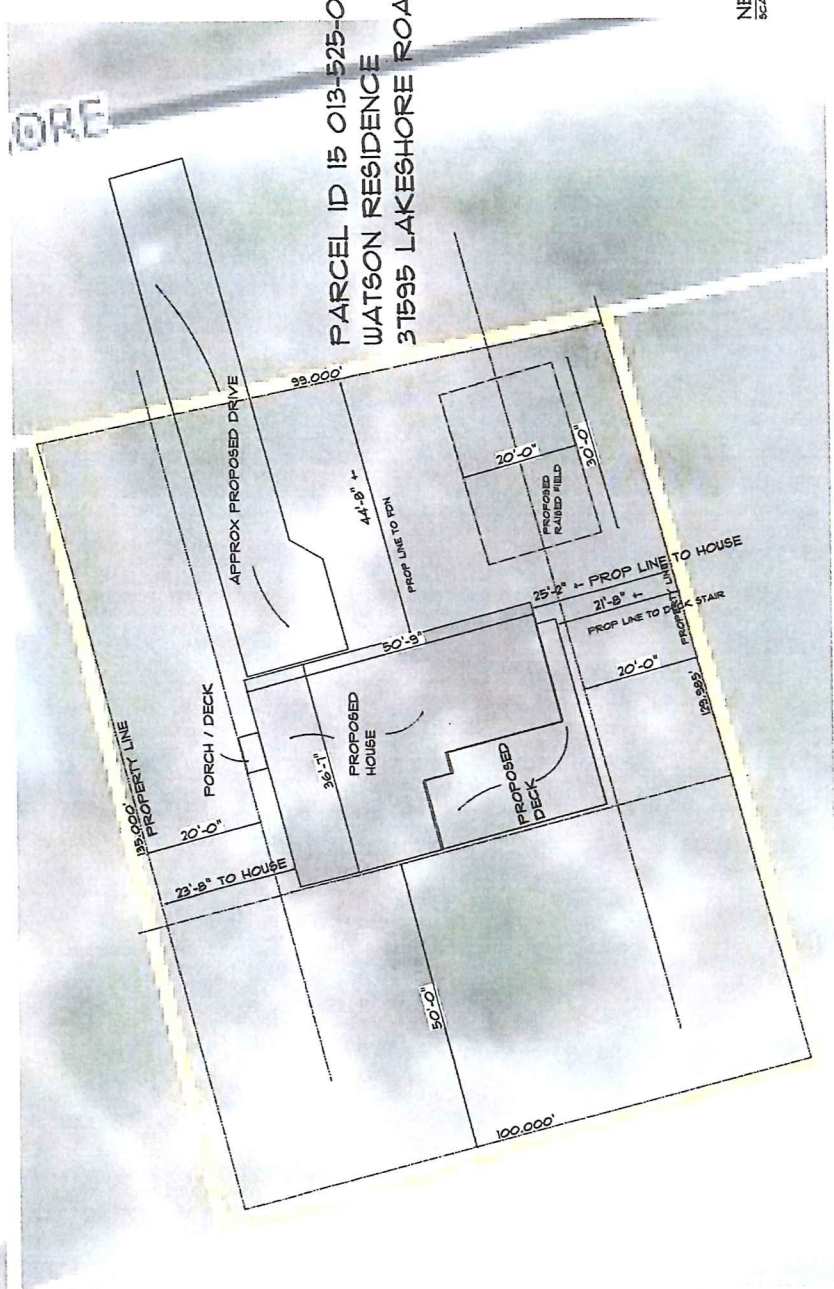
NOTE: NO SLOPE SHALL EXCEED 1V:4H.
ALL SLOPES SHALL USE EROSION
CONTROL BLANKET.

COUNTY: CHARLEVOIX COUNTY
MUNICIPALITY: ST. JAMES TOWNSHIP
ADDRESS: 37595 LAKESHORE ROAD,
BEAVER ISLAND, MI 49782
DATE: 04/18/2024
DRAWN BY: MLC

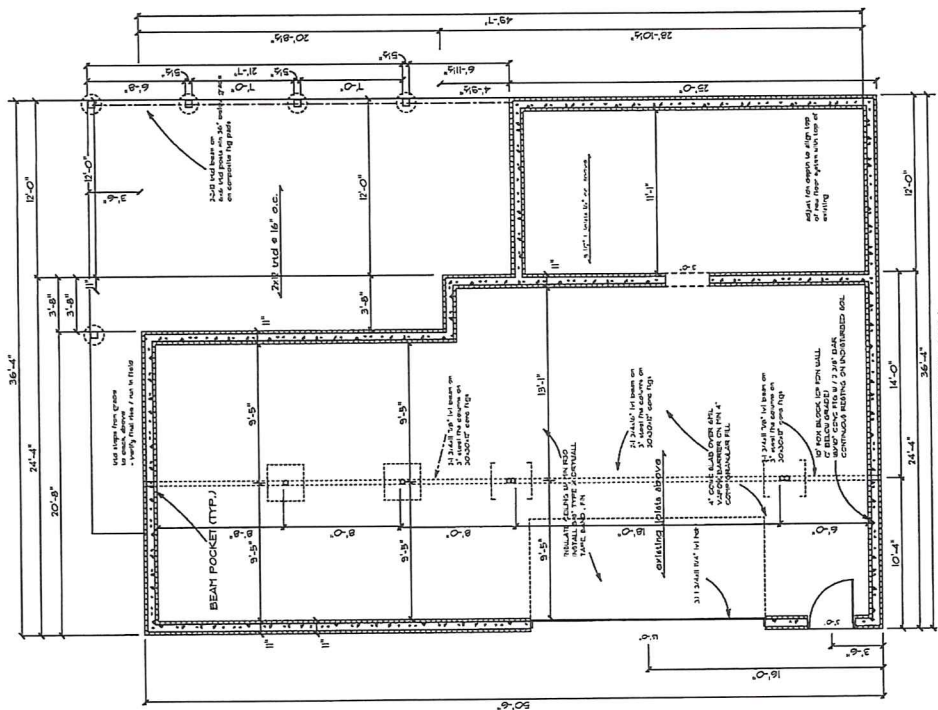


NEW SITE
SCALE: 1" = 10'-0"

PARCEL ID 15 013-525-002-00
WATSON RESIDENCE
37595 LAKESHORE ROAD



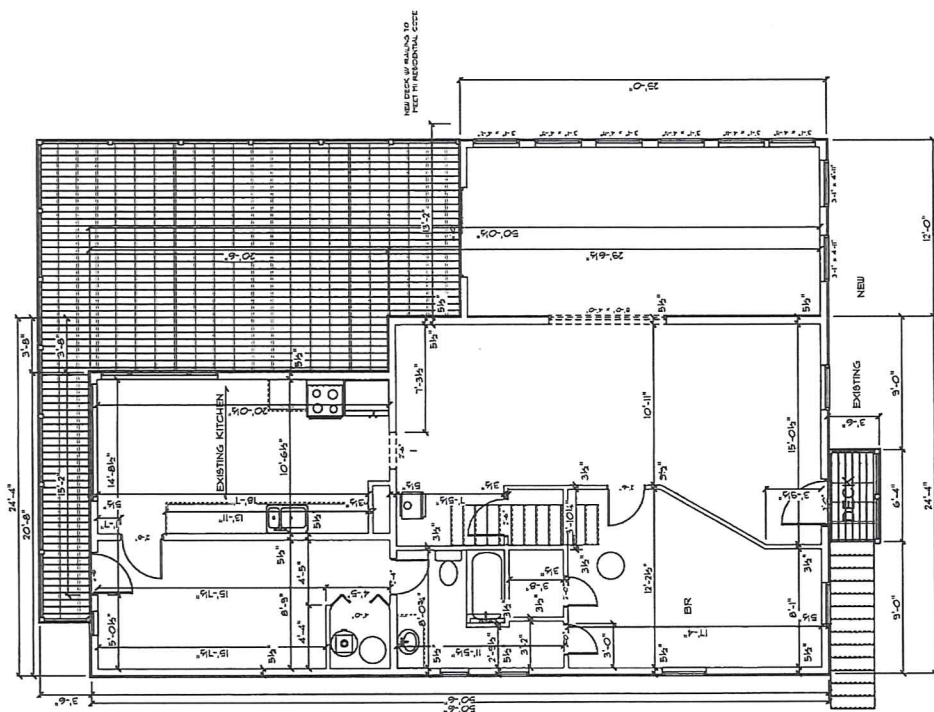
NEW SITE
SCALE: 1" = 20'-0"

WATSON LOWER
SCALE 1/4" = 1'-0"

REAM SOCKET (TYPE.)

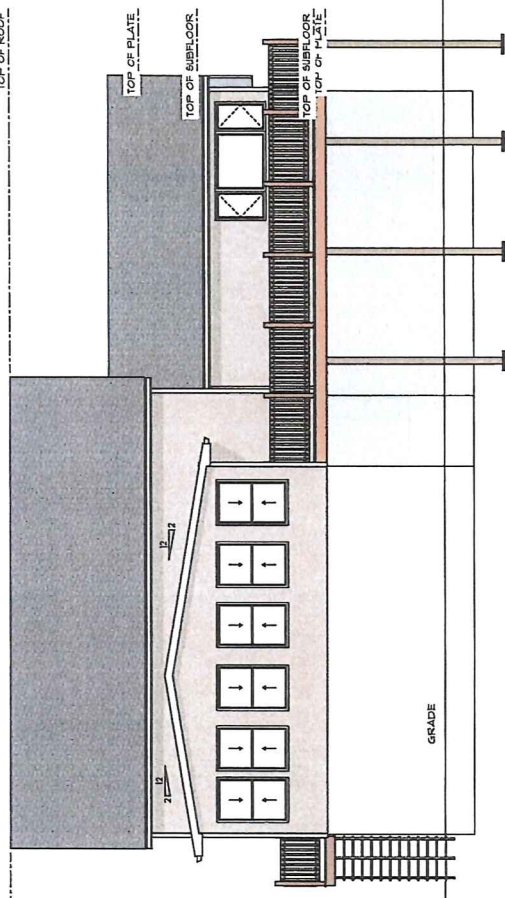
NOTES:

- [illegible]

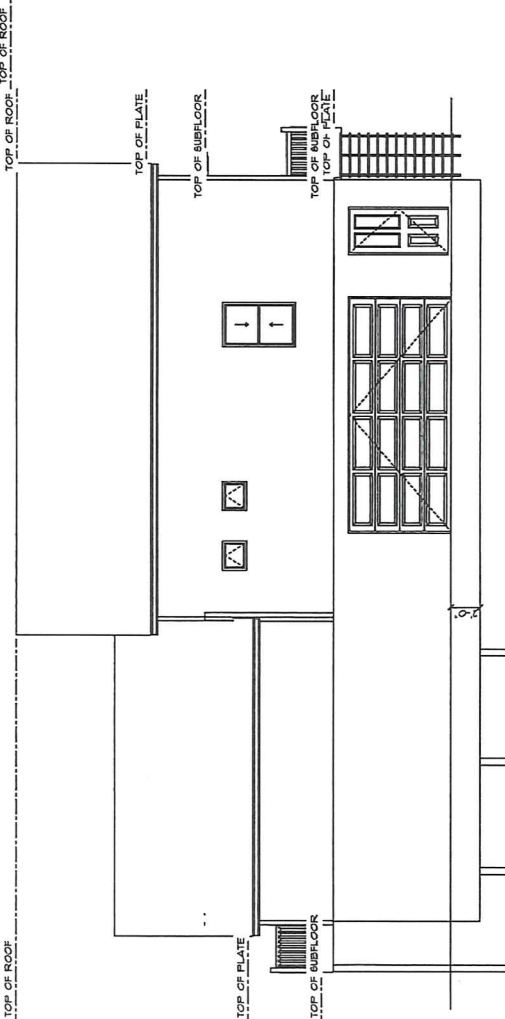


WATSON RESIDENCE
SCALE: 1/4" = 1'-0"

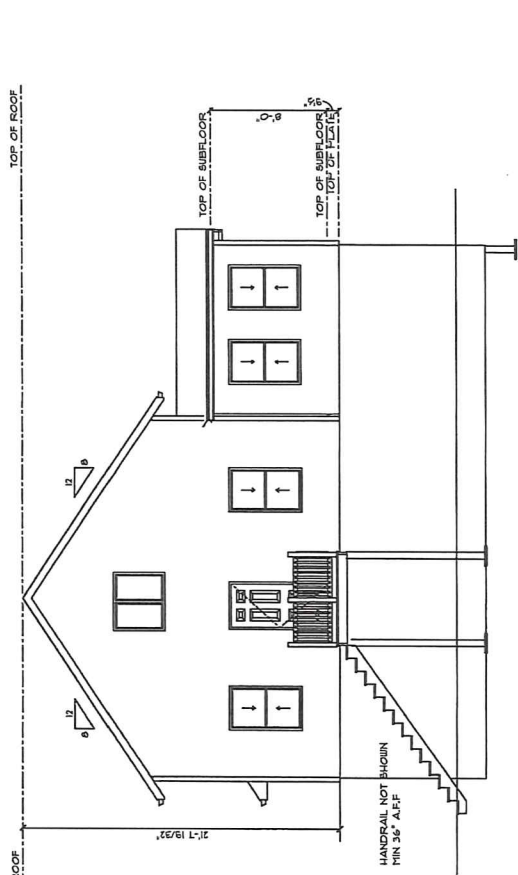
WEST
SCALE: 1/4" = 1'-0"



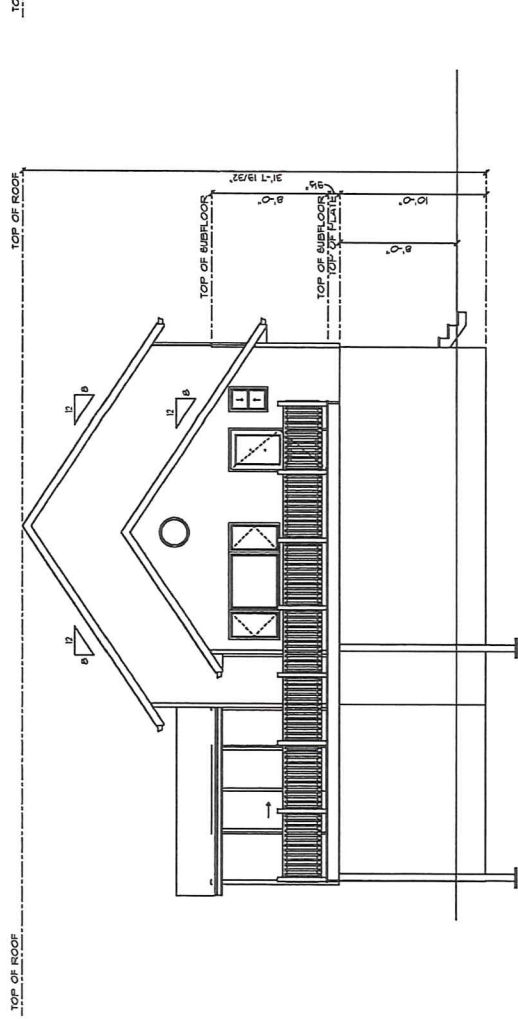
EAST
SCALE: 1/4" = 1'-0"



ENTRY
SCALE: 1/4" = 1'-0"



SOUTH
SCALE: 1/4" = 1'-0"



CHARLEVOIX COUNTY
Department of Building Safety
13513 Division St
Charlevoix, MI 49720
Phone: (231) 547-7236
Fax: (231) 547-7250

Soil Erosion

PERMIT

PERMIT: PS2023-0120
Issued: 09/11/2023
Expires: 09/10/2025

APPLICANT
WATSON PHILLIP J & PATRICIA K
1980 ROSEWOOD ST
VISTA CA 92081
Phone:

OWNER
WATSON PHILLIP J & PATRICIA K
1980 ROSEWOOD ST
VISTA CA 92081
Phone:
Fax:

JOB LOCATION: 37595 LAKE SHORE RD (PVT)
CITY/TWP: ST JAMES
PROPERTY #: 15-013-525-002-00

Under the provision of Part 91, Soil Erosion & Sedimentation Control, Act 451 of the Public Acts of 1994, and the Charlevoix County Stormwater Ordinance, authority is hereby granted for:

Work Description: NEW RESIDENTIAL HOME, WELL, SEPTIC & DRIVEWAY

Project Priority: Soil Erosion
Responsible Party: WATSON PHILLIP J & PATRICIA K


CEA Signature
Russell Smith

PERMIT CONDITIONS

- 1) The Permitted activity shall be completed in accordance with the approved plans and specifications, and the attached general and specific conditions.
- 2) This permit does not waive the necessity for obtaining all other federal, state or local permits.
- 3) Permittee shall notify the permitting agency within one week after completing the permitted activity or one week prior to the permit expiration date, whichever comes first.

REMARKS:

Permit Item	Work Type	Fee	Fee Basis	Item Total
Administration Fee	Standard Item		1.00	\$5.00
Res - SF Dwelling up to 1 Acre	Standard Item		1.00	75.00

THIS PERMIT WILL NOT TAKE THE PLACE OF ANY PERMIT THAT MAY BE REQUIRED BY THE
DEQ OR ARMY CORP. OF ENGINEERS. ISSUANCE OF THIS PERMIT WILL AUTHORIZE
ACCESS FOR ONSITE INSPECTIONS BY THIS DEPARTMENT DURING REASONABLE HOURS.

Fee Total: \$130.00
Amount Paid: \$130.00
Balance Due: \$0.00

POST THIS CARD SO IT IS VISIBLE FROM THE STREET.

GENERAL CONDITIONS

In accordance with Rule 1709 promulgated under the authority of Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and in addition to the information on the attached plan(s) and special conditions, the following general conditions apply to the earth change authorized by this permit:

- Design, construct, and complete the earth change in a manner that limits the exposed area of disturbed land for the shortest period of time.
- Remove sediment caused by accelerated soil erosion from runoff water before it leaves the site of the earth change.
- Temporary or permanent control measures shall be designed and installed to convey water around, through, or from the earth change at a non-erosive velocity.
- Install temporary soil erosion and sedimentation control measures before or upon commencement of the earth change activity and maintain the measures on a daily basis. Remove temporary soil erosion and sedimentation control measures after permanent soil erosion measures are in place and the area is stabilized. ("Stabilized" means the establishment of vegetation or the proper placement, grading, or covering of soil to ensure its resistance to soil erosion, sliding, or other earth movement.)
- Complete permanent soil erosion control measures for the earth change within five calendar days after final grading or upon completion of the final earth change. If it is not possible to permanently stabilize the earth change, then maintain temporary soil erosion and sedimentation control measures until permanent soil erosion control measures are in place and the area is stabilized.



Health Department of Northwest Michigan Charlevoix
220 West Garfield
Charlevoix, MI 49720
(231) 547-6523

Permit Issued To:
Phil Watson
1960 Rosewood St
Visla, CA 92081
(818) 389-3150

Mail Permit To:
KM Contractors
33260 East Side Dr
Beaver Island, MI 49762

Permitted Location:			
Address:	37595 Lake Shore Rd	Permit Number:	C23-279
County:	Charlevoix	Permit Type:	Septic and Well Permit
Township:	St. James	Section:	29
Subdivision:	Dongal Bay	Lot:	2
Tax ID #:	15-013-525-002-00	Replacement or Repair:	No
		Residential/Non-Residential:	Residential

Design Criteria			
Number of Bedrooms:	3	Soil Classification:	S (Sand)
Gallons Per Day:	375	Seasonal High Water Table:	=24 inches

System Design Specifications							
Septic Tank		Gallons	Proposed changes to permit must be approved prior to installation. Call our office at the number listed above if you have any questions regarding this permit.				
Pump Chamber		500					
Design Type	Absorption Area	Size of Pipe	Number of Laterals	Length of Drainbed	Width of Drainbed	Max. Depth of Bed Bottom	Pipe Spacing
Mound	750 Sq. Ft.	4"	6	30 Feet	25 Feet	N/A	4.33 Feet

Permit Requirements/Conditions:

1. Isolate all portions of the system a minimum of 50' from all water well(s).
 2. All riser lids must be manufactured to weigh a minimum of 50# to prevent unauthorized access to septic tanks and pump chambers.
 3. Septic tank(s) and pump chamber shall be low-profile, top-seam tanks, installed with seams above the water table.
 4. Buoyancy calculations, ballasting and pump sizing are the responsibility of the installation contractor.
 5. Contractor responsible for maintaining 10' from all property lines with any portion of the wastewater system.
 6. Drainfield replacement area not available.
 7. A benchmark (100') has been established for determining the relative elevation of the bottom of stone; 101.10 feet. See permit site plan / system design for benchmark location and detail.
 8. Wastewater system must remain uncovered for final inspection and approval.
 9. Contractor shall leave laterals uncovered and arrange for pump test with environmental health staff after all components have been installed.
 10. See attached design specifications for pump chamber installation.
 11. Pump and alarm must be on separate circuits.
 12. Mound systems must be constructed in accordance with section 5-22 and meet inspection requirements in section 4-15 of the District Sanitary Code. See attached Low Pressure Mound Design specifications.
 13. Very careful planning is required to assure well, septic and house can be placed on lot while meeting all setback and isolation requirements are met. (see drawing)
 14. Septic treatment and disposal system is designed for a maximum of three (3) bedrooms and a capacity of six (6) people.
 15. Maintain 100 foot setback to all-time high water mark of Lake Michigan, elevation 582.35 feet.
- ALL WELL PERMIT CONDITIONS**
1. Owner responsible to obtain a safe bacteriological water sample prior to use. Sample bottles available at health department offices.
 2. Well driller is required to submit a well record to the owner and the health department within 60 days of well completion.

3. Isolate the new well a minimum of 50' from any potential sources of contamination, including all portions of the septic system.

Issued by: Michael Jones, RS BSEH
EH Supervisor/Sanitarian

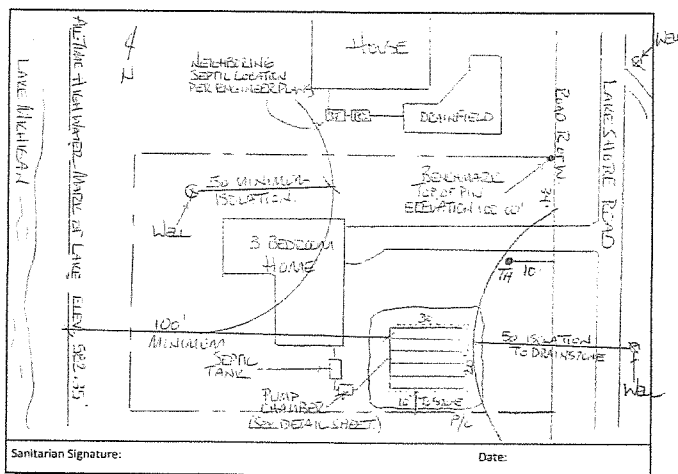
Date Issued: November 01, 2023
Permit Expires 2 years from date issued.

Site Plan Drawing Attached or on Reverse Side
Share your experience with us by visiting www.nwhealth.org and completing a client satisfaction survey.

PERMIT SITE PLAN / SYSTEM DESIGN

TaxID: 16 03 525-001-00

PERMIT NUMBER: 423 279



TH - Test Hole, ST - Septic Tank, PC - Pump Chamber, DF - Drainfield, BM - Benchmark, P/L - Property Line, FM - Force Main

BENCHMARK LOCATION: TOP OF SQUARE PIN AT NE LOT CORNER

RELATIVE ELEVATION: BENCHMARK ELEVATION: 100.00 ft.
BOTTOM OF STONE ELEVATION: 101.10 ft.

FINAL INSPECTIONS AND APPROVALS (Section 4-15): "The owner or owner's agent shall notify the Health Officer when the wastewater system is installed and the project is ready for inspection. Notification must be provided a minimum of **TWO (2) WORKING DAYS** prior to anticipated system completion and desired final inspection by the Health Officer."

BEFORE calling for final inspection: Make sure, at a minimum, the following that apply are **COMPLETED**:

- Septic tank, baffle, filters, solid outlet piping (sch40/SDR35), pump chamber and risers installed
- Riser Lids comply with **58 pound** weight standard (ASTM 1227 70-C)
- Pump installation is complete and ready for inspection
- Pump chamber is full of water and ready for pressure test, if applicable
- Alarm and floats are functional and energized
- All drainfield materials are installed and ready for inspection
- Filter Fabric is placed over stone

Fees may be charged for incomplete installations that require follow-up inspections for system Approval

FINAL INSPECTION WORKSHEET TaxID: _____ PERMIT NUMBER: _____

Residual Pressure Head: _____ inches

Wastewater System							Water Supply System						
	APP	UNAPP	NA	NOT DETER	NOT ACCESS	NOT INSTALL		APP	UNAPP	NA	NOT DETER	NOT ACCESS	NOT INSTALL
Tank Construction							Casing Material						
Buffer / 30' SCH40							12" Above Grade						
Inter/Weldsteel Lid							Well Cap & Seal						
Pump Installation							Well Location						
Forcemain Installation							Service Line						
Distribution Installation							Pressure Tank						
Verify Depth/Elev							Sample Tap - 8"						
Show Quality							PRV						
Filter Fabric							Well Plugged						
Pressure Test							Yes	No					
Approved w/Affidavit							Well Log Reached						
Installer: _____							Well Contractor: _____						

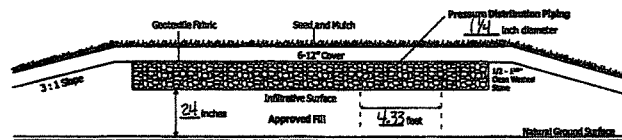
Installer: _____ Well Contractor: _____
 Partial Approval Date: _____ Sanitarian Initials: _____ Partial Approval Date: _____ Sanitarian Initials: _____
 Final Approval Date: _____ Sanitarian Initials: _____ Final Approval Date: _____ Sanitarian Initials: _____

Comments:

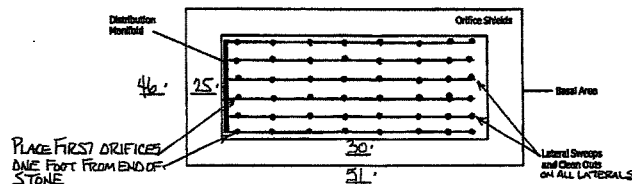
PERMIT NUMBER: C23-279

**ELEVATED ABSORPTION SYSTEM (MOUND)
LOW PRESSURE DISTRIBUTION**

DETAIL AND SPECIFICATIONS
3 - BEDROOM



Mound Plan View (Orifice Distribution)



Benchmark Information:

Location: T&P OF SQUARE METAL LOT PIN @ NE CORNER OF LOT

Benchmark Elevation: 100.00 feet

Bottom of Stone Elevation: 101.10 feet

Drainage:

Area: 150 sq. ft. (25 ' x 30 ') Mound Basal Area: 2346 sq. ft. (46 ' x 51 ')

Manifold:

Design: END Manifold

Diameter: 3 inch

Length: 25.7 feet

Laterals:

Number of laterals: 6

Diameter: 1 1/4 inch

Length: 25 feet

Dist. between laterals: 4.33 feet

Orifices:

Orifice diameter: 7/32 inch

Holes / lateral: 8

Distance between: 4 feet

Total # of orifices: 48

Low Pressure Distribution (LPD) systems require orifice shields and clean-out sweeps at lateral ends.

Dose:

Volume: 110 gallons

Residual Head: 4 feet

Min. Pump Discharge Rate: 55 GPM

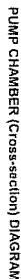
Force Main:

Force Main Diameter: 2 1/2 inch

Approx. Length: 30 feet

EH-101; 1/16

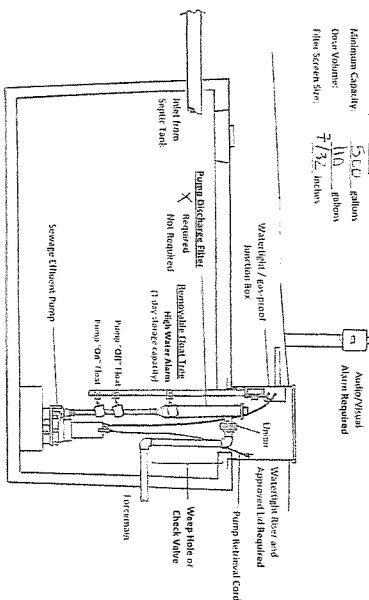
****Contractor is responsible for determining adequate pump sizing****



147.77

Maximum Burial Depth

Maximum Burial Depth: 29 inches
Minimum Capacity: 500 gallons
Dose Volume: 110 Robbers
Filter Screen Size: 7/32 inches



*** See Attached Pump Chamber Details Sheet ***

Confined Space Entry (29CFR, standard 1910.146)

Entering a Sagic Tank or Pump Chamber is considered entering a confined space, as defined and regulated by the Occupational Safety and Health Administration (OSHA). To prevent the necessary entry into the pump chamber, all equipment should be installed to be easily removed without entering the tank.

chamber shall be compacted, leveled

and free of stone or other material that could compromise the integrity of the tank bottom. Soils adjacent to the sidewalls of the tank shall be compacted using non-mechanical methods to prevent settling.

Watertight Construction (Section 5-2)
Pump chamber should be designed and installed to be watertight including: watertight seams, penetrations and access doors...

Buoyancy Considerations (Section 5.2)
In areas of high groundwater contamination, septic tank buoyancy calculations should be provided to the Health Officer for review and necessary ballasting provided.

of

All electrical installations should be done under permit and receive approval from the building department.

PUMP CHAMBER DETAILS

Inlet from Septic Tank:
The inlet from the septic tank must be 4" Schedule 40 or SDR35. (Section 5-6)

Audio-Visual Alarm:
An audio-visual alarm must be provided. The alarm control box should be watertight, set on a post or other conspicuous location and connected through the septic tank riser to an electrical junction box (see below) by approved electrical conduit. (Section 5-7)

Watertight / Gas-resistant Junction Box:
A watertight junction box should be provided for all pumps, floats, and alarm controls and electrical connections. The junction box should be corrosion and gas resistant. The alarm and pump are required to be installed on separate electrical circuits.

Watertight Septic Tank Riser and Appurtenances:
Risers provide access to pump and pumping equipment and allow for proper septic tank maintenance. All septic tank risers should have a watertight connection to the septic tank and be equipped with a lid designed to prevent unauthorized access by meeting a minimum weight standard of 59 pounds (ASTM 1227 70-C). (Sections 5-7 and 5-9)

Quick Connect Union:
A quick connect union should be provided for ease of pump removal and maintenance and to prevent the need to access the septic tank to remove the pump*. The union should be within arm's reach of the top of the access riser. (Section 5-7)

Removable Float Valve:
A removable float valve provides access to floats without entering the septic tank* (Section 5-7), and prevents floats from tangling and/or interfering with each other. Floats should include a high water alarm, pump-on / pump-off, low water redundant off (optional) and should be positively secured to the float line (ie. screws, zip ties).

Pump Retrieval Cord:
A cord of corrosion-resistant, durable material connected to the pump and secured within the inside of the septic tank riser shall be provided to allow for retrieval of pump without entering the septic tank*. (Section 5-7)

Sewage Effluent Pump:
Sewage effluent pumps should be elevated above the septic tank floor, by blocking, using suspended pump vaults or other means, to prevent pumping solids to final disposal and premature pump failure.

Pump Discharge Filter:
Pump discharge filters are required when pumping to a **low-pressure distribution (LPD) system**. The maximum discharge filter opening or screening size shall not exceed the maximum orifice size in the distribution network. Pump discharge filters are not required when pumping to 4" distribution systems. (Section 5-8)

Wipe Hole or Check Valve:
A wipe hole must be provided for force main lengths less than 100' to evacuate force main between pump cycles. Those force main lengths greater than 100' must utilize a check valve to prevent large volumes of back flow from short cycling the pump and encouraging premature pump failure.

Forcemain Construction:
Force mains shall be constructed of schedule 40 PVC, SDR 21 or equivalent. Tracer wire shall be required for all forcemain installations that go offsite or are greater than 300' in length. (Section 5-20)

* Entering a septic tank is considered entering a confined space as defined and regulated by the Occupational Safety and Health Administration (OSHA).

All regulated electrical work requires an electrical permit through the Antrim, Charlevoix, Emmet and Oshtemo County Building Departments

**VEGETATION ASSURANCE PLAN FOR A NEW HOME
TBD LAKESHORE RD (A PRIVATE ROAD), ST JAMES TOWNSHIP,
BEAVER ISLAND, CHARLEVOIX COUNTY
SEPTEMBER 21, 2023**

Property: Tax ID Number 013-525-002-00; This lot is located within Donegal Bay Subdivision as Lot 2 and was recorded on 10/17/1963.

Project site description: This property is situated on Lake Michigan at Donegal Bay, located in the northwest portion of Beaver Island. The property is an open dune, relatively flat with the foredune near the beach and the crest located about 130' to the east, on the east side of Lakeshore Rd, likely at the top of the slope at the houses across the street (and further to the south are large blowout active dunes). This dune identification was confirmed by Mr. Zach Chamberlin of EGLE.

Because the lot was recorded before 7/5/1989, the applicant is entitled to place a home on this property. **The project is to be located on the landward side of the foredune – as far from the foredune as possible.** A licensed professional engineer (LPE) is required to create a site plan given the increased erosion caused by the near location of the foredune, even if the project is located far from the foredune. The construction will likely result in contour changes or vegetation removal that will increase soil erosion given the sensitive foredune. Roof drainage is to be considered by the LPE to avoid water/wind erosion.

The applicant should be aware that this lot is not an ideal location to place a home. A home on this small lot located close to the foredune will make the home highly susceptible to damage from erosion should water levels rise in the future as there is not sufficient depth on the lot to place a home a safe distance landward.

The construction site contains the following plant species:

Invasive species

Sweet white clover (*Melilotus alba*)

Non-native species

Bladder campion (*Silene vulgaris*)

Threatened/endangered species

None in the construction site

Native species at construction site

Northern white-cedar (*Thuja occidentalis*)

White spruce (*Picea glauca*)

Balsam fir (*Abies balsamea*)

Balsam poplar (*Balsamea populoides*)

Common juniper (*Juniperus communis*)
Buffaloberry (*Shepherdia canadensis*)
Bearberry (*Arctostaphylos uva-ursi*)
Sand cherry (*Prunus pumila*)
Shrubby cinquefoil (*Dasiphora fruticosa*)
Wormwood (*Artemisia campestris*)
Beach pea (*Lathyrus japonicus*)
Plains puccoon (*Lithospermum carolinense*)
White death-camas (*Zigadenus elegans* ssp. *glaucus*)
Starry false Solomon's seal (*Maianthemum stellatum*)
Smooth aster (*Aster laevis*)
Oakes' evening-primrose (*Oenothera oakesiana*)
Gillman's goldenrod (*Solidago simplex*)
Marram grass (*Ammophila breviligulata*)
Sand reed grass (*Calamovilfa longifolia*)
Little bluestem (*Schizachyrium scoparium*)

Proposed development: This project is for the placement of an existing 50.5' by 36.6' home with a 12' by 25' addition with an added upper-level deck on the lakeward side and south side. This home will be moved from a site located on Paradise Bay (the Beaver Island Harbor). The lower floor will contain a garage. A 5' wide maintenance path will be built between the house and the beach, with posts hand dug. A driveway, well, and septic system need to be constructed.

One large balsam poplar (*Balsamea populoides*) needs to be removed. Care should be taken to not damage the foredune during removal.

Special considerations: No threatened or endangered species were found at the actual construction site. Because threatened species ((Pitcher's thistle (*Cirsium pitcheri*) and Lake Huron tansy (*Tanacetum bipinnatum* ssp. *huronense*)) were found on the foredune of the property, it is recommended that the house be moved east (landward) from its current proposed site.

Proposed actions for maintaining site stability during and after construction: Soil and sedimentation control measures will be placed in accordance with the Part 91 Permit. Gutters, downspouts, and French drains will be placed according to the engineered plans.

Proposed revegetation of the site: The disturbed areas around the project, except for the septic tank/field will need some vegetation planted using indigenous plants, such as

bearberry, sand cherry, and common juniper. The owner is required to monitor the plant growth over a two-year period. Any plants that fail to grow are to be replaced.

This report was prepared by R.S. Welke with professional input from Drs. Beth and Ed Leuck, retired biology professors who were associated with the Central Michigan University Biological Station on Beaver Island for over 30 years. Dr. Ed Leuck has written a book on the Beaver Island flora (*The Plants of Beaver Island*).