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MEMORANDUM

- To: City of the Village of Douglas Planning Commission
- Date: November 30, 2022
 - Tricia Anderson
- From: Andy Moore, AICP
 - **RE:** Centre Collective Commercial Mixed-Use Development Site Plan Review

Mr. Jeff Kerr of Kerr Real Estate has submitted an application for Site Plan and Special Land Use approval for a commercial mixed-use development and ground floor residential on the southerly 3.04 acres of the parcel located at 324 West Center Street. The subject site is generally located just west of the Center Street and Blue Star Highway intersection on the north

side of Center Street and is zoned C-1, Village Center District. The City's Master Plan has given the subject site a future land use designation of Residential Mix, Up to 10 Units/Acre.

The proposed development is planned to provide the following improvements:

- Four 2-story commercial mixeduse buildings
- 59 residential units, both ground floor and second floor (19.4 units per acre)
- Private internal roads/access
 drives



- Connections to public water and sewer from Center Street
- 136 parking spaces, including 59 covered carport spaces for residents
- Site lighting
- Landscaping
- Pedestrian pathways connecting to the proposed site condo to the north and to the Beach to Bayou Trail along Center Street
- Stormwater management facilities
- Bike racks

Procedure. The Planning Commission is tasked with reviewing the site plan and special land use and providing an approval, denial, or tabling of the requests. The Planning Commission is the final approving authority for both requests. A separate motion for each request will be required.

Review. The following documents have been provided by staff and the applicant for your review and reference:

- Full engineered plan set by Callen Engineering, dated 11/11/22
- Detailed narrative by Ryan Kilpatrick, dated 11/22/22
- Architectural drawings by R2 Design Group, dated 10/21/22
- Photometric plan by George F. Kruggel, dated 11/1/22
- Phase 1 Environmental Assessment by Sierra Environmental Consultants, LLC, dated 3/1/21
- Geotechnical Report by Soils & Structures, dated 3/27/20
- Wetland Delineation Report by Aamazon Natural Resources Consulting, dated 6/21
- Traffic Impact Study by Fleis & Vandenbrink, dated 11/10/22
- SPRC review comments from City Engineer and City Planner

A Site Plan Review Committee (SPRC) meeting was held on 9/22/22 and the applicant was provided with comments and recommendations from the City Engineer, City Planner, Fire Department, and City Manager. The applicant has responded to our concerns with a revised plan after one subsequent staff-level plan review. The most recent plan revision was reviewed pursuant to the Article 24, Site Plan Review, Article 25, Special Use Procedures, and Article 26, Special Use Standards. Accordingly, we offer the following remarks as it pertains to items that must still be addressed or clarified:

Article 10, C-1 Village Center District names ground floor residential a special land use, and therefore subject to the standards of Section 26.13. Residential above retail or office is permitted by right in this zoning district.

Site Plan Review, Article 24, Section 24.02, Data Required

 <u>Section 24.02(8)</u> Proposed streets, driveways, parking spaces and sidewalks, with indication of direction of travel, the inside radii of all curves including driveway curb returns, the width of streets, driveways and sidewalks, the total number of parking spaces, and dimensions of a typical individual parking space and associated aisles. This will also include a free and open general public pedestrian access in a form approved by the City Attorney to adjacent property or development unless waived by the Planning Commission as being unpractical or unreasonable due to topographical, natural barrier or similar type of reason.

Remarks: The spaces along the north boundary of the site are identified as "carport" spaces, which would imply that they are covered, as shown in the architectural rendering. The site plan should show the location of the support posts, as their location may limit the actual width of parking stalls that are adjacent to them. Additionally, the applicant is strongly encouraged to add barrier-free covered parking stalls for residents. As designed, there are no ADA parking accommodations for residents.

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As it pertains to the requirement of internal radii of all curves within the drive aisles, these have been provided, however, the applicant was advised to provide a turning template to ensure that a large box truck would be able to complete a turn without clipping a curb or a parked car. This has not been provided.



 Section 24.02(12) A landscaping plan indicating the locations of planting and screening, fencing, and lighting in compliance with the requirements of Article 21. Also, proposed locations of common open spaces, if applicable.

Remarks: The applicant was asked to provide clarification on the location of the proposed trees along the northern boundary behind the carports. The trees are located in the rear yards of the proposed site condo lots to the north. The applicant must find an alternative solution for locating the trees while still providing the required buffer between the residential and the commercial. There are also some unlabeled lines in this area that are creating some confusion.

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 Section 24.02(12) Traffic Impact Study. The Zoning Administrator or Planning Commission may require that a traffic impact study completed by qualified professional be prepared as an attachment to a site plan submitted for any development in the City meeting the requirements of this section. The purpose of this section is to set forth the standards to be used by the Zoning Administrator or Planning Commission in requiring the submission of such a traffic impact study, the required minimum content of such a study and the standards and procedures for the review of its findings.

Remarks: The applicant provided a traffic impact study (TIS) that covers both the proposed mixed-use development and the proposed residential development to the north. The proposed road configurations and redundancies have changed and the applicant was asked to provide an updated TIS. Recommendations from the updated TIS are shown below:

10 RECOMMENDATIONS

The recommendations of this TIS are as follows:

- Update the existing signal timing at Blue Star Hwy, & W. Center St. to reflect current clearance intervals
 and optimize the signal timing with the addition of the proposed development traffic.
- Provide a right-turn taper on Center Street at the proposed SE. Site Drive.

The applicant will need to work with the City on the timing of the implementation of these recommendations.

 24.02(5) Project description, including the total number of structures, units, bedrooms, offices, square feet, total and usable floor area, carports or garages, employees by shift, amount of recreational and open space, type of recreation facilities to be provided, and pertinent information or information otherwise required by this Ordinance.

Remarks: The applicant has not provided any floor plans for the residential dwellings. Square footages and unit types have been provided; however, the layouts of the units are not known.

DWELLING UNIT DENSITY		UNIT MATRIX	RESIDENTIAL (UNITS)
DWELLING UNITS / ACREAGE: DWELLING UNITS = 59 UNITS / 3,04 ACRES) =		STUDIO	9
	59 UNITS	ONE BEDROOM	38
	19.4 UNITS PER ACRE	TWO BEDROOM	12
		TOTAL:	59

As it pertains to the density of the residential units per acre, the Zoning Ordinance is silent on maximum density for mixed-use developments. The Master Plan's future land use designation of "Residential Mix, Up to 10 Units Per Acre" would perhaps apply to the maximum density if the applicant is requesting to rezone the parcel. The proposed use aligns with the goals and vision of the Master Plan for this area of the City.

The Master Plan is the guiding policy document for the City's decision-makers and provides additional language related to the future of economic development. In this language, the City is encouraged to "allow for more flexibility of building types and heights within the downtown to help offset land and development costs, while ensuring compatibility with the surrounding neighborhood".

In making its decision on allowing the proposed density, the Planning Commission should take into consideration the detailed narrative provided by the applicant which points out the benefits of the development as it pertains to the goal to provide yearround, attainable housing to meet the needs of the community and the local workforce.

Since the Zoning Ordinance is silent on a required density calculation and max density for mixed-use developments, the Planning Commission may make a discretionary decision to allow the proposed 19.5 units per acre, based on the goals and vision of the Master Plan and the opportunity to provide attainable year-round housing with this development.

Special Land Use Procedures, Article 25, Section 25.03(4), Special Use General Standards

- a) Be compatible with the size, type and kind of buildings, uses and structures in the vicinity and on adjacent property in terms of location, size, height, and intensity of the principal and/or accessory operations
- b) Be consistent with and promote the intent and purpose of this Ordinance.
- c) Be compatible with the natural environment and conserve natural resources and energy.
- d) Be consistent with existing and future capabilities of public services and facilities affected by the proposed use.
- e) Protect the public health, safety, and welfare as well as the social and economic well-being of those who will use the land use or activity, residents, businesses and landowners immediately adjacent and the City as a whole.
- *f)* Not create any hazards arising from storage and use of flammable fluids or other hazardous substances.

- g) Not be in conflict with convenient, safe and normal vehicular and pedestrian traffic routes, flows, intersections, and general character and intensity of development. In particular,
 - 1. the property shall be easily accessible to fire and police;
 - 2. not create or add to any hazardous traffic condition.
- h) Be of such a design and impact that the location and height of buildings, the location, nature and height of walls, fences and the nature and extent of landscaping on the site shall not hinder or discourage the appropriate development and use of adjacent land and buildings or impair the value thereof
- *i)* That in the nature, location, size and site layout of the use, be a harmonious part of the district in which it is situated taking into account, among other things, prevailing shopping habits, convenience of access by prospective patrons, the physical and economic relationship of one type of use to another and characteristic groupings of uses of said district.
- *j)* That in the location, size, intensity and site layout be such that operations will not be objectionable to nearby dwellings, by reason of noise, fumes, pollution, vibration, litter, refuse, glare or flash of lights to an extent which is greater than would be operations of any use permitted by right for that district within which the special use is proposed to be located.
- *k)* The Planning Commission shall consult the Tri-Communities Comprehensive Plan to determine if such proposed special use is compatible with the future planned use of surrounding property. The duration of the permit may be limited only if such use is clearly temporary in nature.

Remarks: The proposed land use of ground floor residential appears to meet the general standards for special uses.

Article 26, Special Use Standards, Section 26.13(2) Site Requirements for Ground Floor Residential in C-1

- All residential dwelling units on the ground floor of a structure located within the C-1 District shall be set back a minimum of thirty (30) feet from the Center Street right-of-way to avoid breaking up the continuity of active commercial areas along Center Street.
- b) All ground floor structures used for residential purposes shall be located on property which abuts property zoned R-1, R-2, R-3, R-4 or R-5 on at least one side.
- c) The Planning Commission shall make a determination that the regular flow of pedestrian traffic to and from established commercial uses is not likely to be

negatively reduced or impeded by the residential use within a ground floor structure.

- d) Any application for Ground Floor Residential use within the boundaries of the Downtown Development Authority shall be submitted to the DDA Board for recommendation prior to Planning Commission approval.
- e) All standards of Article 10 C-1 Village Center District shall apply to a ground floor residential use except that the minimum transparency requirements set forth within Section 10.02, D, may be reduced to no less than 30% to insure the safety and privacy of residents.

Remarks: Part d) does not apply as the subject site is not within the DDA boundary. All other standards appear to be met.

Recommendation. The Planning Commission should carefully consider the facts presented in this memorandum as well as comments from the public, the Planning Commission, and the applicant. In our view, the plan is approvable with conditions that are manageable for staff to follow up on. If the Planning Commission is inclined to offer an approval of the site plan and special use permit for the mixed-use development located at 324 West Center Street, per the plan set last revision dated 11/11/22, it is recommended that it be subject to the following conditions:

- 1. The applicant shall address all items outlined in the City Engineer's memorandum dated 11/30/22.
- 2. The applicant shall address any and all items required by the Fire Department.
- 3. The applicant shall provide the location of the support posts within the carports to demonstrate that the width will not be diminished for any stall.
- 4. The applicant shall consider creating barrier-free spaces within the carports.
- 5. The applicant shall provide a truck-turning template for review by the City Engineer to demonstrate that there is sufficient space for delivery trucks maneuvering 90-degree turns on the interior of the site.
- 6. The applicant shall revise the landscape plan to relocate trees from the rear yards of the proposed residential site condo along the northern site boundary while still maintaining the required number of plantings and buffering between residential and commercial land uses.
- 7. The applicant shall work with the City's Department of Public Works to determine the timeframe for implementation of the TIS recommendations as it pertains to signal timing and the construction of a right-turn taper lane.
- 8. The applicant shall provide a floor plan for each residential unit type, prior to the issuance of any building permits.

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As always, please feel free to contact us with questions.

WETLAND AND THREATENED SPECIES REVIEW AND SITE ASSESSMENT Centre Collective, Village of Douglas, Allegan County, Michigan

BACKGROUND

Plans are underway for the development of a new residential community in the Village of Douglas, on the western edge of Allegan County, in southwest Michigan. Client requested that Aamazon Natural Resources Consulting, LLC (ANRC) conduct a review regarding the potential

for the occurrence of wetlands on the proposed tower site property, and the potential for occurrences of State-protected or federally protected plant or animal species on or near the project area.

The site is located on the north side of Center Street, just west of Highway A2, in the Village of Douglas, Saugatuck Township (Section 16, T3N, R16W). See location map, right.



SUMMARY OF FINDINGS

Wetlands: This site has a small area of wetland but it doesn't meet the criteria to be regulated. No Michigan Department of Environment, Great Lakes, and Energy (EGLE – formerly Dept. of Environmental Quality) wetland or stream permit should be required for the project as proposed.

Protected species: No impacts to any protected plant or animal species are anticipated for the project as proposed. No effects are anticipated for any federally listed species.

This regulatory opinion is subject to review and concurrence by EGLE, the Michigan Dept. of Natural Resources, and the U.S. Fish & Wildlife Service, who are the regulatory authorities in such matters.

> Right: Aerial view of project area and approximate project limits



WETLANDS

Existing Wetland Maps

The National Wetlands Inventory (NWI) map for this area (right), from the U.S. Fish & Wildlife website, shows an area of forested wetland (PFO1C) mapped within the proposed project area.

The Wetlands Map for this area (below right) from the MDEGLE website shows an area of wetland and an area of potentially hydric soil mapped within the proposed project area. Shaded areas indicate potential for hydric soils (yellow) and wetland (green).

MDEGLE offers this disclaimer: "This map is not intended to be used to determine the specific locations and jurisdictional boundaries of wetland areas subject to regulation under Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended."

Note: NWI and Wetland Inventory maps are not definitive, are generally inaccurate at a site-specific scale, are not field-verified, and are intended only as a general indicator of the possible presence of wetland and/or hydric soils.







Soils

There is an indication of hydric soils in the project area (code 45, Pewamo silt loam). However, most soils within the proposed project area on this site are mapped by the USDA Soil Survey (left) as primarily sand, loamy sand, and sandy loam, all non-hydric. See soils descriptions following.

27B, Metea loamy fine sand, 1 to 6

percent slopes: is classified as well drained, has a water table estimated at greater than 80 inches, and typically has no flooding or ponding. Hydrologic group is B, and this soil type is <u>not</u> rated as hydric.

28A, Rimer loamy sand, 0 to 4 percent slopes: classified as somewhat poorly drained, has a water table estimated at about 12 to 30 inches, and typically has no flooding or ponding. Hydrologic group is C/D, and this soil type is <u>not</u> rated as hydric.

33A, Kibbie fine sandy loam, 0 to 3 percent slopes: classified as somewhat poorly drained, has a water table estimated at about 12 to 24 inches, and typically has no flooding or ponding. Hydrologic group is B/D, and this soil type is not rated as hydric.

45, Pewamo silt loam: classified as poorly drained, has a water table estimated at or near the surface, typically has no flooding, but may

Aamazon Natural Resources Consulting Page 3

Hydrologic Soil Groups

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas, and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes. In Group D, soils have a very slow infiltration rate (high runoff potential) when thoroughly wet. These include: clays with a high shrink-swell potential, soils with a high water table, soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

pond frequently. Hydrologic group is C/D, and this soil type is rated as hydric.

72B, Urban land – Oakville complex, 0 to 6 percent slopes: classified as well drained, has a water table estimated at more than 80 inches, and typically has no flooding or ponding. Hydrologic group is A, and this soil type is <u>not</u> rated as hydric.

Please note: USDA soil data is generated primarily by remote interpretation, and the information in soils survey data is not confirmed by field-truthing. It is generally inaccurate at a site-specific scale.

Floodplain

The site is not in a FEMA-designated floodplain. See FEMA map panel excerpt, right.





Site Description

This property is a mostly level wooded site, with a mature forest in the center and mowed lawn areas along Center Street. Soils are primarily sandy loam or loamy sand. In some parts of the site, the sandy loam sits over a thin clay lens at a depth of about 18 to 22 inches.

A USGS historic aerial photo from 1997 (left) shows much of the site cleared, with a patch of woods in the northwest part.

An aerial photo from early spring 2011 (left) shows a slightly darker patch of soils in the west center of the site. There is a shallow topographic depression in this area, and it is likely that there was annual ponding in that location.

A large percentage of the remaining vegetation on the site consists of non-native species, though there are also many mature and robust oak, maples, and pines.

There is a man-made dry swale in the north end

that conveys surface runoff to the northwest into a culvert going under West Shore Street. This swale does not meet the statutory definition of a stream. To be a stream it requires a) definite banks, b) a bed, and c) visible evidence of continued flow. This has gently sloped banks, but not naturally occurring banks. The lower part of the swale is not scoured and shows no apparent channel, and no evidence of continuing or intermittent flow. (See photo, right.) Vegetation in the swale is very sparse due to it being heavily shaded and full of leaves, and it does not contain wetland species, with the exception of a few feet in a depression at the very west end around the culvert under West Shore Street.

At the time of the second site visit, much of the understory on the site had been cleared, and the ground layer was very heavily disturbed. (See photo below.)





Dry swale east end (above), west end (below)



On-site Survey Summary

We visited the site on May 20 and June 14, 2021. Temperatures were typical for those dates, and no recent extraordinary rain events had occurred. On-site investigation included a survey of dominant plant species in order to characterize habitat types and to document a dominance of upland or wetland indicator plant species, to identify areas meeting the criteria for the State of Michigan definition of wetlands. This survey is not to be construed as a complete inventory of all species which may be present throughout the growing season, but is intended to present representative dominant species for purposes of generally documenting and assessing habitat type. Please see Appendix 2 for a complete plant list.

Area	Predominant Vegetation	Soils	Hydrology
Mowed	d Canada bluegrass, Kentucky bluegrass, Disturbed and am		No hydrologic
upland	common dandelion, plantain spp.	variable depth topsoil over loamy	indicators
		sand, 10YR 4/3 to 4/4	
Unmowed	Autumn olive, hybrid honeysuckle,	Disturbed – may have been	No hydrologic
upland	Japanese honeysuckle, multiflora rose,	farmed at one time	indicators
meadow and	alternate-leaved dogwood, privet spp.,		
scrub	Japanese barberry, Asian yew, red-	Generally:	
	cedar, sassafras, oak spp. seedlings,	Loamy sand, 10YR 3/2 to 5/4	
	common mullein, Orchard grass, sweet		
	vernal grass, Hungarian brome grass,	No saturation or groundwater	
	miscanthus grass, timothy grass,	encountered to a depth of at	
	Canada bluegrass, Kentucky bluegrass,	least 22"	
	white clover, hairy vetch, European ivy,		
	white-top aster, ox-eye daisy, common		
	dandelion, ground ivy, self-heal,		
	motnerwort, graceful sedge, stellate		
	seage, Swan's seage, common		
	milkweed, periwinkie, gariic mustard,		
	rush samman shiskusad field garlis		
	nush, common chickweed, field ganic,		
Lipland	White pipe, block observe red order	0.12" loomy and 10VP 4/2 4/4	No hydrologia
upianu woods and	Scots nine, white ash, cataloa, white	13-16" clay 10VR 6/2	indicators
scrub	mulberry sugar maple red maple red	$w/\sim 10^{\circ}$ mottles 7 5VR 5/6	Indicators
30100	oak white oak black oak basswood	16-20" sand 10YR 6/2	
	Asian vew sassafras honevsuckle	20-26" sand 10YR 5/3	
	spp_alternate-leaf dogwood_poison	26"+ sand 10YR 4/4	
	ivv. Oriental bittersweet, barberry.		
	autumn olive. Jack-in-the-pulpit. ladv	Sand at about 24" damp but not	
	fern, sand sedge, garlic mustard,	saturated	
	dame's rocket, self-heal, ground ivy		
Wet woods	Silver maple, red maple, box-elder,	0-15" clay loam, 10YR 3/2	Topographic
	sour-gum, aspen, cottonwood,	15-18" loamy clay, 10YR 4/3	depression,
	spicebush, stinging nettle, poison ivy,	18-23" clay, 10YR 5/4	buttressed tree
	Virginia creeper, spinulose woodfern,	w/~10% mottles 7.5YR 4/4	roots, stained
	ostrich fern, sensitive fern, yellow-	23-27" sandy clay, 10YR 5/3	leaves
	fruited sedge, deer-tongue grass, fowl	w/~20% mottles 7.5 YR 4/3	
	manna grass, reed canary grass,	27"+ clayey sand, 10YR 5/4	
	common reed, jewelweed, white avens	w/no saturation or groundwater	
		to at least 30"	

In Michigan, a wetland is defined as a community that supports a predominance of plants that are found 50% or more of the time in wetland habitats (each plant species is assigned an indicator status that gives a probability of its occurrence in wetland). Plants with an indicator status of UPL are upland plants. Plants with an indicator status of FAC to FACW to OBL are indicators of wetland conditions.

In making this delineation, we used techniques outlined in the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0). Methodology included investigation and analysis of vegetation, soils, and hydrology, to the extent possible, given the highly disturbed nature of the site.



Above: Approximate extent of site wetlands (less than an acre)

State Regulation

The wetland on this site is less than five acres, is not contiguous to a water body, has no surface flow connection to a water body, and contains no plant or animal species of concern. It would not be regulated under Michigan law.

Michigan is one of two states that have assumed Section 404 (Clean Water Act) administration from the federal government. Michigan wetlands are regulated under Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended. In Michigan, a wetland is defined as a community that supports a predominance of plants that are found 50% or more of the time in wetland habitats (each plant species is assigned an indicator status that gives a probability of its occurrence in wetland).



Looking north toward Center St. - Trees marked to save

Not all wetlands are regulated. In accordance with Part 303, wetlands are regulated if they are any of the following:

- Connected to one of the Great Lakes or Lake St. Clair.

- Located within 1,000 feet of one of the Great Lakes or Lake St. Clair.

- Connected to an inland lake, river, or stream.

- Located within 500 feet of an inland lake, pond, river or stream.

- Not connected to one of the Great Lakes or Lake St. Clair, or an inland lake, pond, stream, or river, but are more than 5 acres in size.

- Not connected to one of the Great Lakes or Lake St. Clair, or an inland lake, pond, stream, or river, and less than 5 acres in size, but the DEQ has determined that these wetlands are essential to the preservation of the state's natural resources and has notified the property owner.

Under Part 303, a person may not do any of the following to a regulated wetland without a permit:

- Deposit or permit the placing of fill material.

- Dredge, remove, or permit the removal of soil or minerals.

- Construct, operate, or maintain any use or development.

- Drain surface water.

To obtain a permit to impact regulated wetlands, the applicant must demonstrate that there are no feasible or prudent alternatives to accomplish the basic project purpose, and that the impacts have been minimized to the greatest extent practicable.



Looking toward northeast part of property

Federal Regulation - Waters of the United States (WOTUS)

In December 2018, the Michigan Legislature amended numerous sections of Public Act 451 of 1994 (Natural Resources and Environmental Protection) including sections pertinent to wetland and water resources protection.

The State definition of "inland lake or stream" was previously as follows:

A natural or artificial lake, pond, or impoundment; a river, stream, or creek which may or may not be serving as a drain as defined by the drain code of 1956, 1956 PA 40, MCL 280.1 to 280.630; or any other body of water that has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water, including the St. Marys, St. Clair, and Detroit Rivers. Inland lake or stream does not include the Great Lakes, Lake St. Clair, or a lake or pond that has a surface area of less than 5 acres.

The definition was expanded to include any "water of the United States" as defined by The Federal Water Pollution Control Act (commonly known as the "Clean Water Act"). The existing regulatory definition of "waters of the United States" is:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters including interstate wetlands;

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

- c. Which are used or could be used for industrial purposes by industries in interstate commerce;
- 4. All impoundments of waters otherwise defined as waters of the United States under this definition;

5. Tributaries of waters identified in paragraphs (1) through (4) of this section;

6. The territorial sea;

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

So technically, they could arbitrarily regulate any waters of any size under 3(a), use "by interstate or foreign travelers for recreational or other purposes."

The State definition of "wetland" was also significantly amended:

A land or water feature, commonly referred to as a bog, swamp, or marsh, inundated or saturated by water at a frequency and duration sufficient to support, and that under normal circumstances does support, hydric soils and a predominance of wetland vegetation or aquatic life. A land or water feature is not a wetland unless it meets any of the following:

- Is a water of the United States as that term is used in Section 502(7) of the Clean Water Act;

- Is contiguous to the Great Lakes, Lake St. Clair, an inland lake or pond, or a stream. "Pond" does not include a farm or stock pond constructed consistent with the exemption under Sec. 30305(2)(G).

- Is more than 5 acres in size.

- Has the documented presence of an Endangered or Threatened species.

- Is a rare and imperiled [type of] wetland. Starting in 2019, the DNR may recommend changes to this list every five years.



Soil pit - looking toward east side of property

Conclusions

Based on the site visits, and a review of known data, including NWI maps, aerial photos, soils data, and FEMA maps, there are no indications that the site contains regulated wetland. There is a small non-contiguous area of wetland in the center of the property, containing wetland vegetation, wetland soils, and wetland hydrology.

The project as proposed should not require any EGLE permit for wetlands or streams under Part 301 (Inland Lakes & Streams) or Part 303 (Wetland Protection) of PA 451 of 1994, the Natural Resources and Environmental Protection Act.

This report summarizes findings in a format intended to provide easily understood information. We can provide a more detailed technical basis for our conclusions if needed. Soils and water table information in this report relate to State and federal wetland determination methodology. Due to the dynamic nature of wetlands, this wetland review is valid for three years. In the event that conditions on this site or adjacent sites should change, the site should be reviewed again prior to construction. This regulatory opinion is subject to review and concurrence by the Mich. Dept. of Environment, Great Lakes, and Energy, who is the regulatory authority in such matters.

THREATENED AND ENDANGERED SPECIES

A review of Michigan Natural Features Inventory (MNFI) records for State-listed and federally listed species of concern within Allegan County identified historic occurrence records for 157 protected species and species of concern. See complete listing in Appendix 1.

Habitat for each identified protected species was reviewed. The species on this list are not likely to occur within the proposed project area due to the absence of appropriate habitat.

There are MNFI occurrence records for several federally listed species for Allegan County:



- Rusty-patched bumble bee (LE): Three records for this county, most recent 1964. Foraging habitat includes dunes, marshes, forests, farmland, and urban areas. A habitat generalist, it is unlikely to be impacted by this project.

- Pitcher's thistle (LT): Three records for this county, most recent 2013. Found in near-shore open sand dunes with sparse vegetation. Habitat not present here.

- Karner blue butterfly (LE): 27 records for this county, most recent 2017. Uses open sandy areas with lupine, not present on this site.

- Northern long-eared bat (LT): One record for this county from 2000. Lives in deciduous or mixed hardwood-coniferous forests with loose-barked trees, tree hollows, or caves and crevices. There are no known hibernacula or roost trees in Allegan County. USFWS has declined to define Critical Habitat for this species, and states: "Northern long-eared bats use a wide variety of forested areas in summer to find food and raise their young and are highly flexible in how they meet these needs. As such, there are no specific physical habitat features essential to its conservation. In addition, the bat's summer habitat is not limited or in short supply, habitat loss is not a predominant threat, and there are no areas that meet the definition of critical habitat."

- Eastern massasauga rattlesnake (LT): 20 records for this county, most recent 2020. This species was upgraded to Threatened status as of Oct. 31, 2016 for its federal listing status and will be upgraded for State-Threatened next time the State list is updated. Impacts to this species can be avoided or minimized by conducting activities during the snakes' inactive season (November through early March). However, habitat for that species is not present within the project area. From the MNFI website:

"Eastern Massasaugas have been found in a variety of wetland habitats. Populations in southern Michigan are typically associated with open wetlands, particularly prairie fens, while those in northern Michigan are known from open wetlands and lowland coniferous forests, such as cedar swamps... Massasauga habitats generally appear to be characterized by the following: (1) open, sunny areas intermixed with shaded areas, presumably for thermoregulation; (2) presence of the water table near the surface for hibernation; and (3) variable elevations between adjoining lowland and upland habitats."

The site assessment is not to be construed as a complete inventory of all species which may be present throughout the growing season, but is intended to present representative dominant species for purposes of generally documenting and assessing habitat type.

Right: northwest edge of property

S7 Consultation: "No Effect" Determination

From the site visits, and a review of known site data, historic species records, habitat requirements for identified species, and aerial photos, there is no indication that the potential exists for any of the identified species of concern to occur within the project area.



Based on these factors, we recommend a "No Effect" determination because the project will not remove suitable habitat for any listed species, and/or no habitat disturbance is anticipated. No listed species or designated critical habitat is anticipated to be directly or indirectly affected by this proposed project.

Bobbi Jones Sabine

Report prepared by Bobbi Jones Sabine Licensed Landscape Architect, Biological Regulatory Specialist Aamazon Natural Resources Consulting, LLC 703 Lake Avenue, Grand Haven, MI 49417 (616) 844-5092 aamazonwoman@juno.com

APPENDIX 1 – MNFI HISTORIC OCCURRENCE RECORDS FOR THREATENED AND ENDANGERED SPECIES IN ALLEGAN COUNTY

Species identified as "E" and "T" (Endangered and Threatened) are protected under State law. Species identified as "SC" are classified as "Special Concern," which indicates that there is concern for the species, but does not afford legal protection (except Special Concern reptiles and amphibians, which are protected under a separate DNR Director's Order, No. FO-224.13). Species identified as "X" (Extirpated) are believed to no longer occur in this state.

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Acipenser fulvescens	Lake sturgeon		т	G3G4	S2	2	2016
Acris blanchardi	Blanchard's cricket frog		т	G5	S2S3	4	2002
Adlumia fungosa	Climbing fumitory		SC	G4	S3	1	1889
Alasmidonta marginata	Elktoe		SC	G4	S3?	4	2016
Alasmidonta viridis	Slippershell		Т	G4G5	S2S3	2	2013
Ambvstoma opacum	Marbled salamander		Е	G5	S1	2	1989
Ammodramus henslowii	Henslow's sparrow		Е	G4	S3	1	1994
Ammodramus savannarum	Grasshopper sparrow		SC	G5	S4	2	2007
Aristida longespica	Three-awned grass		т	G5	S2	1	2010
Asclepias purpurascens	Purple milkweed		т	G5?	S2	1	2018
Baptisia lactea	White or prairie false indigo		SC	G4Q	S3	1	1981
Bartonia paniculata	Panicled screwstem		т	G5	S2	3	1999
Berula erecta	Cut-leaved water parsnip		т	G4G5	S2	6	2020
Boechera missouriensis	Missouri rock-cress		SC	G5	S2	4	2018
Bombus affinis	Rusty-patched bumble bee	LE	SC	G2	SH	3	1964
Bombus auricomus	Black and gold bumble bee		SC	G5	S2	1	1964
Bombus borealis	Northern amber bumble bee		SC	G4G5	S3	1	1936
Bombus pensvlvanicus	American bumble bee		SC	G3G4	S1	3	1963
Brickellia eupatorioides	False boneset		SC	G5	S2	1	2009
Buteo lineatus	Red-shouldered hawk		т	G5	S4	9	2013
Callophrvs irus	Frosted elfin		т	G2G3	S2S3	15	2020
Carex albolutescens	Sedge		т	G5	S2	1	1989
Carex festucacea	Fescue sedge		SC	G5	S1	1	1989
Carex seorsa	Sedge		т	G5	S2	3	2020
Chlidonias niger	Black tern		SC	G4G5	S2	1	1997
Cincinnatia cincinnatiensis	Campeloma spire snail		SC	G5	S3	1	
Cirsium pitcheri	Pitcher's thistle	LT	Т	G3	S3	3	2013
Cistothorus palustris	Marsh wren		SC	G5	S3	1	2005
Clemmys guttata	Spotted turtle		Т	G5	S2	12	2020
Clonophis kirtlandii	Kirtland's snake		Е	G2	S1	1	1985
Collinsia verna	Blue-eyed Mary		SC	G5	SNR	1	1940
Conioselinum chinense	Hemlock-parsley		SC	G5	SNR	2	2020
Coregonus artedi	Lake herring or Cisco		Т	GNR	S3	4	2017
Coregonus kiyi	Kiyi		SC	G3G4	S2S3	1	1983
Coregonus zenithicus	Shortjaw cisco		Т	G3	S2	2	2001
Cottus ricei	Spoonhead sculpin		SC	G5	S1S2	1	1990
Cryptotis parva	Least shrew		Т	G5	S1S2	1	1938
Cyclonaias tuberculata	Purple wartyback		Т	G5	S2	3	2000
Cypripedium candidum	White lady slipper		Т	G4	S2	1	2005
Diarrhena obovata	Beak grass		Т	G4G5	S2	1	2018
Dryobius sexnotatus	Six-banded longhorn beetle		Т	GNR	S1	1	2011
Echinodorus tenellus	Dwarf burhead		Е	G5?	S1	2	2013
Eleocharis atropurpurea	Purple spike rush		Е	G4G5	S1	1	2010
Eleocharis engelmannii	Engelmann's spike rush		SC	G4G5	S2S3	1	1989
Eleocharis melanocarpa	Black-fruited spike-rush		SC	G4	S3	5	2016
Eleocharis microcarpa	Small-fruited spike-rush		Е	G5	S1	1	1988
Eleocharis tricostata	Three-ribbed spike rush		Т	G4	S2	4	2016
Emydoidea blandingii	Blanding's turtle		SC	G4	S2S3	7	2020
Erimyzon claviformis	Creek chubsucker		Е	G5	S1	1	1982
Erynnis persius persius	Persius dusky wing		Т	G5T1T3	S3	3	1980
Euonymus atropurpureus	Wahoo		SC	G5	S3	1	2007

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Euphorbia commutata	Tinted spurge		Т	G5	S1	1	1931
Eutrochium fistulosum	Hollow-stemmed Joe-pye weed		Т	G5?	S1	2	2009
Fontigens nickliniana	Watercress snail		SC	G5	S2S3	1	1990
Fraxinus profunda	Pumpkin ash		т	G4	S2	1	2014
Fuirena pumila	Umbrella-grass		Т	G4	S2	1	1975
Galearis spectabilis	Showy orchis		т	G5	S2	2	2014
Gallinula galeata	Common gallinule		т	G5	S3	2	2019
Gavia immer	Common loon		Т	G5	S3	1	1988
Gentiana puberulenta	Downy gentian		Е	G4G5	S1	1	1990
Geum triflorum	Prairie smoke		т	G5	S2S3	1	1932
Glyptemys insculpta	Wood turtle		SC	G3	S2	1	1975
Haliaeetus leucocephalus	Bald eagle		SC	G5	S4	7	2017
Helianthus hirsutus	Whiskered sunflower		SC	G5	S3	2	2014
Hesperia metea	Cobweb skipper		SC	G4	S4	1	2002
Hesperia ottoe	Ottoe skipper		Т	G3	S1	8	2011
Hieracium paniculatum	Panicled hawkweed		Т	G5	S2	2	2015
Hiodon tergisus	Mooneye		т	G5	S1	1	1941
Hydrastis canadensis	Goldenseal		Т	G3G4	S2	1	1976
Hypericum gentianoides	Gentian-leaved St. John's-wort		SC	G5	S3	1	2018
lsoetes engelmannii	Engelmann's quilwort		E	G4	S1	1	1989
Juncus anthelatus	Large path rush		SC	GNR	SNR	2	2020
Juncus brachycarpus	Short-fruited rush		Т	G4G5	S1S2	1	1989
Juncus dichotomus	Forked rush		SC	G5	SNR	1	2017
Juncus scirpoides	Scirpus-like rush		Т	G5	S2	3	2014
Juncus vaseyi	Vasey's rush		Т	G5	S1S2	1	1989
Lanius Iudovicianus migrans	Migrant loggerhead shrike		E	G4T3Q	S1	2	1991
Lasmigona compressa	Creek heelsplitter		SC	G5	S3	5	2018
Lasmigona costata	Flutedshell		SC	G5	SNR	5	2018
Lechea minor	Least pinweed		Х	G5	S1	1	2000
Lechea pulchella	Leggett's pinweed		Т	G5	S1S2	2	2018
Lepisosteus oculatus	Spotted gar		SC	G5	S2S3	10	2015
Ligumia recta	Black sandshell		Е	G4G5	S1?	1	
Linum sulcatum	Furrowed flax		SC	G5	S2S3	2	2005
Linum virginianum	Virginia flax		Т	G4G5	S2	2	2015
Lipocarpha micrantha	Dwarf-bulrush		SC	G5	S3	2	2016
Lithobates palustris	Pickerel frog		SC	G5	S3S4	4	2003
Ludwigia sphaerocarpa	Globe-fruited seedbox		Т	G5	S1	2	2018
Lycaeides melissa samuelis	Karner blue	LE	Т	G1G2	S2	27	2017
Lycopodiella subappressa	Northern appressed clubmoss		SC	G2	S2	2	1970
Melanerpes erythrocephalus	Red-headed woodpecker		SC	G5	S3	1	
Mesomphix cupreus	Copper button		SC	G5	S1	2	
Microtus pinetorum	Woodland vole		SC	G5	S3S4	2	1939
Myotis septentrionalis	Northern long-eared bat	LT	SC	G1G2	S1	1	2000
Necturus maculosus	Mudpuppy		SC	G5	S3S4	1	1958
Notropis dorsalis	Bigmouth shiner		SC	G5	S2	14	1960
Notropis texanus	Weed shiner		Х	G5	S1	4	1947
Nycticorax nycticorax	Black-crowned night-heron		SC	G5	S3	2	1997
Obliquaria reflexa	Threehorn wartyback		E	G5	S1	1	1936
Oecanthus laricis	Tamarack tree cricket		SC	G3?	S3	1	2000
Panax quinquefolius	Ginseng		Т	G3G4	S2S3	10	2017
Pandion haliaetus	Osprey		SC	G5	S4	1	2017
Panicum longifolium	Panic grass		Т	G4	S2	4	2015
Panicum verrucosum	Warty panic grass		Т	G4	S1	1	1999
Pantherophis spiloides	Gray ratsnake		SC	G4G5	S2S3	4	2017
Papaipema beeriana	Blazing star borer		SC	G2G3	S2	1	1997
Papaipema maritima	Maritime sunflower borer		SC	G3	S2	1	1997
Papaipema sciata	Culvers root borer		SC	G3	S3	2	1996
Papaipema speciosissima	Regal fern borer		SC	G4	S2S3	1	1995
Parkesia motacilla	Louisiana waterthrush		T	G5	S2	2	1999
Persicaria careyi	Carey's smartweed		T _	G4	S1S2	1	1999
Platanthera ciliaris	Orange- or yellow-fringed orchid		E	G5	S1S2	2	2015

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Pleurobema sintoxia	Round pigtoe		SC	G4G5	S3	1	2000
Poa paludigena	Bog bluegrass		Т	G3G4	S2	1	2016
Polygala cruciata	Cross-leaved milkwort		SC	G5	S3	3	2013
Potamilus alatus	Pink heelsplitter		SC	G5	SNR	1	
Potamogeton bicupulatus	Waterthread pondweed		Т	G4	S2	4	2017
Protonotaria citrea	Prothonotary warbler		SC	G5	S3	3	2006
Pycnanthemum verticillatum	Whorled mountain mint		SC	G5	S2	4	2014
Pygarctia spraguei	Sprague's pygarctia		SC	G5	S2S3	2	1993
Rallus elegans	King rail		E	G4	S2	2	1949
Rhexia mariana	Maryland meadow beauty		Т	G5T5	S1S2	2	2015
Rhexia virginica	Meadow beauty		SC	G5	S3	6	2016
Rhynchospora macrostachya	Tall beakrush		SC	G4	S3S4	7	2016
Rhynchospora nitens	Short-beak beak-rush		E	G4?	S1	1	2016
Rhynchospora recognita	Globe beak-rush		E	G5?	S1	1	1995
Rhynchospora scirpoides	Bald-rush		т	G4	S2	4	2016
Schoenoplectiella hallii	Hall's bulrush		т	G3	S2	2	2011
Schoenoplectus torreyi	Torrey's bulrush		SC	G5?	S2S3	1	1983
Scleria pauciflora	Few-flowered nut rush		E	G5	S1	1	1995
Scleria reticularis	Netted nut rush		т	G4	S2	3	2016
Scleria triglomerata	Tall nut rush		SC	G5	S3	2	2015
Setophaga cerulea	Cerulean warbler		т	G4	S3	3	2015
Setophaga citrina	Hooded warbler		SC	G5	S3	4	2010
Setophaga discolor	Prairie warbler		Е	G5	S3	5	2003
Setophaga dominica	Yellow-throated warbler		Т	G5	S3	1	1999
Sistrurus catenatus	Eastern massasauga	LT	SC	G3	S3	20	2020
Sisyrinchium atlanticum	Atlantic blue-eyed-grass		Т	G5	S2	3	2017
Spiranthes ovalis	Lesser ladies'-tresses		т	G5?	S1	1	2009
Spiza americana	Dickcissel		SC	G5	S3	2	2007
Sporobolus clandestinus	Dropseed		E	G5	S1	2	2017
Sporobolus heterolepis	Prairie dropseed		SC	G5	S3	2	2013
Strophostyles helvula	Trailing wild bean		SC	G5	S3	1	2002
Symphyotrichum sericeum	Western silvery aster		Т	G5	S2	1	2014
Terrapene carolina carolina	Eastern box turtle		SC	G5T5	S2S3	27	2020
Tradescantia bracteata	Long-bracted spiderwort		х	G5	SX	1	1938
Trichostema dichotomum	Bastard pennyroyal		Т	G5	S2	1	1986
Triphora trianthophora	Nodding pogonia or three birds orchid		Т	G4?	S1	1	1880
Truncilla donaciformis	Fawnsfoot		Т	G5	S1	2	2000
Truncilla truncata	Deertoe		SC	G5	S2S3	2	2000
Utricularia subulata	Bladderwort		Т	G5	S1	1	2010
Utterbackia imbecillis	Paper pondshell		SC	G5	S2S3	2	2018
Valerianella chenopodiifolia	Goosefoot corn salad		Т	G4	S1	2	2020
Venustaconcha ellipsiformis	Ellipse		SC	G4	S3	1	2016
Villosa iris	Rainbow		SC	G5	S3	1	
Wolffia brasiliensis	Watermeal		Т	G5	S1	4	2018
Zizania aquatica	Wild rice		т	G5	S2S3	1	1910

APPENDIX 2 – PLANT INVENTORY

Centre Collective, Douglas, MI Compiler: William Martinus Site Visit: 6/14/21

Notes

Nomenclature follows Voss & Reznicek, *Field Manual of Michigan Flora*, 2012 & *Michigan Flora Online* * Asterisk indicates non-native species Coefficient of Conservatism number (0 – 10, 10 being most highly specialized habitat) Wetland Indicator Status (UPL, FACU, FAC, FACW, OBL)

Vascular Plants

Pteridophytes Lycophytes Ferns Athyriaceae, Lady Fern Family Athyrium filix-femina, Lady Fern 4; FAC Dryopteridaceae, Wood Fern Family Dryopteris carthusiana, Spinulose Woodfern 5; FACW Onocleaceae, Sensitive Fern Family Matteuccia struthiopteris, Ostrich Fern 3; FAC Onoclea sensibilis, Sensitive Fern 2; FACW

Gymnosperms

Cupressaceae, Cypress Family Juniperus virginiana, Red-cedar 3; FACU Pinaceae, Pine Family Pinus strobus, White Pine 3; FACU Pinus sylvestris, Scots Pine* 0; UPL Taxaceae, Yew Family Taxus cuspidata, Asian Yew* 0; UPL

Angiosperms Monocots Alliaceae, Onion Family Allium vineale, Field Garlic* 0; FACU Araceae, Arum Family Arisaema triphyllum, Jack-in-the-pulpit 5; FAC Cyperaceae, Sedge Family Carex annectens var. xanthocarpa, Yellow-fruited Sedge 1; FACW Carex gracillima, Graceful Sedge 4; FACU Carex leptonervia, Two-edged Sedge 3; FAC Carex muehlenbergii, Sand Sedge 7; UPL Carex rosea, Stellate Sedge 2; UPL Carex swanii, Swan's Sedge 4; FACU Juncaceae, Rush Family Juncus tenuis, Path Rush 1; FAC Poaceae, Grass Family Anthoxanthum odoratum, Sweet Vernal Grass* 0; FACU Bromus inermis, Hungarian Brome* 0; UPL Dactvlis glomerata. Orchard Grass* 0: FACU Dichanthelium clandestinum, Deer-tongue Grass 3; FACW Glyceria striata, Fowl Manna Grass 4; OBL Holcus lanatus, Velvet Grass* 0; FACU

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Centre Collective – Blough/Kerr Douglas Site, Allegan County, MI June 2021

Miscanthus sinensis, Eulalia* 0; UPL Phalaris arundinacea, Reed Canary Grass* 0; FACW+ Phleum pratense, Timothy* 0; FACU Phragmites australis spp. australis, Common Reed* 0; FACW+ Poa compressa, Canada Bluegrass* 0; FACU Poa nemoralis, Wood Bluegrass* 0; FACU Poa pratensis, Kentucky Bluegrass* 0; FAC-

Dicots

Anacardiaceae, Cashew Family Toxicodendron radicans, Poison Ivy 2; FAC+ Apocynaceae, Dogbane Family Asclepias syriaca, Common Milkweed 1; UPL Vinca minor, Periwinkle* 0; UPL Araliaceae, Ginseng Family Hedera helix, European Ivy* 0; FACU Asteraceae, Aster Family Erigeron annuus, White-top 0; FACU Eurybia macrophylla, Large-leaved Aster 4; UPL Hypochoeris radicata, Cat's-ear* 0; UPL Leucanthemum vulgare, Ox-eye Daisy* 0; UPL Taraxacum officinale. Common Dandelion* 0: FACU Balsaminaceae, Touch-me-not Family Impatiens capensis, Spotted Touch-me-not 2; FACW Berberidaceae, Barberry Family Berberis thunbergii, Japanese Barberry* 0; FACU-**Bignoniaceae, Trumpet Creeper Family** Catalpa speciosa, Northern Catalpa* 0; FACU Brassicaceae, Mustard Family Alliaria petiolata, Garlic Mustard* 0; FAC Berteroa incana, Hoary Alyssum* 0; UPL Hesperis matronalis, Dame's Rocket* 0; FACU Caprifoliaceae, Honeysuckle Family Lonicera ×bella. Hvbrid Honevsuckle* 0: FACU Lonicera japonica, Japanese Honeysuckle* 0; FACU Carvophyllaceae, Pink Family Stellaria media, Common Chickweed* 0; FACU Celastraceae, Bittersweet Family Celastrus orbiculatus, Oriental Bittersweet* 0; UPL Cornaceae, Dogwood Family Cornus alternifolia, Alternate-leaved Dogwood 5; FACU Elaeagnaceae, Oleaster Family Elaeagnus umbellata, Autumn Olive* 0; FACU Fabaceae, Pea Family Medicago lupulina, Black Medick* 0; FAC-Trifolium repens, White Clover* 0; FACU+ Vicia villosa, Hairy Vetch* 0; UPL Fagaceae, Beech Family Quercus alba, White Oak 5; FACU Quercus rubra, Red Oak 5; FACU Quercus velutina, Black Oak 6; UPL Lamiaceae, Mint Family Glechoma hederacea, Ground Ivy* 0; FACU Leonurus cardiaca, Motherwort* 0; UPL

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Prunella vulgaris, Self-heal 0; FAC Lauraceae, Laurel Family Lindera benzoin, Spicebush 7; FACW-Sassafras albidum, Sassafras 5; FACU Magnoliaeae, Magnolia Family Liriodendron tulipifera, Tulip Tree 9; FACU Malvaceae, Mallow Family Tilia americana, Basswood 5; FACU Moraceae, Mulberry Family Morus alba, White Mulberry* 0; FAC Nvssaceae, Tupelo Family Nyssa sylvatica, Sour-gum 9; FACW+ **Oleaceae**, **Olive Family** Fraxinus americana, White Ash 5; FACU *Ligustrum obtusifolium*, Border Privet* 0; FACU Ligustrum vulgare, Common Privet* 0; FACU **Onagraceae, Evening-primrose Family** Circaea canadensis subsp. canadensis, Enchanter's-nightshade 2; FACU **Oxalidaceae, Wood-sorrel Family** Oxalis dillenii, Common Yellow Wood-sorrel 0; FACU Phytolaccaceae, Pokeweed Family Phytolacca americana. Pokeweed 2: FAC-Plantaginaceae, Plantain Family Plantago major, Common Plantain* 0; FAC+ Plantago rugelii. Red-stalked Plantain 0: FAC Polygonaceae, Smartweed Family Persicaria virginiana, Jumpseed 4; FAC Rumex obtusifolius, Bitter Dock* 0; FACW Rosaceae, Rose Family Geum canadense, White Avens 1; FAC Prunus serotina, Wild Black Cherry 2; FACU Rosa multiflora, Multiflora Rose* 0; FACU Rubus flagellaris, Northern Dewberry 1; FACU Rubiaceae. Madder Family Galium aparine, Cleavers 0; FACU Salicaceae, Willow Family Populus deltoides, Eastern Cottonwood 1; FAC+ Populus tremuloides, Quaking Aspen 1; FAC Sapindaceae, Soapberry Family Acer negundo, Box-elder 0; FACW-Acer rubrum, Red Maple 1; FAC Acer saccharinum, Silver Maple 2; FACW Acer saccharum, Sugar Maple 5; FACU Scrophulariaceae, Figwort Family Verbascum thapsus, Common Mullein* 0; UPL **Urticaceae, Nettle Family** Urtica dioica, Stinging Nettle 1; FAC+ Vitaceae, Grape Family Parthenocissus guinguefolia, Virginia Creeper 5; FAC-Vitis riparia, River-bank Grape 3; FACW-

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U.S. Fish and Wildlife Service - National Wetlands Inventory

U.S. Geological Survey – Historic aerial photos





REPORT OF GEOTECHNICAL INVESTIGATION FOR 324 WEST CENTER

> DOUGLAS ALLEGAN COUNTY MICHIGAN

MARCH 27, 2020



Kerr Real Estate PO Box 574 Douglas, Michigan 49406

Project No. 2020.0129





March 27, 2020

Kerr Real Estate PO Box 574 Douglas, Michigan 49406

Attention: Mr. Jeff Kerr

Regarding: 324 West Center Douglas, Allegan County, Michigan Project No. 2020.0129

Dear Mr. Kerr:

Soils & Structures is pleased to present this geotechnical investigation report for the 324 West Center project in Douglas, Allegan County, Michigan.

The investigation included ten (10) test borings to depths of 20.0 feet. The test borings were conducted in accordance with ASTM D 1586 procedures.

The report, test boring location plan, and test boring logs are enclosed. The report provides recommendations for site preparation, foundations, fill, floors and pavement.

We appreciate the opportunity to provide you engineering services. If you have any questions regarding this report, please contact our office.

Sincerely, Soils & Structures, Inc.

Malcolm P. Thompson, E.I.T. MPT/mt

Reviewed by:

W. Hohmeyer

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Location of Soil Investigation

The soil investigation was located at 324 West Center Street in Douglas, Allegan County, Michigan. The parcel number is 59-016-033-00.

Purpose of Investigation

The purpose of this investigation is to provide geotechnical engineering recommendations for the proposed residential and commercial buildings.

Design Information

The proposed development includes single family residences, townhomes and mixed use buildings. The project includes pavement.

The single family residences and townhomes will be one to two story wood framed structures with slab on grade floors. The floor elevation of the single family residences and townhomes will vary across the site depending on the existing grade and underlying soil conditions. The design load on foundations is anticipated to be approximately 2500 pounds per linear foot. Column loads are anticipated to be 10,000 pounds or less. The design live load for the floor is anticipated to be 40 pounds per square foot.

The mixed use buildings will be two to three story wood or steel framed structures with slab on grade floors. The floor elevation of the mixed use buildings will be approximately 625.0 feet. The design load on foundations is anticipated to be approximately 4000 pounds per linear foot. Column loads are anticipated to be 200,000 pounds or less.

Allowable post construction settlements of 0.6 inches for total settlement and 0.4 inches for differential settlement are assumed. If the actual loads are significantly greater than the anticipated loads listed in this report, then Soils & Structures should be contacted so that the recommendations included in this report may be reviewed and revised if necessary.

The maximum thickness of fill will be approximately 7.0 feet. Fill will be required to reach grade and to replace soft soil below foundations, floors and pavement. Fill for this project will also include backfill over foundations and utilities. Most of the soil required for fill is expected to be obtained offsite.

The maximum excavation depth will be approximately 7.0 feet. Over excavation will be required to remove soft or loose soils below foundations, floors and pavement. Excavations will also be required for the construction of foundations and utilities.

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Pavement is assumed to be subjected to both automobile and truck traffic. A service life of twenty years was assumed for the pavement subgrade recommendations. The subgrade is assumed to be prepared as recommended in this report.

Tests Performed

The investigation included ten test borings drilled to depths of 20.0 feet. The test borings are designated as Test Boring One through Test Boring Ten. The test borings were conducted in accordance with ASTM D 1586 procedures. The locations were determined by Nederveld, Inc. The locations were adjusted for accessibility by Soils and Structures, Inc. An automatic hammer was used to obtain the soil samples. The ASTM D 1586 standard describes the procedure for sampling and testing soil using the Standard Penetration Test.

The surface elevations at the test boring locations and additional points of reference were obtained with a Global Navigation Satellite System (GNSS) Receiver. The receiver was connected to the local MDOT CORS base station. Through this system, vertical measurements are obtained and referenced to the North American Vertical Datum (NAVD88). Horizontal measurements are also obtained at the test boring locations which are referenced to the Michigan State Plane Coordinate System. Both the vertical and horizontal measurements typically have an accuracy of approximately 0.5 inches. The measured test boring locations and surface elevations are represented in Table 1.

Test Boring / Location	Elevation (feet)	Northing (feet)	Easting (feet)	Surface Cover
Test Boring One*	624.1	422897.0	12627697.8	Topsoil
Test Boring Two*	626.7	422465.8	12627611.1	Topsoil
Test Boring Three*	608.1	422729.1	12627812.3	Topsoil
Test Boring Four*	628.1	422560.2	12627694.9	Topsoil
Test Boring Five*	635.7	422615.3	12627817.5	Topsoil
Test Boring Six	623.2	422431.9	12627847.5	Topsoil

Table 1: Measured Test Boring and Points ofReference Locations and Surface Elevations

*Potential Error: Signal interference due to tree cover

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Test Boring / Location	Elevation (feet)	Northing (feet)	Easting (feet)	Surface Cover
Test Boring Seven*	634.7	422257.7	12627597.6	Topsoil
Test Boring Eight*	631.8	422258.2	12627681.3	Topsoil
Test Boring Nine	624.8	422250.2	12627789.1	Topsoil
Test Boring Ten	625.4	422257.0	12627972.6	Topsoil
Base Setup VRS1	617.3	422230.7	12627654.2	-

Table 1 Continued: Measured Test Boring and Points ofReference Locations and Surface Elevations

*Potential Error: Signal interference due to tree cover

Soil samples were classified according to the Unified Soil Classification System. This method is a standardized system for classifying soil according to its engineering properties. Please refer to the appendix of this report for the Unified Classification System Chart. The classification is shown in the "Material Description" column of the test boring logs.

The soil strength and the allowable soil bearing value were evaluated using the "N" value. The "N" value is the number of blows required to drive a soil sampler one foot with a standard 140 pound drop hammer. The sampler is driven a distance of 18.0 inches. The number of blows for each 6.0 inch increment is recorded. The sum of the second and third intervals is the "N" value. The number of blows for each 6.0 inch interval is shown on the test boring logs under the column labeled "Penetration." The "N" value for each sample is shown in the adjacent column.

Laboratory testing consisted of natural moisture content, particle size analysis, Atterberg limits and unconfined compressive strength testing. The tests were performed on representative soil samples. The tests were performed in accordance with applicable ASTM standards. The water content documents the presence of groundwater in the soil. The sieve test determines the particle distribution which is used to classify the soil and estimate its properties. The Atterberg limit tests aid in determining the properties of cohesive soils. Unconfined compression testing determines the strength properties of cohesive soil.

The U.S. Geological Survey Topographic map and the Quaternary Geology map of Southern Michigan were reviewed. These maps provide general geological information about the region.

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Description of Soil

The soil profile consists of clay with frequent pockets of sand and silt. Topsoil is present at the surface.

The clay layer is part of a glacial moraine that is present in Saugatuck Township. Less prominent features of glacial moraines include sand and gravel outwash that are typically present as pockets and veins within the clay and small alluvial fans at the surface which have low volumes of sand.

The topsoil consists of a dark brown clayey sand. The thickness ranges from 3.0 to 6.0 inches.

The natural clay layer consists of brown and gray low plasticity clay with various amounts of sand and silt. The sand and silt particles are present dispersed throughout the clay, and also appear concentrated in horizontal lenses. The clay layer is more prominent in the upper 20.0 feet of the soil profile on the south portion of the site. In the area of Test Boring Two and Test Borings Four through Ten the clay layer is present at depths between 0.25 and 7.0 feet. In the area of Test Boring One and Test Boring Three, the north portion of the site, the clay layer is present at depths of 7.0 and 19.0 feet.

The "N" values of the clay layer range from 4 to 17, indicating the clay is soft to stiff. The majority of the clay layer is stiff. The stiff clay is indicated by "N" values greater than 7. The shear strength of the stiff clay is in the range of 1800 to 3500 pounds per square foot which also indicates the clay is stiff.

The upper 8.0 feet of the clay layer in the area of Test Borings Five, Six and Ten consists of gray silty low plasticity clay. The "N" values of the clay range from 4 to 7, indicating the clay is soft to firm. The shear strength of the clay is in the range of 800 to 1800 pounds per square foot which also indicates the clay is soft to firm. The clay layer will support foundations, floors and pavement following the removal of any soft clay.

Pockets of sand are present in the upper 7.0 feet of the clay layer in the area of Test Borings Two, Three, Five, Seven, Eight and Nine. The pockets consist of brown fine silty and clayey sand. The "N" values of the pockets range from 3 to 15, indicating the sand is in a loose to compact state. The loose sand is indicated by "N" values equal to or less than 7. The pockets of sand will support foundations, floors and pavement following the compaction or removal of any loose sand.

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Pockets of silt are present in the upper 9.5 feet of the clay layer in the area of Test Borings One, Two, Four, Eight and Nine. The thickness of the silt pockets range from 1.5 to 7.5 feet. The "N" values of the silt range from 6 to 13, indicating the silt is firm to stiff. The silt pockets will support foundations, floors and pavement following site preparations.

Pockets of sand and silt are present in the lower portion of the clay layer throughout the site. The pockets of silt are stiff and the pockets of sand are in a compact state. The pockets of sand and silt in the lower portion of the clay layer should not adversely effect foundations, floors or pavement under the anticipated loading conditions.

Description of Groundwater Conditions

Perched groundwater is present at depths ranging from 2.0 to 8.0 feet. The elevation of Kalamazoo Lake is 581.0 feet. Kalamazoo Lake is near the north portion of the site. Ditches, sumps and pumps are anticipated to be sufficient to control perched water and precipitation during construction.

Description of Site

The site is located at 324 West Center Street in Douglas, Allegan County, Michigan. The site is a wooded lot. A private residence is present on the southeast portion of the site. The north side of the site is bordered by West Shore Court and St. Peters Drive. The east and west sides of the site are bordered by commercial buildings. The south side of the site is bordered by West Center Street. Photographs #1 and #2 show the site at the time of the investigation.

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Photograph #1: View of the south portion of the site. The view is to the northwest. (Project No. 2020.0129, 324 West Center, Douglas, Allegan County, Michigan, February, 2020)

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Photograph #2: View of the center of the site. (Project No. 2020.0129, 324 West Center, Douglas, Allegan County, Michigan, February, 2020)

<u>Settlement</u>

The maximum settlement of the building is anticipated to be less than 0.5 inches provided the recommendations in this report are observed including subgrade preparation. Differential settlement will be approximately one half to three quarters of the maximum value. These levels of settlement are within the recommended acceptable limits of 0.6 inches of total settlement and 0.4 inches of differential settlement.

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Recommendations

Construction Considerations

Construction considerations will include the use of the on-site soil for fill, temporary roads for construction traffic and temporary storage areas. Other potential considerations include the control of groundwater and surface water.

The soil available on site may be used for fill in areas where drainage is not a consideration. Most of the soil will be clay with a water content of 19.2 to 26.9 percent. The optimum water content is 13.0 to 18.0 percent so most of the soil used for fill will need to be dried. The most effective equipment for compaction will be sheepsfoot rollers and fully loaded scrapers.

The future roads will be used initially as construction roads. Due to the possibility of the road spanning across both sand and clay soils, the recommended option for maintaining the integrity of the road subgrade is an aggregate drive.

The recommended cross section for an aggregate access road is a 10.0 to 12.0 inch thick aggregate layer over a geogrid reinforcing. The recommended aggregate is crushed material with a nominal diameter of 1.0 inches or greater. The aggregate may be comprised of natural aggregate, concrete, asphalt or slag. The recommended geogrid is TerraGrid SX3030. The aggregate and geogrid may be incorporated into the final pavement.

During construction elevating the road surface a minimum of 6.0 inches above the surrounding area is recommended.

Control of surface water will be necessary due to the duration of construction and impermeable soil. Temporary ditches are recommended to remove surface water from the construction area. Lime treatment is recommended in areas where surface water softens the clay to re-establish a useable surface. Cement stabilization is recommended in areas where clay is not the primary soil.

Site & Subgrade Preparation

Existing foundations, trees and vegetation in the area of the buildings and pavement should be cleared and removed as part of subgrade preparation. The topsoil should be removed to the extent that all soil with an organic content of 3.0 percent or greater is removed. Soil containing roots should be removed to the extent that the root content by volume is 5.0 percent or less. All roots over 0.5 inches in diameter should be removed. The anticipated thickness of topsoil to be removed is 1.0 feet or less.

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Proof compaction of the site is not recommended. Excessive loading of the clay with heavy construction equipment will soften the clay resulting in unnecessary removal and replacement of the existing soil.

The area of the townhomes and single family residences should be excavated initially to the subgrade level. The subgrade should be inspected and tested to determine if soft soil is present below foundations and floors. Any soft soil should be removed. The over excavation should extend a minimum of 3.0 feet beyond the sides of the foundation. If foundations are to be constructed on a pocket of sand, the sand should be compacted to 95.0 percent of the soft clay or loose sand should be sand meeting MDOT Class II specifications. The sand should be compacted to 95.0 percent of the sand's maximum density.

The area of the mixed use buildings should be excavated initially to the required grade. The subgrade should be inspected and tested to determine if soft soil is present below foundations or floors. Any soft soil should be removed. Based on Test Borings Eight and Ten, soft soil is expected below the floor and foundation elevation. The depth of soft soil is anticipated to be less than 7.0 feet. The over excavation should extend a minimum of 3.0 feet beyond the sides of the foundation. The fill used to replace the soft soil should be sand meeting MDOT Class II specifications. The sand should be compacted to 95.0 percent of the sand's maximum density.

When the site is graded, the existing clay may be used for fill. The water content of most of the clay will be 5.0 percent or higher than the clay's optimum water content. The optimum method of placement will be to maintain lifts of 6.0 inches or less in thickness and compact each lift with three to five passes with a sheepsfoot roller and loader. Drying the clay will be necessary to achieve compaction.

Soil that is brought to the site for fill should be clean sand meeting MDOT Class II specifications or an approved alternative. The soil should be compacted to 95.0 percent of its maximum density, as determined by the modified proctor method per the ASTM D 1557 standard. Compaction tests are recommended to verify the compaction of the fill. Full time testing is recommended while the earthwork phase of the project because of the significant thickness of the fill.

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Fill should be placed in accordance with the "Fill" section of this report. The fill should be compacted to 95.0 percent of its maximum density. If the total height of fill will be greater than 4.0 feet, the lower 4.0 feet should be compacted to 97.0 percent of its maximum density. The soil which will be used for fill should be kept free of topsoil and other organic materials. Compaction tests are recommended to check the compaction of the new fill.

Foundations

Spread foundations are recommended to support the proposed buildings provided the subgrade is prepared as discussed in this section as well as the "Site & Subgrade Preparation" and "Fill" sections of this report. The foundations are anticipated to be supported on fill or the in-situ soil following site preparation.

Fill below foundations should be compacted to a density of 95.0 percent of the soil's maximum density to its full depth. In-situ sand below foundations should be compacted to a density of 95.0 percent of the sand's maximum density to a minimum depth of 3.0 feet. Compaction tests should be performed in the foundation subgrade to verify these levels of compaction. Soils not meeting or exceeding the minimum density should be recompacted.

If foundations are constructed on clay, the clay should be dry and level to ensure proper contact between the subgrade and concrete. Prior to pouring the foundations, the clay should be tested with a pocket penetrometer or torvane to ensure adequate strength to support the foundations. If the clay exhibits unconfined compressive strength of less than 1,500 pounds per square foot, it should be excavated and replaced with MDOT Class II fill.

Silt below foundations should not be compacted due to liquefaction. The silt should be dry and level to ensure proper contact between the subgrade and concrete. If the silt is not dry, the silt should be over excavated 8.0 to 12.0 inches below the foundation level and replaced with MDOT Class II fill or pea stone to establish a usable surface.

The recommended minimum cover over exterior foundations is 42 inches for protection against frost heave.

Foundations should not be constructed on frozen soil. During cold weather construction, the foundation subgrade and foundations should be protected from freezing with insulated blankets until backfill is placed over both sides of the foundation. Foundations that are damaged by frost heave should be replaced.

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The site classification for seismic design is "D" based on the Michigan Building Code provided the recommendations in this report are observed. The site has a peak ground acceleration of 0.096g with a 2.0 percent probability of exceedance in 50 years. The mapped spectral accelerations are 0.091 for the short-term response (S_s) and 0.050 for the one second response (S_1) . The corresponding numeric seismic design values for the spectral response acceleration parameters above are 0.097g (S_{cs}) and 0.081g (S_{c1}) respectively.

Foundations may be designed using an allowable soil bearing value of 3000 pounds per square foot for isolated column foundations and 2500 pounds per square foot for wall foundations provided the recommendations in this report are observed. A minimum width of 16.0 inches is recommended for new foundations. The allowable bearing values may be increased 25.0 percent when considering transient loads such as earthquakes and wind.

Floors

A slab on grade is recommended for the floors.

A base of 8.0 inches of clean sand is recommended under the floors. The sand should meet MDOT Class II specifications. Fill under floors should be compacted as specified in the "Fill" section of this report. The in-situ soil does not meet these specifications.

A vapor barrier is recommended at the bottom of the concrete slab.

A modulus of subgrade reaction of 100 pounds per cubic inch is recommended for the design of slabs on grade.

Lateral Earth Pressure

Foundation walls with different soil levels on either side should be designed as retaining walls. Sand should be used as backfill behind retaining and foundation walls. The sand should meet MDOT Class II specifications. The cantilevered walls should be designed using a soil density of 120 pounds per cubic foot and a coefficient of active earth pressure of 0.30 for level sand backfill. Braced excavations and foundation walls that will be braced against lateral movement at the top of the wall should be designed using a soil density of 120 pounds per cubic foot and a coefficient of a soil density of 120 pounds per cubic foot and a coefficient of a soil density of 120 pounds per cubic foot and a coefficient of a soil density of 120 pounds per cubic foot and a coefficient of at rest earth pressure of 0.45 for level sand backfill. The effects of any surcharge or sloping backfill should also be included in the design. The passive resistance of the existing sand should be calculated using an earth pressure coefficient of 4.0.

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Excavations

The existing clay is OSHA type "B" soils. Excavations should be based on OSHA requirements for a type "B" soil. Based on OSHA requirements a maximum allowable side slope of 45 degrees (1H:1V) is recommended for excavations 4.0 to 20.0 feet deep. For excavations adjacent to property lines, structures such as buildings and roads or excavations over 20.0 feet deep retaining systems are recommended. Excavations less than 4.0 feet deep may have vertical side slopes.

The in situ sand and fill are an OSHA type "C" soil. Excavations that will be entered by personnel should be based on OSHA requirements for a type "C" soil. Based on OSHA requirements, a maximum allowable side slope of 34 degrees (1.5H:1V) is recommended for excavations 4.0 to 20.0 feet deep. Excavations less than 4.0 feet deep may have vertical side slopes.

Fill

The subgrade should be prepared as discussed in this section as well as the "Site & Subgrade Preparation" section of this report. Topsoil should be removed. The subgrade should be inspected and tested for loose and soft soil before the placement of fill. Any soft soil should be removed. Any loose or slightly compact sand should be compacted or removed. Due to the high amounts of fill expected for this project, large settlements will occur if fill is placed on compressible soil.

Fill, including the aggregate layers under pavement, should be compacted to a density of 95.0 percent of its maximum density. The maximum density should be determined in accordance with the ASTM D 1557 standard. A maximum thickness per layer of 6.0 inches is recommended. The lift thickness may be increased to 12.0 inches if a vibratory roller or loader is used for compaction.

If fill will be placed to a depth greater than 4.0 feet, the lower 4.0 feet should be compacted to 97.0 percent of its maximum density. This should reduce the total settlement of overlying structures.

Compaction tests are recommended to confirm that the fill is compacted to the required density and may be used as fill.

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Soil brought to the site for structural fill should be sand meeting MDOT Class II requirements or ASTM requirements for a SP or SW which are the designations for clean sand. The in-situ soil does not meet these requirements.

Fill should not be placed over frozen ground, snow or ice. Soil which contains frozen material should not be used as fill. During winter construction, removal of frozen ground may be necessary prior to placing fill.

Groundwater Management

Groundwater is present in isolated pockets at depths of 2.0 to 8.0 feet. The quantity of groundwater flowing into excavations from the pockets is anticipated to be moderate. If excavations encounter groundwater, the excavation bottom may be stabilized by placing a 6.0 to 8.0 inch layer of porous stone over the bottom of the excavation. The stone will stabilize the bottom of the excavation.

A vapor barrier is recommended under the floor in areas that will be enclosed and heated. The vapor barrier should consist of a 10 mil polyethylene sheet and should be located immediately below the floor slab. The vapor barrier may be omitted in portions of the building that will not be heated.

Infiltration rates for the in-situ soils will be low and unsuitable for internal drainage of the site. MDOT Class II sand is recommended in any areas where drainage is required.

Drains around the foundations and under the pavement are recommended. The drains should consist of a 4.0 inch diameter slotted plastic pipe wrapped in filter fabric. Pea gravel should be used for backfill within a 6.0 inch circumference of the drain. Under pavement, the recommended spacing is 50.0 feet. The drain invert should be at a minimum depth of 30.0 inches below the pavement surface. The drains should be connected to a storm sewer or have an outlet a minimum of 3.0 feet below the lowest floor.

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Hot Mix Asphalt (HMA) Pavement

The recommended preliminary HMA pavement sections listed in Table 2 were developed based on the discussions and assumptions included in this report and the design procedures outlined in the "AASHTO Guide for Design of Pavement Structures." The subgrade should be prepared as described in the "Site & Subgrade Preparation" and "Fill" sections of this report. The final pavement section should be designed based on actual traffic volumes and the owner specific performance requirements. The recommended pavement section materials listed in Table 2 refer to and should comply with the standard material designations included in applicable MDOT specifications and guidelines including the 2012 MDOT "Standard Specifications for Construction."

Pavement Cross	Standar	d Duty	Heavy	Duty
Section Materials	Material	Thickness (in)	Material	Thickness (in)
HMA Wearing Coarse	36A, 5E1	1.5	36A, 5E1	2.0
HMA Base Coarse	13A, 4E1	2.0	13A, 4E1	2.0
Aggregate Base	22A, 21AA	8.0	22A, 21AA	10.0
Sand Subbase	Class II	12.0	Class II	12.0

Table 2: Recommended Pavement Section

The recommended asphaltic binder is PG 58-28. The paving contractor should submit the proposed mix design to the owner for review and approval prior to placement. The HMA pavement should be placed in at least two lifts. The pavement section should be constructed in accordance with MDOT guidelines and specifications as well as applicable state and local requirements.

The subgrade, sand subbase and aggregate base should be constructed and prepared in accordance with the "Site & Subgrade Preparation" and "Fill" sections of this report and applicable MDOT guidelines and specifications.

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<u>Driveways</u>

The subgrade should be prepared in accordance with the "Site Preparation" and "Fill" sections of this report.

A base of 12.0 inches of clean sand is recommended under the driveway. The sand should meet MDOT Class II specifications.

A minimum slab thickness 5.5 inches is recommended. Fibermesh is recommended for the reinforcing.

In the areas of loading docks, dumpster pads and truck parking the minimum thickness should be increased to 12.0 inches and the pavement should be reinforced. The reinforcing should be designed by a structural engineer. The paving contractor should submit the proposed mix design to the owner for review and approval prior to concrete placement.

Quality Control Testing

Compaction tests (ASTM D 6938) are recommended to confirm that fill in the building area is compacted to the specified density. While fill is being placed, compaction tests should be performed at the rate of one test per 400 cubic yards of fill and throughout the depth of the fill with a minimum of five tests at each 1.0 foot elevation interval. Compaction tests should be performed under foundations at the rate of one test per 50 linear feet for wall foundations and one test per column foundation. The recommended testing frequency in the floor and pavement subgrade is one test per 5000 square feet. Tests should be performed in the backfill over foundations and utilities. The maximum density should be determined in accordance with ASTM D 1557 or ASTM D 4253 procedures.

The shear strength of clay should be checked with a hand penetrometer or torvane. The tests should be performed at the same frequency as compaction tests.

A smooth 0.5 to 0.75 inch diameter rod should be used in conjunction with compaction tests to probe for loose areas under foundations, in fill and under floors.

A dynamic cone should not be substituted for compaction tests for evaluating fill.

Testing should be performed by technicians supervised by a registered geotechnical engineer.

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General Conditions & Reliance

The report was prepared in accordance with generally accepted practices of the geotechnical engineering profession. The scope of work consisted of performing ten test borings and providing soil related recommendations for the design and construction of the proposed building and pavement. The scope of work did not include an environmental study or wetland determination.

The report and the associated test borings were prepared specifically for the previously described project and site. Soils & Structures should be consulted if a significant change in the scope of the project is made.

The test borings represent point information and may not have encountered all of the soil types and materials present on this site. This report does not constitute a guarantee of the soil or groundwater conditions or that the test boring is an exact representation of the soil or groundwater conditions at all points on this site.

The descriptions and recommendations contained in this report are based on an interpretation of the test borings and laboratory tests. The test borings should not be used independently of the report. If soil conditions are encountered which are significantly different from the test borings, Soils & Structures should be consulted for additional recommendations.

The report and test borings may be relied upon by Kerr Real Estate for the design, construction, permitting and financing associated with the construction of the 324 West Center project in Douglas, Allegan County, Michigan. The use of the report and test borings by third parties not associated with this project or for other sites has not been agreed upon by Soils & Structures. Soils & Structures does not recommend or consent to third party use or reliance of the report or test borings unless allowed to review the proposed use of these materials. Unless obtained in writing, consent to third party use should not be assumed. Third parties using the report or test boring logs do so at their own risk and are offered no guarantee or promise of indemnity.

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Appendix

Test Boring Location Plan General Soil Profile Test Boring Logs Laboratory Tests General Soil Information









Project N	lame:	324 West Center	Proje	ect N	lumber:	202	0.0129							
Project L	ocation	: Douglas, Michigan	Logg	ed B	By: J Poe	el		F	Reviewe	d By:	W. Star	mbaugł	ı	
Client:	Kerr R	eal Estate	Surve	ey D	atum: N	IAD 198	3 StatePlane	e Mich	igan Sou	ıth	Hole D	epth:	20	.00
Date Sta	rted:	Feb 19 2020 Completed: Feb 19 2020	Nort	hing	;: _ 422	897.0	Easting	: _1	262769	7.8	Elevat	tion:	624	.14
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2		SILT - stiff brown clayey and sandy				20	2 4 4			22.0				NAL
3					JFT-A	20	5-4-4	0		22.5				IVIL
4														
5					CDT_₽	22	2_1_1	Q		22.1				М
6					JF I D	55	Z-4-4	0		22.1				IVIL
		CAND aliabely segment light by any first to go diver			SPT-C	80	2.2.2	6						SD
8		with a trace of silt			5110		2-3-3							51
9														
10				Ţ	SPT-D	80	3-2-3	5		82				SP
11					5110		525			0.2				51
13		SAND - very compact light brown fine to medium												
14														
15				Y	SPT-E	67	5-10-14	24		5.3				SP
16						-								
17														
10														
19	177	CLAY - stiff brown sandy with silt and a trace of gravel		X	SPT-F	80	2-6-7	13						CL
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														
50		Ann Arbor • N	/luskeg	gon	•	اا 1	raverse Cit	t y	1		I	1		
		(80	0)-933	8-39	59									



Project N	lame:	324 West Center	Proje	ect M	Number:	202	20.0129							
Project L	ocatio	n: Douglas, Michigan	Logg	ed E	By: <u>C Bo</u>	wditch		F	leviewe	d By:	W. Star	mbaugł	1	
Client:	Kerr I	Real Estate	Surv	ey D	Datum: N	VAD 198	3 StatePlan	e Michi	gan Sou	ith	Hole D	epth:	20	.00
Date Star	rted:	Feb 18 2020 Completed: Feb 18 2020	Nort	hing	g: 422	2465.8	Easting	: _1	262761	1.1	Elevat	tion:	626	5.73
Drilling N	Aethoo	3-1/4" Hollow Stem Auger	Grou	Ind	Water Lev	vels								
Equipme	nt:	Diedrich D-25		A	t Time of	Drilling	8.00 on	Feb 18	2020 -	Perche	d Wate	r Encou	intered	
Hammer	Туре:	Automatic Hammer												
Notes:														
									ء		A	tterbe	rg	
	J		∑ s	ype	5	%		a	ngt	e 🛞		Limits		
pth	phi	Material Description	litic	e T	nbe	lé Q	ow Inte	alu	sf)	stui	_		≥	S
De	Gra		onc	du	Nur	S S	Col		ar S	10i nte	nit	nit	tici	Š
	-		00	Sa	_	l a			She	້ ບິ	E: E:	E: P	las In	
	silie silie	TOPSOIL - dark brown fine (5.0")											-	
1		SAND - brown fine	1											
		SAND - loose brown fine to medium clavey and silty	-											
						E 2	222			22.0				50
3					JFT-A	55	2-2-2	4		23.0				30
4														
_ =		SILT - stiff brown with sand				1								
				X	SPT-B	80	4-5-8	13						ML
6		CLAY - stiff brown silty with sand				1								
7						-								
8	ШV	$\overline{\nabla}$		X	SPT-C	80	3-5-11	16		21.9				CL
						-								
9						-								
10				X	SPT-D	80	6-6-7	13		20.2				CL
11						-								
12														
12														
13	[/													
14		SAND - compact light brown fine to medium with a	-											
15		trace of gravel					6.0.10	10						C D
					SPI-E	80	6-8-10	18						SP
16	[]]]	SAND - very compact brown fine to coarse with												
17	[]]]	gravel and lenses of clay												
18	[]]]													
19	////													
				Å	SP1-F	80	8-18-32	50		8.2				SC
20														
21														
22														
23														
24														
24														
25														
26														
27														
28														
29														
30 _=		A A 1				<u> </u>		<u> </u>						
		Ann Arbor • 1	viuskeį m)_aas	gon 3-20	•	٦	raverse Ci	τγ						
		(60	, <u>.</u>	- 33										



Project N	lame:	324 West Center	Proje	ect N	lumber:	202	20.0129							
Project L	ocatio	n: Douglas, Michigan	Logg	ed B	By: <u>C Bo</u>	wditch		F	Reviewe	d By:	W. Star	mbaugł	۱	
Client:	Kerr	Keal Estate	Surve	ey D	atum: N	AD 198	33 StatePlane	e Michi	igan Sou	uth	Hole D	epth:	20	.00
Date Star Drilling N	tea: Aethor	d: 3 1/4" Hollow Stom Auger		ning und \	5: <u>422</u>	2729.1 Iole	Easting	-	.262781	.2.3	Eleva	don:	608	5.1Z
Fauipme	nt:	Diedrich D-25		A.	t Time of	Drilling	5 00 on	Feb 19	2020 -	Perche	d Wate	r Encou	ntered	
Hammer	Type:	Automatic Hammer	Ť	,,		5111116	5.00 011	100 10	2020	rerene	a wate	I Elleoe	Intered	
Notes:														
									ے		A	tterbe	rg	
Depth	Graphic	Material Description	Cautionary Condition	ample Type	Number	kecovery % RQD	Blow Counts	N-Value	ear Strengt (tsf)	Moisture Content (%)	iquid .imit	lastic imit	isticity ndex	uscs
=	alte alte	TOPSOIL dark brown find (5.0")		S		–			ร		_	<u> </u>	PI	
1		SAND - compact brown fine												
		SAND compact brown me												
2						00	266	12		10 0				CD.
3					JFT-A	00	2-0-0	12		10.9				55
4														
5		$_{\sum}$ SAND - loose brown fine silty with a trace of clay			срт р	10	212	2						CV4
6					3F I-D	40	2-1-2	5						5101
/]	$\Pi I /$	CLAY - stiff gray silty with a trace of sand			SPT-C	100	2-4-7	11		20.8				
8					5110	100	2-4-7			20.0				
9 🚽		SILT - stiff grav clavev with lenses of sand												
10				Ţ	SPT-D		2-3-5	8						м
11					511.6	_	233							
13														
14														
15		SAND - compact brown fine to medium with		Y	SPT-E	53	2-4-12	16						sc
16		frequent lenses of clay			-	-		_						
17	///													
	///													
18		SAND - very compact brown fine with frequent				-								
19		lenses of silt		X	SPT-F	100	14-24-25	49						SM
20						-								
21														
22														
23														
24														
24														
25														
26														
27														
28														
29														
30		Ann Arbor • N	Auske	gon	•	1	Fraverse Cit	:y						
		(80	0)-933	8-39	59									



Project I	Name:	324 West Center	Proje	ect N	Number:	202	20.0129							
Project L	ocation	Douglas, Michigan	Logg	ed E	By: J Poe	el		R	leviewe	d By:	W. Star	mbaugł	۱	
Client:	Kerr F	Real Estate	Surv	ey D	atum: N	IAD 198	3 StatePlane	e Michi	gan Sou	ıth	Hole D	epth:	20.	.00
Date Sta	rted:	Feb 19 2020 Completed: Feb 19 2020	Nort	hing	3: 422	560.2	Easting	: _1	262769	4.9	Elevat	tion:	628	.15
Drilling I	Method	: 3-1/4" Hollow Stem Auger	Grou	Ind V	Water Lev	els								
Equipme	ent:	Diedrich D-25		A	t Time of I	Drilling	5.50 on	Feb 19	2020 -	Perche	d Wate	r Encou	intered	
Hammer	r Type:	Automatic Hammer												
Notes:														
			2	be		%			gth	. (%	A	tterbe Limits	rg	
Depth	Graphic	Material Description	Cautionar Condition	Sample Ty	Number	Recovery RQD	Blow Counts	N-Value	Shear Stren (tsf)	Moisture Content (9	Liquid Limit	Plastic Limit	Plasticity Index	uscs
	yk yk	TOPSOIL - dark brown fine (3.0")												
1		CLAY - brown silty with a trace of sand												
2 3 111		CLAY - stiff brown silty		X	SPT-A	80	2-4-5	9						CL
		$_{\!$	-	X	SPT-B	80	3-6-7	13		21.7				SM
6 пирияриярия 7 10 10 10 10 10 10 10 1		SILT - stiff gray with lenses of clay		X	SPT-C	100	2-3-7	10	0.35	21.0				ML
9		CLAY - firm gray silty	-	X	SPT-D	80	3-2-3	5						CL
13		SAND - compact light brown fine to medium	-	X	SPT-E	100	3-5-8	13						SP
18 19 19 10 10 10 10 10 10		SAND - very compact brown fine to coarse with gravel	-	X	SPT-F	100	14-20-26	46						SP
21														
24 25 25														
26 111 27 111 28 11														
29 30														
		Ann Arbor • (8	Muske 00)-933	gon 3-39	•	1	Fraverse Cit	:y						



Project N	lame:	324 West Center	Proje	ect M	Number:	20	20.0129							
Project L	ocatior	: Douglas, Michigan	Logg	ed E	By: J Poe	el		F	eviewe	d By:	W. Star	mbaugł	1	
Client:	Kerr F	eal Estate	Surv	ey D	Datum: 🔤	IAD 198	83 StatePlane	e Michi	gan Sou	uth	Hole D	epth:	20	.00
Date Sta	rted:	Feb 19 2020 Completed: Feb 19 2020	Nort	hing	g:422	2615.3	Easting	: _1	262781	.7.5	Elevat	tion:	635	5.69
Drilling N	Viethod	: 3-1/4" Hollow Stem Auger	Grou	Ind	Water Lev	els								
Equipme	nt:	Diedrich D-25	$\underline{\sim}$	A	t Time of	Drilling	8.00 on l	Feb 19	2020 -	Perche	d Wate	r Encou	Intered	
Hammer	Туре:	Automatic Hammer												
Notes:														
									_		A	tterbe	rg	
			<u></u> 2 2	/pe	<u> </u>	%		0	lgt	е (%		Limits	-	
oth	phie	Material Description	itic	Ъ	be	P o	ow ints	alue	trei	nt (2	S
De	gra		uti ond	ldu	lun	0 K	Col	2	t; (t;	lois nte	uid nit	nit stic	lex licit	n N
	Ŭ		ပိပိ	Sar	~	Re		-	he	² ی	Liq Lir	Lir Lir	Inc	
									S				4	
	<u>ssita ssita</u>	TOPSOIL - dark brown fine (6.0")												
1	///	SAND - brown fine clayey												
2	/:/:/:/					-								
		CLAY - Som brown slity with lenses of sand		X	SPT-A	100	2-2-2	4		24.5				CL
3						-								
4														
5	[/]	24.2	4						
		CLAY - firm gray silty with a trace of sand and lenses	-		SPI-B	53	2-1-3	4						
6		of silt												
7						-								
		\bigtriangledown		X	SPT-C	100	2-3-3	6	0.93	19.2				CL
						-								
9 🗐														
10						100	2.2.2	6						
11	[/				JF I-D	100	2-3-3	0						
LT =	//													
12														
13			-											
		SILI - $stift gray sandy with lenses of clay$												
14						-								
15				X	SPT-E	100	2-6-7	13		19.3				ML
16						-								
1/ =														
18														
19		SAND - extremely compact brown fine to medium		X	SPT-F	13	27-50/0.25'	100						SM
		silty with gravel slight cementation												
20														
21														
22														
23														
24														
25														
26														
27														
28														
20														
29														
30 🗏														
		Ann Arbor • 1	Muske	gon	•		Traverse Cit	y						
		(80	00)-933	3-39	959									
L														



Project N	lame:	324 West Center	Proje	ect M	Number:	202	20.0129							
Project L	ocation	Douglas, Michigan	Logg	ed E	By: J Poe	el		F	leviewe	d By:	W. Sta	mbaugl	1	
Client:	Kerr F	Real Estate	Surv	ey D	Datum: N	IAD 198	3 StatePlane	e Michi	gan Sou	uth	Hole D	epth:	20	.00
Date Sta	rtea: Nethod	Feb 19 2020 Completed: Feb 19 2020		ning und V	3: <u>422</u> Water Lev	431.9	Easting	: _1	.262784	1.5	Eleva	non:	623	5.24
Fauipme	nt:	Diedrich D-25		A	t Time of I	Drilling	5 00 on	Feb 19	2020 -	Perche	d Wate	r Encou	intered	
Hammer	Type:	Automatic Hammer	Ť	,		5111116	5.00 011	100 10	2020	rerene	a wate	I Elleoe	intered	
Notes:														
									_		Δ	tterhe	rg	
			<u></u> 2 c	/pe	~	%			lgth	е (Я		Limits	.0	
Depth	Graphic	Material Description	Cautiona Conditio	Sample Ty	Numbe	Recovery RQD	Blow Counts	N-Value	Shear Strer (tsf)	Moistur Content (Liquid Limit	Plastic Limit	Plasticity Index	uscs
		TOPSOIL - dark brown fine (3.0")												
		CLAY - brown silty with a trace of sand												
2 milini 3 milini 4 milini		CLAY - firm brown silty with lenses of sand		X	SPT-A	80	2-2-3	5	0.46	26.9				CL
5		$\overline{\Sigma}$		X	SPT-B	80	2-3-4	7		22.3				CL
6		CLAY - firm gray silty												
8				X	SPT-C	100	2-2-4	6		26.0				CL
9		SAND - compact brown fine silty				-								
10				X	SPT-D	67	3-6-9	15						SM
11														
13														
14 11 15		CLAY - stiff brown sandy with a trace of gravel		X	SPT-E	100	8-6-11	17						CL
16						-								
18		SAND - very compact light brown fine to coarse with	-	Y	SPT-F	80	8-16-24	40						SP
20		gravel and a trace of silt				-								
22														
23														
24														
26														
27														
28 minute 29 minute 29 minute 29 minute 29 minute 29 minute 29 minute 20 min														
30		Ann Arhor 🔹 🛛	Muske	gon	•		Fraverse Cit							
		(80	00)-933	3-39	959			- 7						



Project N	lame:	324 West Center	_Proje	ect M	Number:	202	20.0129			d D	14/ Cha			
Project L	Korr R	eal Estate		ea E ov F	3y: <u>JPO</u>		23 StatePlane	Michi	gan Sol	аву: uth	Hole D	mbaugr onth:	1 20	00
Date Sta	ted.	Feb 18 2020 Completed: Feb 18 2020	Nort	hind		0257 7	Facting	• 1	262750	7.6	Flevat	ion.	634	.73
Drilling N	/lethod	3-1/4" Hollow Stem Auger	Grou	und \	Water Lev	els		· _	202733		Lictur			., 5
Equipme	nt:	Diedrich D-25	$\overline{\nabla}$	а А	t Time of	Drilling	8.00 on	Feb 18	2020					
Hammer	Type:	Automatic Hammer	Ť			5111110	0100 011	. 0.0 10	2020					
Notes:	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,													
						1			1					
			~	e		\			£		A	tterbe	rg	
ج	ic		ion	Typ	ber	2	ts <	ne	eng	t (%		Limits		S
ept	apl	Material Description	tioi ndit	ple	a the second sec	N S S	alov	Val	tsf (tsf	ten	it d	Ŀ, Ŀ	city »x	JSC
	ซิ		Con	am	Ъ	Sec	۳ŭ	ż	ear	Σö	in i	im	asti nde	
				S		-			Я			<u> </u>	Pla	
	silte silte	— TOPSOIL - dark brown fine sandy (5.0")												
1		SAND - brown fine												
7														
		SAND - slightly compact brown fine to medium		V	ςρτ_δ	80	1-3-3	6						sc
3		clayey			5117		+ 5 5							50
4	[/	CLAY - firm brown silty with lenses of silt												
- 1														
				X	SPT-B	80	1-2-5	7	1.79	20.8				CL
6		CLAY - stiff dark gray silty				-								
7														
8		$\overline{\nabla}$		X	SPT-C	80	4-4-7	11						CL
						-								
9		SAND - gray fine silty				-								
10		SILT - stiff gray with a trace of sand and lenses of clay		X	SPT-D	100	1-5-7	12						ML
11						-								
12														
12														
13														
14														
15						100	2.4.6	10						N 41
					SPI-E	100	3-4-0	10						IVIL
10														
17 📑														
18														
19		SAND - very compact brown fine to coarse gravelly												6.0
					SP1-F	93	12-13-14	27						SP
20														
21														
22														
22														
23														
24														
25														
26														
27														
28														
29														
30														
50	I	Ann Arbor • M	/ /uske	gon	•	1	raverse Cit	.y	1	1	I	I		
		(80	0)-933	3-39	959			-						
L		•												



Project N	lame:	324 West Center	Proje	ect N	lumber:	202	20.0129							
Project L	ocatio	n: Douglas, Michigan	Logg	ed B	By: JPoe	el		R	leviewe	d By:	W. Star	mbaugł	า	
Client:	Kerr I	Real Estate	Surv	ey D	atum: 🔤	IAD 198	3 StatePlane	e Michi	gan Sou	th	Hole D	epth:	20	.00
Date Sta	rted:	Feb 18 2020 Completed: Feb 18 2020	Nort	hing	422	258.2	Easting	;: <u>1</u>	262768	1.3	Elevat	tion:	631	77
Drilling N	/lethoo	: <u>3-1/4" Hollow Stem Auger</u>	_Grou	nd \	Water Lev	els	7.00	F 10	2020					
Equipme	nt: Typo:	Diedrich D-25		A	t Time of	Drilling	7.00 on	Feb 18	2020					
Notes:	Type.													
								1						
			> -	e		%			gth	()	A	tterbe Limite	rg	
Depth	Graphic	Material Description	Cautionar Condition	Sample Typ	Number	Recovery 9 RQD	Blow Counts	N-Value	Shear Streng (tsf)	Moisture Content (%	Liquid Limit	Plastic Limit	Plasticity Index	uscs
	sile sile	TOPSOIL - dark brown fine sandy (4.0")												
1		SAND - brown fine silty with a trace of clay												
2														
3 minut		SILT - firm gray sandy with lenses of sand		X	SPT-A	100	2-2-4	6		31.9				ML
4		CLAY - stiff brown silty												
5				X	SPT-B	0	3-4-6	10						CL
6		SILT - stiff gray sandy												
7		∇												
8		CLAV stiff grow silty with longer of silt		X	SPT-C	100	1-4-5	9		23.3				ML
9		CLAT - still gray sitty with lenses of sitt												
				V										
	{/			Å	SPT-D	100	3-4-7	11						CL
	1111/													
12														
13	//													
14	//													
15		SAND - compact light brown fine to medium				00	260	15						CD.
16					3P1-E	00	2-0-9	12						55
		CLAY - stiff gray silty												
18	[/					-								
19	<u> [/</u>			X	SPT-F	100	8-12-26	38						CL
20		SAND - very compact brown fine to medium with												
21		gravel and a trace of slit												
22														
25														
24														
25														
26														
27														
28														
20														
30		Ann Arbor • M	Auskee	zon	•	1	Fraverse Cit	l tv						
		(80	0)-933	3-39	59	'		-,						
L		· ·	-											



Project N	lame:	324 West Center	Proje	ect N	lumber:	202	20.0129							
Project L	ocatio	n: Douglas, Michigan	Logg	ed B	с Во	wditch		R	eviewe	d By:	W. Sta	nbaugł	۱	
Client:	Kerr	Real Estate	Surv	ey D	atum: N	IAD 198	3 StatePlane	Michi	gan Sou	ith	Hole D	epth:	20.	.00
Date Sta	rted:	Feb 18 2020 Completed: Feb 18 2020	Nort	hing	: 422	250.2	Easting	1	262778	9.1	Elevat	ion:	624	.80
	vietno	3-1/4" Hollow Stem Auger	Grou	nd \	Nater Lev	els Drilling	2 00 on [- - h 10	2020	Doroho	d \\/a+a		ntarad	
Hammer	Type			A	t fille of t	Jinnig	2.00 011	-en 19	2020 -	Perche	u wate	ENCOL	ntereu	•
Notes:	.,													
			> _	e		%			gth	. 0	A	tterbe Limits	rg	
Depth	Graphic	Material Description	Cautionar Conditior	Sample Tyl	Number	Recovery RQD	Blow Counts	N-Value	Shear Stren (tsf)	Moisture Content (9	Liquid Limit	Plastic Limit	Plasticity Index	uscs
	sile sile	TOPSOIL - dark brown fine (6.0")												
1		SILT - brown clayey with a trace of sand												
2		SIIT - stiff brown sandy												
3 Imhini				Å	SPT-A	100	5-7-6	13		23.7				ML
4		SAND - compact brown fine silty												
5				X	SPT-B	87	4-8-7	15		23.1				SM
6														
		CLAY - stiff gray silty		X	SPT-C	100	3-4-8	12						CL
9														
10				X	SPT-D	100	4-4-6	10		25.7	42	20	22	CL
13														
14														
				X	SPT-E	100	8-6-8	14						CL
10														
18		SAND avtromaly compact light brown find to												
19		medium with gravel		X	SPT-F	116	10-37-50/0. 29'	87						SP
20														
22														
23														
24														
25														
26														
28														
29														
20														
30		Ann Arbor • N	/ /uske	gon	•	1	Fraverse Cit	у	1	L	1	<u> </u>		
		(80	10)-933	5-39	59									



Project N	lame:	324 West Center	Proje	ect N	lumber:	202	20.0129							
Project L	ocatior	: Douglas, Michigan	Logg	ed E	By: <u>C Bo</u>	wditch		R	eviewe	d By:	W. Star	mbaugl	۱	
Client:	Kerr F	leal Estate	Surv	ey D	atum: <u>N</u>	IAD 198	33 StatePlane	Michi	gan Sou	uth	Hole D	epth:	20.	.00
Date Sta	rted:	Feb 18 2020 Completed: Feb 18 2020	_Nort	hing	; 422	257.0	Easting:		262797	2.6	Elevat	tion:	625	.43
Equipme	nt	Diadrich D-25			t Time of I	eis Drilling	8 00 on F	ah 18	2020					
Hammer	Type:	Automatic Hammer	Ť	~		Drining	0.00 011	CD 10	2020					
Notes:	11													
											A	tterbe	rg	
	0		<u>≥</u> ⊆	/pe	L	%		0	ngth	e (%		Limits	0	
Depth	Graphi	Material Description	Cautiona Conditic	Sample Ty	Numbe	Recovery RQD	Blow Counts	N-Value	Shear Strei (tsf)	Moistur Content (Liquid Limit	Plastic Limit	Plasticity Index	nscs
	ple ple	TOPSOIL - dark brown sandy (4.0")												
		CLAY - soft to firm grav silty												
2		5 · / · · /		V			224	7						
3					SPT-A	80	2-3-4	/						CL
4														
5				V				4	0.42	22 5				
6					SPI-B	67	2-2-2	4	0.42	22.5				CL
				V	SPT-C	80	2-3-4	7	0.45	27.9				CL
		SILT - stiff grav sandy with a trace of clay				-		-						
9						-								
10				X	SPT-D	100	3-4-5	9						ML
11						-								
12														
13														
		CLAY - stiff gray silty with lenses of sand				-								
				X	SPT-E	100	3-6-5	11						CL
16						-								
17														
18														
19		SAND - extremely compact light brown fine to		Y	SPT-F	106	16-32-50/0.	82						SP
20		medium with silt and a trace of gravel				-	42							
21														
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	1	Ann Arbor • N	/luske	gon	٠	· .	Traverse Cit	у		•				
		(80	0)-933	8-39	59									





v ري 12	% G	ravel		% Sand		% F	ines
70 T 3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0%	0.0%	0.0%	1.4%	8.1%	52.1%	0.0%	0.0%
D85	D60	D50	D30	D15	D10	Loss By	y Wash
0.2712	0.1228	0.1006	0.0585	0.0293	0.0195	38.	5%

Sieve		Hydror	neter		Material Description
Particle Size (mm)	% Passing	Particle Size (mm)	% Passing	Fine Clayey SAND	(SC)
75.000	100.0%				
37.500	100.0%				
19.000	100.0%				Remarks
12.500	100.0%				
9.500	100.0%				
4.750	100.0%				
2.360	99.1%				
1.180	97.4%				
0.600	94.0%				
0.300	88.0%			Technician	MDaigneault
0.150	72.2%			Checked	wstambaugh
0.075	38.5%			Approved	wstambaugh





% +3"	% Gravel			% Fines			
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0%	0.0%	0.0%	0.0%	4.4%	92.0%	0.0%	0.0%
D85	D60	D50	D30	D15	D10	Loss By Wash	
0.2834	0.2276	0.2053	0.1607	0.1146	0.0973	3.6%	

Sieve		Hydror	neter		Material Description
Particle Size (mm)	% Passing	Particle Size (mm)	% Passing	Fine SAND (SP)	
75.000	100.0%				
37.500	100.0%				
19.000	100.0%				Remarks
12.500	100.0%				
9.500	100.0%				
4.750	100.0%				
2.360	100.0%				
1.180	100.0%				
0.600	100.0%				
0.300	92.4%			Technician	MDaigneault
0.150	25.2%			Checked	wstambaugh
0.075	3.6%			Approved	wstambaugh





% +3"	% Gravel			% Fines			
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0%	0.0%	0.0%	0.0%	0.2%	37.3%	0.0%	0.0%
D85	D60	D50	D30	D15	D10	Loss By Wash	
0.1228	0.0720	0.0600	0.0360	0.0180	0.0120	62.5%	

Sieve		Hydror	meter		Material Description
Particle Size (mm)	% Passing	Particle Size (mm)	% Passing	Sandy SILT (ML)	
75.000	100.0%				
37.500	100.0%				
19.000	100.0%				Remarks
12.500	100.0%				
9.500	100.0%				
4.750	100.0%				
2.360	100.0%				
1.180	100.0%				
0.600	100.0%				
0.300	99.6%			Technician	MDaigneault
0.150	97.8%			Checked	wstambaugh
0.075	62.5%			Approved	wstambaugh





% +3"	% Gravel			% Fines			
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0%	0.0%	0.0%	0.1%	3.0%	70.6%	0.0% 0.0%	
D85	D60	D50	D30	D15	D10	Loss By Wash	
0.1498	0.1179	0.1052	0.0797	0.0428	0.0285	26.3%	

Sieve		Hydror	neter		Material Description
Particle Size (mm)	% Passing	Particle Size (mm)	% Passing	Fine Silty SAND (S	5M)
75.000	100.0%				
37.500	100.0%				
19.000	100.0%				Remarks
12.500	100.0%				
9.500	100.0%				
4.750	100.0%				
2.360	100.0%				
1.180	99.5%				
0.600	98.6%				
0.300	95.7%			Technician	MDaigneault
0.150	85.2%			Checked	wstambaugh
0.075	26.3%			Approved	wstambaugh





% +3"	% Gravel			% Fines			
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0%	0.0%	0.0%	0.0%	1.7%	66.7%	0.0%	0.0%
D85	D60	D50	D30	D15	D10	Loss By Wash	
0.2658	0.1969	0.1693	0.0712	0.0356	0.0237	31.6%	

Sieve		Hydror	neter		Material Description
Particle Size (mm)	% Passing	Particle Size (mm)	% Passing	Fine Silty SAND (SM)
75.000	100.0%				
37.500	100.0%				
19.000	100.0%				Remarks
12.500	100.0%				
9.500	100.0%				
4.750	100.0%				
2.360	100.0%				
1.180	100.0%				
0.600	99.5%				
0.300	97.4%			Technician	MDaigneault
0.150	43.0%			Checked	wstambaugh
0.075	31.6%			Approved	wstambaugh





% +3"	% Gravel			% Fines			
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0%	0.0%	0.0%	0.1%	3.0%	70.6%	18.3%	8.0%
D85	D60	D50	D30	D15	D10	Loss By Wash	
0.1498	0.1179	0.1052	0.0797	0.0257	0.0076	26.3%	

Sieve		Hydror	neter		Material Description
Particle Size (mm)	% Passing	Particle Size (mm)	% Passing	Fine Silty SANI	D with Clay (SM)
75.000	100.0%	0.0483	21.0%		
37.500	100.0%	0.0348	18.0%		
19.000	100.0%	0.0226	14.0%		Remarks
12.500	100.0%	0.0161	13.0%		
9.500	100.0%	0.0132	12.0%		
4.750	100.0%	0.0093	11.0%		
2.360	100.0%	0.0076	10.0%		
1.180	99.5%	0.0066	10.0%		
0.600	98.6%	0.0046	9.0%		
0.300	95.7%	0.0033	8.0%	Technician	MDaigneault
0.150	85.2%	0.0014	7.0%	Checked	wstambaugh
0.075	26.3%			Approved	wstambaugh

SOILS &	LIQUID LIMIT, P	D LIMIT, PLASTIC LIMIT AND PLASTICIT				Job Ref		20.0129	
STRUCTURES	(ASTM D	וטאו ,04318-10	⊏⊼ Multipoint [·]	test)	Boreho	e/Pit No.		TB-09	
Site Name	324 West Center				Sample	No.	D		
Soil Description					Depth	ft		9.5	
Specimen Reference	5	Specimen Depth		ft	Sample	Туре		SPT	
Specimen Description		•			KeyLAE	3 ID	MSK	202003037	3
Test Method	ASTM D4318-10, Multi	point test			Date sta	arted			
Sample preparation: Teste Total mass of sample	Sample preparation: Tested () in natural condition () after >425um removed by hand () after washing to remove >425um Total mass of sample								
Mass, greater than 425	iµm sieve, removed		lb	Percentag	e passing 4	25µm			%
Liquid Limit		05 05	05.00		25				
No. of blows, N		35	23 - 30	20	20				
		r							-
Container No Mass of container	a	11 70	11 70	11 7	0	LL Device N Mechanical	0. or manual		-
Mass of wet soil and co	ontainer g	33.40	36.00	27.8	0	Grooving too	ol No.		1
Mass of dry soil and co	ontainer (1) g	27.20	28.70	22.9	0	Plastic or Me	etal		1
Mass of dry soil and co	ontainer (2) g	40.0	42.0	42.0	<u>, </u>	Oven No.			
Water Content	%	40.0	42.9	43.0	0	Oven tempe	rature		oC
Plastic Limit									-
Container No		11.20	11.20			Performed b	y hand		4
Mass of container	g ontainer g	16.60	11.20			Oven No	e No.		-
Mass of dry soil and co	ontainer (1) g	15.70	15.80			Oven tempe	rature		оC
Mass of dry soil and co	ontainer (2) g			Averag	e PL				-
Water Content	%	20.0	19.6	20					
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Remarks (added to pr	eparation for report/ags	data)		MDaianeau	ut		і іміт	42	
			Chocked	wotorshaw	***			42	
		⊦		wstambaug	JII	PLASIIC		20	
Lab Sheet Reference :		L	Abbioved	wstambau(וון	FLASTICI		22	



Project No.

Boring Location

Date:

Client

Depth

Unconfined Compressive Strength Report

324 West Center 2020.0129 3/6/2020 324 West Center TB-06 2



Sample ID	MSK_2020030365
Unconfined Strength (tsf)	0.929
Undrained Shear Strength (tsf)	0.464
Failure Strain (%)	18.8%
Strain Rate, (in/min)	0.000
Moisture Content	26.9%
Wet Density (pcf)	128.2
Dry Density (pcf)	101.0
Void Ratio	0.6681
Saturation (%)	108.9%
Specimen Diameter (in)	1.38
Specimen Height (in)	2.33
Height/Diameter Ratio	1.69

Plastic Limit
Plastic Limit
Plasticity Index
Assumed GS
2.7



Project No.

Date:

Client

Depth

Unconfined Compressive Strength Report

324 West Center 2020.0129 3/6/2020 324 West Center **Boring Location** TB-10 4.5



Sample ID	MSK_2020030374	
Unconfined Strength (tsf)	0.831	
Undrained Shear Strength (tsf)	0.415	
Failure Strain (%)	18.1%	
Strain Rate, (in/min)	0.000	
Moisture Content	22.5%	
Wet Density (pcf)	135.3	
Dry Density (pcf)	110.5	
Void Ratio	0.5246	
Saturation (%)	115.7%	
Specimen Diameter (in)	1.49	
Specimen Height (in)	2.41	
Height/Diameter Ratio	1.62	

Liquid Limit	
 BI	
 Plastic Limit	
Plasticity Index	
Assumed GS	
2.7	

Tested
wstambaugh
Checked
wstambaugh
Approved
wstambaugh



Date:

Client

Depth

Unconfined Compressive Strength Report

324 West Center Project No. 2020.0129 3/6/2020 324 West Center **Boring Location** TB-07 4.5



Sample ID	MSK_2020030368
Unconfined Strength (tsf)	3.574
Undrained Shear Strength (tsf)	1.787
Failure Strain (%)	18.7%
Strain Rate, (in/min)	0.000
Moisture Content	19.7%
Wet Density (pcf)	129.6
Dry Density (pcf)	108.2
Void Ratio	0.5565
Saturation (%)	95.5%
Specimen Diameter (in)	1.38
Specimen Height (in)	2.08
Height/Diameter Ratio	1.51

Liquid Limit	
Plastic Limit	
Plasticity Index	1
	1
Assumed GS	1
2.7	1

Tested
wstambaugh
Checked
wstambaugh
Approved
wstambaugh



Project No.

Boring Location

Date:

Client

Depth

Unconfined Compressive Strength Report

324 West Center 2020.0129 3/6/2020 324 West Center TB-04 7



Sample ID	MSK_2020030361
Unconfined Strength (tsf)	0.693
Undrained Shear Strength (tsf)	0.346
Failure Strain (%)	16.8%
Strain Rate, (in/min)	0.000
Moisture Content	21.0%
Wet Density (pcf)	139.6
Dry Density (pcf)	115.3
Void Ratio	0.4606
Saturation (%)	123.3%
Specimen Diameter (in)	1.49
Specimen Height (in)	2.54
Height/Diameter Ratio	1.70

Liquid Limit	
Plastic Limit	
Plasticity Index	
Assumed GS	
2.7	

Tested
wstambaugh
Checked
wstambaugh
Approved
wstambaugh



Date:

Client

Depth

Boring Location

Unconfined Compressive Strength Report

324 West Center 2020.0129 3/6/2020 324 West Center TB-05 7



Sample ID	MSK_2020030363
Unconfined Strength (tsf)	1.858
Undrained Shear Strength (tsf)	0.929
Failure Strain (%)	21.6%
Strain Rate, (in/min)	0.000
Moisture Content	19.2%
Wet Density (pcf)	135.8
Dry Density (pcf)	113.9
Void Ratio	0.4787
Saturation (%)	108.4%
Specimen Diameter (in)	1.37
Specimen Height (in)	2.03
Height/Diameter Ratio	1.48

Liquid Limit	
	_
Plastic Limit	
	_
Plasticity Index	
	_
Assumed GS	
2.7	

Tested
wstambaugh
Checked
wstambaugh
Approved
wstambaugh



Project No.

Boring Location

Date:

Client

Depth

Unconfined Compressive Strength Report

324 West Center 2020.0129 3/6/2020 324 West Center TB-10 7



Sample ID	MSK_2020030375
Unconfined Strength (tsf)	0.902
Undrained Shear Strength (tsf)	0.451
Failure Strain (%)	17.4%
Strain Rate, (in/min)	0.000
Moisture Content	27.9%
Wet Density (pcf)	123.5
Dry Density (pcf)	96.6
Void Ratio	0.7438
Saturation (%)	101.1%
Specimen Diameter (in)	1.51
Specimen Height (in)	2.75
Height/Diameter Ratio	1.82

Liquid Limit
Plastic Limit
Plasticity Index
Assumed GS
2.7

Tested	
wstambaugh	
Checked	
wstambaugh	
Approved	
wstambaugh	



General Information for Method of Field Investigation

The soil investigation was performed in accordance with the American Society of Testing and Materials method ASTM D 1586, which is the "Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils". Samples of compressible clays or organic soils are obtained in accordance with ASTM D 1587, which is the "Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes." Rock may be cored in conjunction with the above methods as specified in ASTM D 2113 which is the "Standard Practice for Rock Core Drilling and Sampling of Rock for Site Investigation."

Field Testing

Standard Penetration Tests (SPT) in accordance with ASTM D 1586 were generally performed at depths of 2.0', 4.5', 7.0', 9.5' and 5.0' intervals thereafter.

Laboratory Testing

Samples obtained from the Standard Penetration Test, ASTM D 1586 or thin walled tube method, ASTM D 1587, were tested in the laboratory for the moisture content and density and/or particle size, where applicable. When soils sampled possessed sufficient cohesive properties, it was tested for its compressive strength in the unconfined state.

Natural Percent Moisture content (N.P.M.) of the soil is the percentage by weight of water contained in the soil sample compared to the dry weight of the solids of which the soil is composed. The NPM of select samples is determined in accordance with ASTM D 2216.

Natural Density (N.D.) of soil as reported on the appended boring logs is the natural wet density of the soils expressed in pounds per cubic foot.

The unconfined compressive strength of cohesive soils is determined in the laboratory on "undisturbed" select samples in accordance with ASTM D 2166. This test determines the maximum load required at a specified rate to deform the cohesive soil specimen length twenty (20%) percent. The primary purpose of the unconfined compression test is to obtain approximate quantitative values of the compressive strength of soils possessing sufficient coherence to permit testing in the unconfined state. The shear strength of the cohesive soil can be calculated from the results of the unconfined compressive strength test.

Color

When the color of the soils is uniform throughout, the color recorded will be such as brown, gray, and black and may be modified by adjectives such as light and dark. If the soils predominant color is shaded by secondary color, the secondary color precedes the primary color, such as gray-brown, or yellow-brown. If two major and distinct colors are swirled throughout the soil, the colors will be modified by the term mottled; such as mottled brown and gray.

Water Observations

Depth of water recorded in the test boring is measured from the ground surface to the water surface. Initial depth indicates water level during boring, completing depth indicates water level immediately after boring, and depth after "X" number of hours indicates water level after allowing the groundwater rise or fall over a period of time. Water observations in pervious soils are considered reliable groundwater levels for accurate groundwater measurements at the time the test borings were performed unless records are made over several days' time. Factors such as weather, soils porosity, etc., will cause the groundwater level to fluctuate for both pervious and impervious soils.



Sample Type

If not otherwise indicated, the sample is a split-barrel liner sample ASTM D 1586.

"S.T.' – Shelby tube sample, ASTM D 1587
"A" – disturbed augered sample
"C" – rock core sampled ASTM D 2113
N.P.M. – Natural Percent Moisture of in-situ soils sample
N.D. – Natural Density of in-situ soils sample in pcf.
S.S. – Shear Strength of cohesive soils samples as determined by the Unconfined Compression tests in ksf.

Classification Data – Laboratory data to assist in classification of soils and classification of soils characteristics; i.e., plastic limit or liquid limit

<u>Lest Boring Logs</u>	
Particle Size	Visual
Boulders	Larger than 12" (300 mm)
Cobbles	12" to 3" (300 to 75 mm)
Gravel - Coarse	3" to ¾ " (75 to 19 mm)
Gravel – Fine	19.0 to 4.75 mm
Sand- Coarse	4.75 to 2.0 mm
Sand - Medium	2.0 to 0.425 mm
Sand - Fine	0.425 to 0.075 mm
Silt	0.075 to 0.002 mm
Clay	0.002 mm and smaller

Soils Components

Major Component	Minor Component
Gravel	Trace (1 - 10%)
Sand	Some (11 - 35%)
Silt/Clay	And (36 - 50%)

Condition of Soil Relative to Compactness

Granular Material	"N" Value
Loose	0-4
Slightly Compact	5-7
Compact	8-20
Very Compact	21 - 50
Extremely Compact	51 and above

Cohesive Material	"N" Value
Soft	0-4
Firm	5-7
Stiff	8-20
Very Stiff	21 - 50
Extremely Stiff	51 and above

"N" values in clay soils are not to be used as a measure of shear strength. However, they may be used as a general indication of strength.


Unified Soil Classification System Chart

Major Divisions			Letter Symbol	Typical Descriptions
Coarse Grained Soils	Gravel – Gravelly Soils	Clean gravels	GW	Well-Graded gravels, gravel-sand mixtures, little or no fines
Mara than 50% of	more than 50% of coarse fraction retained on No. 4 sieve		GP	Poorly-Graded gravels, gravel-sand mixtures, little or no fines
		Gravel with Fines (appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
material is larger than No. 200	Sand and Sandy Soils	Clean Sand	SW	Well-Graded sands, gravelly sands, little or no fines
sieve size	More than 50%	(little or no fines)	SP	Poorly-Graded sands, gravelly sands, little or no fines
	of coarse fraction passing No. 4 sieve	Sand with Fines	SM	Silty sands, sand-silt mixtures
		(appreciable amount of fines)	SC	Clayey sands, sand-clay mixtures
Fine Grained Soils	Silts and Clays Liquid limit less than 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
More than 50% of material is smaller than No. 200 sieve size			CL	Inorganic clays or low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silty clays or low plasticity
	Silts and Clays Liquid limit greater than 50		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils
			СН	Inorganic clays of high plasticity, fat clays
			ОН	Organic clays or medium to high plasticity, organic silts
	Highly organic soi	ls	PT	Peat, humus, swamp soils with high organic contents





For Laboratory Classification of Fine Grained Soil Plasticity Chart



SITE LIGHTING PLAN

11-01-2022 George F Krugge









Know what's below Call before you dig.

For protection of underground utilities, the CC frince working days, excluding Saturdays, Sur Al "MISS DIG" participating members will thur of the responsibility of notifying the utility own

C0.1















DATE OF PLAN: 11-11-22

<u>C2.1</u>



C3.0

DATE OF PLAN: 11-11-22

EASEMENTS FOR PRIVATE UTILITIES WILL BE BASED UPON LOCATIONS REQUESTED BY UTILITY COMPANES (GAS, ELECTRIC, AND COMMUNICATIONS) WITH CONSIDERATION OF PUBLIC UTILITY LOCATIONS AND EASEMENTS.

- ALL WATER WAINS AND THEIR APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND AWWA STANDARD C800.
- 9. WATER MAIN FLUSHING SHALL PROVIDE A MINIMUM WATER VELOCITY OF 3.0 FEET PER SECOND IN ACCORDANCE WITH AWWA STANDARD C651.



LINE TYPE LEGEND

STORM STRUCTURE SCHEDULE (THIS SHEET)

SILING SHEET THE SILING

 WTM (κ)
 64.00 FT (>COES ET M)
 66.22%)

 WHM (C)
 CL-MORE STORE (M)
 65.00 COER of M)
 65.00 COER of M)

 ICOURD EAR (M)
 2.00 COER (M)
 65.00 COER (M)
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NHX (F DN - ADS BARRACUDA S8) RM = 621.00 FT (COVER: EAM 1048 Z SERIES W SOLD COVER OR A.E. 18" INV (EIW) = 615.80 FT (HDPE STM (\$ 0.22%)

ALL CURB DIMENSIONS ARE MEASURED FROM EDGE OF METAL.

STORM STRUCTURE NOTES



I TORM STRUCTURE NOTE: I TORM STRUCTURE MONTED ARE MADE THE MONE ON THE OF STRUCTURE, I'M LEVATIONS ARE MEADARED AT EDGE OF METAL. I TORM STRUCTURE MONE THE MONETONE STRUCTURE OF APPROVED DOWN, UNLESS RECATED ON THE FAM. MONETES ARE OFFICIATION OF MALE IN THE MONET MONETANE THE MONETANE AND PERFORMATION. CONTRICTORS IN MALE AND AND CONNECTIONS TO MANNELES SHALL BE MORE WITH A RESULTING CONNECTION FOR PIPE ONMETTING AN INCIDES AN INCIDE SAT ESSEN MANNELE ARE LEVATIONES BAULL BET I'M ELDOW FAUL GOADE. CONNECTIONS TO MANNELES SHALL BET I'M ELDOW FAUL GOADE.

THE CONTRACTOR SHALL EXPOSE AND VERIFY LOCATION AND DEPTH OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. CONFLICTS IN GRADES SHALL BE REPORTED TO EXIGNEER AND ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO OWNER.





Prepared for: KRE West Centre LLC PO BOX 574 Douglas, MI 49406 t.269.420.5156





PRIVATE UTILITY NOTE:	
PRIVATE UTILITIES LOCATIONS WILL BE BASED UPON LOCATIONS REQUESTED BY UTILITY COMPANES (GAS, ELECTRIC, AND COMMUNICATIONS) WITH CONSIDERATION OF PUBLIC UTILY LOCATIONS AND EASEMENTS.	
NOTE:	
EASEMENTS FOR PRIVATE UTILITIES WILL BE BASED UPON LOCATIONS REQUESTED BY UTILITY COMPANES (GAS, ELECTRIC, AND COMMUNICATIONS) WITH CONSIDERATION OF PUBLIC UTILITY LOCATIONS AND EASEMENTS.	



DATE OF PLAN: 11-11-22



C3.1





Prepared for: KRE West Centre LLC PO BOX 574 douglas, mi 49406 t.269.420.5156



callen

Callen Engineering, Inc. 108 east savidge street spring lake, mi 49456 t.616.414.5260 www.callenengineering.com



ALL 5. (2x2 HARDING SHALL BE PLA AT INTERV/ AROUN



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X-SECTIONS, NOTES, AND DETAILS Job No: Issue: Issue Dat C4.1



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L1.0



SITE LIGHTING PLAN

11-01-2022 George F Krugge



The Center Collective is designed to create a vibrant, mixed-use neighborhood at village-size scale.

The Center Collective is nestled on a 10.4 acre site just west of Blue Star Highway and in the friendly Village of Douglas. The overall project will include a small residential neighborhood on the north side and a mixed-use development on the south side with frontage on Center Street.

Residential Neighborhood

There will be 20 residential lots on 7 acres within the northernmost portion of the development. All residential lots are designed to satisfy the required size, setback, placement, and design standards of the R-4 district. Each residential lot is a minimum of 66 feet wide and 7,920 square feet or larger, per the requirements of the R-4 zone district. All residential structures will comply with setback, height, and floor area requirements as specified within the zoning ordinance. Each residential lot is expected to require an individual zoning permit from the Douglas Zoning Administrator at such time as the lot owner is ready to construct. Each home will be capable of meeting all standards of the Douglas Zoning ordinance. The number of bedrooms, garages, or total usable floor area for this phase of the development is not known at this time. As each individual lot owner submits their plans for development, those details will be shared with the zoning administrator for review and permit application.

The westernmost portion of this residential neighborhood is designed to provide stormwater management with a planted bioswale. Existing trees will be preserved wherever possible and new tree plantings will be provided along all rights of way as required by the zoning ordinance and adjacent to the stormwater bioswale. Tree species will be selected from the required list of native trees provided within the Douglas Zoning Ordinance. Sidewalks will be provided on both sides of the internal roadway along with a connection to the mixed-use portion of the development with an outlet to the Beach to Bayou Trail along Center Street for passive recreational use and mobility throughout the community.

This portion of the project will include the construction of a two-lane road which intersects with both St Peter's Drive and Westshore Drive. The additional 20 lots are expected to be occupied by traditional homes with one or two cars per household. The number of additional vehicles using local roads will be relatively negligible from this portion of the development. The typical two-lane local road is designed to accommodate at least 1,000 vehicles per day.

As indicated within the engineer's report, the local sewer and water infrastructure is more than adequate to support the addition of 20 home lots in this area.

The new homes to be constructed are expected to be purchased by individual households and families with a range of backgrounds. The intent of this project is to attract some families with school-aged children who will attend Douglas Elementary or Saugatuck High School. However, it is unlikely that this phase of development will add more than a dozen or so school-aged children to the enrollment list. This number of additional students will provide the local schools with added per pupil funding and the Saugatuck Public School District has the available capacity to accommodate these students.



Finally, based upon the submitted wetland report, this development will not have an adverse effect on any sensitive natural areas or wildlife habitat that would otherwise be protected in this location. Furthermore, it is expected that by accommodating new development where there is access to infrastructure and community amenities, this development will relieve some pressure for additional development on more sensitive lands in the region.

Mixed-Use Neighborhood

The southern 3.4 acres of the site is within the C-1 Village Center District and will provide a neighborhood development pattern that is designed to create a seamless transition from the larger commercial buildings on the east side of Blue Star Highway to the Kirby House next door, and further down the street to the mixed-use buildings near the corner of Center Street and Ferry Street. Each of these modest buildings is designed to satisfy all requirements of the Douglas zoning ordinance, including building placement, building height, transparency, landscaping, and parking.

This portion of the neighborhood will include a series of two-story, mixed-use buildings. The portions of the buildings facing Center Street will be occupied on the ground floor with commercial, retail and restaurant uses with the upper floors being occupied by residential apartments. Depending on the level of demand for ground floor commercial, some portions of the ground floor within the mixed-use buildings will be available for residential use as well. However, all ground floor residential uses will be designed in accordance with the standards of Section 26.13 of the Douglas Zoning Ordinance. All residential uses on the ground floor will be a minimum of 30 feet from the Center Street right of way and will not impede the flow of pedestrian traffic to and from commercial businesses in the neighborhood. The minimum transparency on the ground floor will be at least 30%.

The buildings in the mixed-use portion of the neighborhood are well-served by sewer and water within the Center Street right-of-way and there are not concerns about available capacity. The landscaped area along the western lot line adjacent to the residential neighborhood will also capture any stormwater runoff from the mixed-use portion of the site.

The commercial portion of the site is expected to provide 13,500 square feet of commercial/retail space and will satisfy the parking requirements with at least 45 parking spaces for the commercial uses. An additional 91 parking spaces will be available to support residents and guests of the mixed-use neighborhood. This is expected to support up to 47 apartments at less than 900 square feet (47 parking spaces), 12 apartments at greater than 900 square feet (24 parking spaces), and 20 additional parking spaces for guests.

This property is also highly accessible within the City of Douglas mobility network. With frontage on Center Street and the Beach to Bayou Trail, we expect this neighborhood to receive shoppers, diners, residents, and guests who arrive by bike, on foot, and by car. Thanks to the strategic investments that the City of Douglas has made in a diverse mobility network, this site can easily accommodate residents and visitors with a variety of abilities, ages, and preferences. Ample bike parking will also be provided on the property for anyone arriving on two wheels.



Year-round and Attainable

Since 2019, the average cost of construction has risen by nearly 50%. Labor shortages, material shortages, higher interest rates, and a myriad of other factors are influencing the cost to build in Michigan. However, the Center Collective is designed to accommodate a range of family sizes and household types with a range of incomes. Our goal is to provide unique housing options for the local workforce with year-round accommodations priced to meet their budget. Throughout the Saugatuck/Douglas region, there are relatively few year-round rental options for young professionals, educators, public safety workers, and retail or service workers. Our goal is to bring a high-quality and very attractive range of housing choices to the market. To achieve the most desirable prices for these local workers, we intend to seek financing support from a variety of state and local sources and work toward a guaranteed range of affordability for specific income targets, likely prioritizing households earning 80% to 120% of the area median income.

The exact level of affordability will depend on participation from the City of Douglas and the local brownfield authority as well as the amount of investment this project is able to receive from the Michigan Economic Development Corporation and other sources being pursued. Our team intends to make every effort to ensure that *at least* 20% of all units are reserved for the workforce described above and we will serve a much greater proportion of this market segment if possible. We fully expect that The Center Collective will commit to a long-term period of affordability as a part of any incentive package that is received from either local or state partners.

Master Plan

Center Collective is designed to support the City of Douglas in its goals for both Economic Development and Housing and Neighborhoods as described in the Community Master Plan.

Economic Development Goal 1. *Douglas will grow in a strategic and deliberate manner, careful to respect the scale of existing development and surrounding context.*

1.3. Allow for more flexibility of building types and building heights within the downtown to help off-set land and development costs, while ensuring compatibility with the surrounding neighborhood.

The Center Collective is designed to incorporate traditional architecture and buildings of a size which are familiar throughout the village. Buildings will be limited to two-stories and include architectural variation which is designed to reflect some of the attributes of existing historic homes and farmhouses in the area while updating those designs for the 21st century. Gabled roof lines, windows designed to a human scale, dormers, appropriately sized balconies, and expression bands on the mixed-use buildings are all designed to carry familiar themes from throughout the community and into this neighborhood.

The Center Collective is located on a primary traffic corridor and will have the benefit of existing sewer and water infrastructure within the public right of way and with plenty of capacity to serve the neighborhood. The Center Collective will also benefit from the presence of an existing



traffic light at Center and Blue Star, ensuring that all traffic into and out of the neighborhood can continue to flow smoothly and at the speed and scale that is customary to the Village of Douglas.

1.5. Manage growth through in-fill development, and ensure that existing utilities meet present needs before additional growth is permitted.

The Center Collective is designed to fit neatly within the existing infrastructure footprint in the City of Douglas. It does not require the extension of utilities or the upgrading of existing lines. Rather, the project proposal provides in-fill development between a historic B&B and the newer mixed-use buildings to the west, providing a continuous pedestrian experience from Ferry to Blue Star.

Master Plan – Economic Development Goal 2. *Douglas will leverage private future development opportunities to enhance public spaces and connectivity.*

2.3 Expand current Beach to Bayou development of the trail and the uses adjacent to the trail.

The Center Collective will provide new retail and commercial building frontage adjacent to the existing Beach to Bayou Trail and filling in the spaces between the retail and gallery spaces closer to Ferry and the more auto-oriented uses along Blue Star Highway. The proposed infill development will create a rich pedestrian experience with plenty of opportunities for residents and visitors to stop for a meal, a drink, or a visit and ample options to park their bike during their stay.

Master Plan Economic Development Goal 3. *Douglas will anticipate development opportunities to ensure future economic growth remains consistent with the feel and character of the community.*

3.1 Seek ways to expand the tourist season (especially the shoulder months of April and October) through new and diversified industries and events.

One of the most important factors to influence the vitality and sustainability of local businesses is the strength of the local workforce. When local businesses are forced to attract talent from far-flung metro regions like Grand Rapids or Kalamazoo because the local housing market does not offer options within a reasonable price range, this makes keeping employees on staff during the slower shoulder season more difficult. The Center Collective is designed to accommodate young adults and smaller households what to enjoy the slower pace of life and access to natural amenities that Douglas offers but who cannot currently afford the average \$450,000 house in



the City. The Center Collective will aggressively pursue all available tools and resources to ensure a portion of residential units are attainable to the regional workforce.

Furthermore, the Center Collective offers a highly accessible community in the heart of Douglas and with a variety of home sizes and building formats. This will allow the community attract a broader market segment of both visitors and homeowners to the community. The increased diversity and small increase in population can only help to support existing businesses and perhaps encourage new start-ups as well.

Douglas Master Plan – Strategic Direction for Housing & Neighborhoods

Create inclusive and inviting residential areas for seasonal and permanent homeowners and renters. We value connected, walkable, neighborhoods that feature a variety of housing types. We value people of all ages, backgrounds and lifestyles who wish to reside in our community. We seek to build our community through strong neighborhoods reflecting a diversity of housing types and opportunities for all. We value parks and recreation amenities, located within close proximity to neighborhoods, and connected to those neighborhoods via bike trails and sidewalks.

Goal 1. Douglas will facilitate the development of a diversity of housing types to meet the needs of current and projected future populations.

The majority of housing in the City of Douglas has been, and continues to be in the form of single family homes. Douglas Harbor Village and Northern Lights offer solid but limited alternatives to single family homes. Yet, the City has pledged to support a broader diversity of housing types for people of all ages, abilities, and economic backgrounds. The Center Collective will offer both traditional single-family homes as well as more efficient housing options for year-round and seasonal residents alike. These housing alternatives are designed to fit neatly within familiar building styles that are built to match the scale and size of existing buildings in the village environment.

Goal 2. Douglas will diversify its housing stock to encourage more people to seek long term, permanent residency within the City.

Objectives. 1) Explore opportunities for a senior housing complex featuring services and amenities geared towards active adults including: recreation, arts and health services, along with banking, shopping and other service-based industries. 2) Allow accessory dwelling units by right in R-1, R-2 and R-4 zoning districts. 3) Facilitate infill housing through density standards and unit size allowances. 4) Ensure existing housing stock is adequately served by utilities, and water pressure is sufficient to maintain public safety requirements. 5) Allow for "missing middle" housing types within walking distance to the city center and Douglas Elementary school to facilitate walkability.



The Center Collective is designed to satisfy nearly all of these objectives. Although it is not intended to be an exclusively senior-oriented development, the Center Collective will very likely provide a multitude of attainable housing options to adults over the age of 55, while simultaneously supporting a younger workforce demographic. This neighborhood is intended to

be a highly diverse community which allows each household to come as they are and feel welcome in their environment.

The single-family neighborhood is designed to meet all of the existing zoning criteria related to lot area, building placement, and setback. In addition, may of the proposed lots could easily accommodate an accessory dwelling unit if the City of Douglas chooses to permit these housing types in the future. Accessory dwelling units can be an outstanding housing alternative for young singles in the workforce as well as for an empty-nester or a seasonal resident. If and when the City is ready to support ADU's the Center Collective will proudly serve those housing needs in accordance with future zoning standards.

Finally, as expressed in previous sections of this narrative, the Center Collective provides infill housing on existing utilities and within short walking distance of downtown Douglas and all of the other amenities available within the City.

SIERRA ENVIRONMENTAL CONSULTANTS, LLC PO #136, KENT CITY, MICHIGAN 49330

PHASE I ENVIRONMENTAL SITE ASSESSMENT:

324 Center Street parcels per furnished description Douglas, Michigan



PREPARED FOR: Kerr Real Estate LLC Managing Member for Kerr-West Centre LLC

March 1, 2021

EXECUTIVE SUMMARY

Sierra Environmental Consultants, LLC has completed this Phase I Environmental Site Assessment (ESA) for 324 Center Street parcels per furnished description, Douglas, Allegan County, Michigan (the *property*). This *ESA* has been completed in conformance with the scope and limitations of ASTM International E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (the *standard practice*). Any exceptions to or deletions from the *standard practice* are described in Section 1.4 of this report.

This ESA has not revealed evidence of recognized environmental conditions (RECs) associated with the property.

1.0 INTRODUCTION

Sierra Environmental Consultants, LLC has completed this Phase I Environmental Site Assessment (ESA) for a parcel of commercial real estate known as 324 Center Street parcels per furnished description, Douglas, Allegan County, Michigan (the property). This ESA has been completed in conformance with the scope and limitations of ASTM International E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (the standard practice). Any exceptions to or deletions from the standard practice are described in Section 1.4 of this report. All italicized items refer to definitions set forth in the standard practice.

1.1 Recognized Environmental Conditions

The term *recognized environmental condition*" (REC) means the presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of future release to the environment." The term includes *hazardous substances* or *petroleum products* even under conditions in compliance with laws. Any identified REC's are indicated in Section 8.0 - "Findings and Opinions".

1.2 Historical Recognized Environmental Conditions

The term "Historical Recognized Environmental Condition" (HREC) applies to the Property for contamination that has been verified to be remediated to an unrestricted cleanup standard. Any identified HREC's are indicated in Section 8.0 - "Findings and Opinions".

1.3 Controlled Recognized Environmental Conditions

The term "Controlled Recognized Environmental Condition" (CREC) applies to the Property if a cleanup utilized engineering or institutional controls such as deed use restrictions or prohibiting use of groundwater. Any identified CREC's are indicated in Section 8.0 - "Findings and Opinions".

1.4 "De Minimis" Conditions

The term *de minimis conditions* applies to minor or insignificant releases that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not *recognized environmental conditions*, and may or may not be considered significant enough to specify, based solely upon the discretion of the environmental professional.

1.6 Scope of Services

This *ESA* has been performed in accordance with good commercial and customary practice in the fields of environmental engineering and science. *Sierra Environmental Consultants, LLC*' scope of services and report format are intended to meet and exceed the requirements of the *standard practice*. The specific scope of services is as follows:

- 1. Standard environmental record sources were utilized to identify listings of known or suspected environmental conditions indicative of releases or threatened releases of hazardous substances in the vicinity of the property. Sierra Environmental Consultants, LLC contracts with a third party to search the various agency listings for different approximate minimum search distances from the property, based upon the relative potential threat represented by each listing as established in the standard practice. The following databases (and their respective search distances) were searched for this ESA, and each one meets or exceeds it's respective ASTM minimum search distance (Shown in miles)
- Federal NPL site list 1.0 mile radius
- Federal CERCLIS list 0.5 mile radius
- Federal CERCLIS NFRAP site list property and adjoining properties -
- Federal RCRA CORRACTS facilities list 1.0 mile radius
- Federal RCRA non-CORRACTS TSD facilities list 0.5 mile radius
- Federal RCRA generators list property and adjoining properties
- Federal ERNS list property only
- State-equivalent NPL list 1.0 mile radius
- State-equivalent CERCLIS list 0.5 mile radius
- State landfill and/or solid waste disposal site lists 0.5 mile radius
- State leaking UST list 0.5 mile radius
- State registered UST list property and adjoining properties
- 2. The following *additional environmental record sources* may have been reviewed, at the discretion of the environmental professional, to enhance and supplement the *standard environmental record sources*:
 - Michigan Department of Environmental Quality;
 - County Health Department;
 - Local Fire Department; and
 - Local Building Department.

Written information requests may have been made instead of oral interviews with local governmental officials. These agencies typically require a written request prior to processing requests for information.

- 3. A USGS 7.5 Minute Topographic Map was used to identify the physical setting of the *property* and immediate surrounding areas.
- 4. A USGS soils map and database was used to asses soils and aquifer vulnerability. Other information sources may also be utilized to determine the soil and/or groundwater conditions in the vicinity of the *property*. at the discretion of the environmental professional.
- 5. Readily available geotechnical reports, environmental reports, or other relevant documents pertaining to environmental conditions at the *property* and adjoining properties may also have been viewed at the discretion of the environmental professional.
- 6. Reasonably available and practically reviewable standard historical sources are utilized to determine the historical use of the *property*. This task requires reviewing only as many of the standard historical sources as are necessary and both reasonably ascertainable and likely to be useful, at the discretion of the environmental professional. The *standard practice* includes, but is not limited to the following sources as standard historical sources:
 - Aerial photographs;
 - Fire insurance maps;
 - Property tax files;
 - Recorded land title documents;
 - USGS topographic maps;
 - Local street directories;
 - Building department records;
 - Zoning/land use records; and
 - Other historical sources.
- 7. A *site reconnaissance* of the *property* and *adjoining properties* (as feasible) was conducted. The *site reconnaissance* consisted of:
 - The periphery of the *property* was observed;
 - The periphery of any structures on the *property* was observed;

- The *property* was observed from all adjacent public thoroughfares;
- Any roads or paths with no apparent outlet were observed;
- Accessible common areas, maintenance and repair areas, and a representative sample of occupant spaces of any structures at the *property* were observed; and
- *Adjoining properties* were observed as feasible.
- 8. One or more, as appropriate, of the following individuals was interviewed with regard to past and present uses of the *property* and its vicinity:
 - The current owner;
 - The key site manager of the *property*;
 - Past owners of the site as feasible;
 - Current and past occupants as feasible; and
 - Others with knowledge of the *property*, such as public agencies, nearby property occupants as appropriate (i.e. for abandoned properties) and feasible, local publications or "commonly known" sources as readily available.
- 9. A limited screening for suspected asbestos-containing materials (SACM) was conducted using visual observations of readily assessable areas of the *property*. No sampling was performed.
- 10. The results of the foregoing are described in Section 8.0 of this report entitled "Findings and Opinions", including:
 - Any known or suspected *recognized environmental conditions*, *historical environmental conditions*, *controlled recognized environmental conditions*, and *de minimis conditions*.
 - Opinions on the impact of these conditions and recommendations regarding additional appropriate investigation are provided. The significance of any identified *data gaps* is provided.

Section 4.5.2 of the *standard practice* states that *all appropriate inquiry* does not mean an exhaustive assessment of a clean *property*. There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this practice is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing an environmental site assessment and the reduction of uncertainty about unknown conditions resulting from additional information.

Section 4.5.3 of the *standard practice* states that not every *property* will warrant the same level of assessment. Consistent with good commercial or customary practice, the appropriate level of environmental site assessment will be guided by the type of *property* subject to assessment, the expertise and risk tolerance of the user, and the information developed in the course of the inquiry.

1.7 Significant Assumptions

Sierra Environmental Consultants, LLC assumes that the information provided by the user, regulatory databases, regulatory agencies, and interviews is accurate and that no pertinent information was withheld.

A generalized estimation of groundwater flow direction has been determined based on topography in the vicinity of the *property*, i.e. the assumption that shallow groundwater flow will follow topography, or on other available resources. No site-specific field measurements of groundwater flow direction, e.g. installation of groundwater monitoring wells, have been performed for this *ESA*. The interpretation of groundwater flow direction as well as proximity and other contaminant fate and transport characteristics are the basis for determining the potential risk for known contamination to impact the *property*. Since all of these factors cannot be definitively known within the scope of work defined by the Standard Practice, professional judgment is intrinsic to the process. Additionally, *Sierra Environmental Consultants, LLC* may also rely upon certain verbal information, representations and upon provided documents, both public and private in nature.

We may not attempt to independently verify the accuracy of this information, unless we detect any inconsistency or omission of a nature that might call into question the validity of any of this information. To the extent that the conclusions in the report are based in whole or in part on such information, they are contingent on its validity.

1.8 Limitations and Exceptions

Environmental site assessments are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and evaluation. During the course of a site evaluation, information prepared by others is often necessary. *Sierra Environmental Consultants, LLC* is not responsible for the accuracy of such information.

Sierra Environmental Consultants, LLC cannot warrant the accuracy, completeness, currency, merchantability, or fitness of any information related to records review provided in this *ESA*. Such information is not the product of an independent review conducted by *Sierra Environmental Consultants*,

LLC, but is only publicly available information maintained by government agencies, and aggregated by an independent third party supplier. Neither can *Sierra Environmental Consultants, LLC* warrant against the consequences of any *data gap* resulting from a lack of, or an inability to obtain, information required by current standards and practices, despite good faith efforts by the environmental professional or the prospective landowner or grant recipient to gather such information.

The environmental characteristics of the *property* and surrounding properties might change over time. This report does not warrant against future operations or conditions, nor does it warrant operations or conditions present of a type or at a location not investigated, or from information that may have changed but was not updated or was misrepresented in the obtained files.

Sierra Environmental Consultants, LLC will analyze the information obtained in this limited investigation in keeping with existing standards and practices. Other than indicated, this scope of work is not intended to address compliance with any federal, state or local statutes, regulations ordinances or codes.

This report is not legal advice and should not be construed or relied upon by anyone as such. *Sierra Environmental Consultants, LLC* recommends that you consult with an attorney specializing in environmental or real estate issues for guidance on all legalities related to the project and interpretation of environmental law.

In addition to the foregoing, the following limitations and exceptions to the *standard practice* apply to this report:

- The tribal reservation search only identifies Indian-administered lands that are equal to or greater than 640 acres.
- *Data gaps* identified during this *ESA* are discussed in the appropriate section of this report for the type of *data gap* identified. For instance, a *data gap* in the historical use of the *property* would be discussed in Section 5.1 (Summary of Historical Use of the Property) of this report while a *data gap* related to access the structures at the *property* would be discussed in Section 6.0 (Site Reconnaissance) of this report. Significant data gaps are summarized in Section 8.0 (Findings and Opinions) of this report.

Deviations and additions to the standard practice are discussed in Section 10.0 (Deviations) of this report.

1.9 Special Terms and Conditions

There were no special terms or conditions for this report.

1.91 User Reliance

Sierra Environmental Consultants, LLC conducted this ESA for the use of Kerr Real Estate LLC, Managing Member for Kerr-West Centre LLC (the user). This report is the property of Sierra Environmental Consultants, LLC. It is intended for the sole use of the user, and may not be used or relied upon by any third party without the written consent of Sierra Environmental Consultants, LLC. Any re-use of, or reliance on this report, in full or in part, is strictly prohibited unless authorized by the express written permission of Sierra Environmental Consultants, LLC or it's assignees.

2.0 SITE DESCRIPTION

The location and legal description of the *property*, general characteristics of the site and vicinity, the current use of the *property*, a description of structures, roads, and other improvements on the *property*, and the current uses of the adjoining properties are presented below.

Address	324 Center Street parcels per furnished description, Douglas, MI
County	Allegan
General Description	Residential
Legal Description	Appendicized
Vicinity Map	Appendicized

2.1 Location and Legal Description

2.2 Site and Vicinity General Characteristics

Area	About 7.5 acres m/l
Surface Cover	Residential structures and mixed vegetation
Land Use in Vicinity	mixed
Site plan	Appendicized

2.3 Current Use of the Property

Current Use	Residential
Current Owner	William Underdown, William Renkema

Structures	Residential home and outbuilding
Access	Access is provided via Center Street
Parking	Parking is available
Water Supply	Municipal
Sewage Disposal	Municipal
Utilities	Natural gas, electricity, and telephone available

2.4 Description of Structures, Roads, Other Improvements on Site

2.5 Current Uses of the Adjoining Properties

North	Residential
South	Residential
East	Residential
West	Residential

3.0 USER PROVIDED INFORMATION

This section describes information provided by the user to help identify possible *recognized environmental conditions* in connection with the *property*.

3.1 Title Records

A title commitment was provided by the user (appendicized) which did not indicate increased environmental risk to the property.

3.2 Environmental Liens, Activity Use Limitations (AUL), Institutional Controls

The Standard Practice does not require that the Environmental Professional perform searches for Environmental Liens, Activity Use Limitations (AUL), or Institutional Controls, since the user(s) are responsible for providing this information to the environmental consultant. The Standard Practice requires that these searches must be performed not only in land title records but also in judicial records for those jurisdictions where that information is maintained. It is the user' responsibility to ensure that judicial records are searched in those jurisdictions when ordering title searches.

• A title commitment was provided by the user (appendicized) which did not indicate Environmental Liens, Activity Use Limitations (AUL), or Institutional Controls at the property.

3.3 Specialized Knowledge

No specialized knowledge was reported.

3.4 Commonly Known or Reasonably Ascertainable Information

No commonly known or reasonably ascertainable information was reported.

3.5 Valuation Reduction for Environmental Issues No value reductions were reported.

3.6 Owner, Property Manager, and Occupant Information William Underdown & William Renkema were identified as the owners of the *property*.

3.7 Reason for Performing Phase I

The purpose for performing this *ESA* is for due diligence purposes in anticipation of a commercial real estate transaction.

3.8 Other

NA

4.0 RECORDS REVIEW

As required by the *standard practice*, sites with known releases of hazardous substances, physical settings, and historical information sources are analyzed. In accordance with Section 3.2.65 and 3.2.73 of the *standard practice*, *Sierra Environmental Consultants*, *LLC* only reviewed records that were both reasonably ascertainable and practically reviewable.

4.1 Standard Environmental Record Sources

A search of state environmental agency and federal listings was performed (the database search report is included in Appendix V). The purpose of this search is to identify potential, suspected, or known sources of contamination on, or in the area of, the *property*. The database searched the various agency listings for different approximate minimum search distances from the *property*, based upon the relative potential threat represented by each listing as established in the *standard practice*.

Sierra Environmental Consultants, LLC evaluated sites identified within the search radii to determine if they are likely to have adversely affected the *property*. The criteria used to evaluate the potential for adverse effect include:

- Proximity to the *property*;
- Expected depth and direction of ground water and surface water flow;
- Hydrogeologic characteristic of the soil in the vicinity of the *property*;

- Expected storm water flow direction; and
- The presence/absence of documented contaminant releases at nearby sites and at the Subject Property.

4.11 State and Federal Record Searches

The following databases (and their respective search distances) were searched for this ESA, and each one meets or exceeds it's respective ASTM minimum search distance (Shown in miles)

- Federal NPL site list 1.0 mile radius
- Federal CERCLIS list 0.5 mile radius
- Federal CERCLIS NFRAP site list property and adjoining properties -
- Federal RCRA CORRACTS facilities list 1.0 mile radius
- Federal RCRA non-CORRACTS TSD facilities list 0.5 mile radius
- Federal RCRA generators list property and adjoining properties
- Federal ERNS list property only
- State-equivalent NPL list 1.0 mile radius
- State-equivalent CERCLIS list 0.5 mile radius
- State landfill and/or solid waste disposal site lists 0.5 mile radius
- State leaking UST list 0.5 mile radius
- State registered UST list property and adjoining properties

4.12 Tribal Record Sources

Based on the site reconnaissance and records review, no Indian Reservations were identified within the vicinity of the *property*.

4.13 Discussion of Records Review

The E1527-13 Standard Practice requires review of agency files when the property or adjacent properties are identified on one of the standard databases that are required to be searched to determine if a REC, CREC, HREC or de minimis condition exists at the property. A file review is not required if supported by a sound rationale as to why the review is unnecessary. Alternatively, the consultant can rely on records provided from other sources (e.g., user-provided records or interviews with regulatory officials) to determine if there is sufficient information for identifying RECs.

- The Subject Property is not a listed site of known or suspected contamination.
- The remaining listed sites exhibit a low potential for material threat the Subject Property for one or more of the following reasons:

- Contaminant transport characteristics for contaminants known to exist at nearby listed sites exhibit a low potential for material threat to the Subject Property when considered along with the combination of:
 - inferred groundwater migration direction
 - topography
 - relative proximity to the Subject Property
- Any nearby registered UST sites, RCRA Generator sites (CESQG, SQG, LQG), and TSD Facilities may or may not be confirmed "release" locations and thus may exhibit a low potential for material threat to the Subject Property <u>unless</u> they are <u>also</u> on one of the other lists.
- Brownfields (ACRES sites) can include presence or potential presence of a hazardous substance, pollutant, or contaminant, or they may simply be "blighted", a term which is not reliant on any of those conditions. By evaluating the readily ascertainable and practically reviewable information about these, a determination can be made as to the potential for material threat to the Subject Property.
- The regulatory status of a particular listed site on any list (e.g. closed) indicate a low potential for material threat to the Subject Property.
- By evaluating the readily ascertainable and practically reviewable information about notes, maps, or other information which may be online or otherwise obtained, a determination can be made as to the potential for material threat to the Subject Property.
- Sierra Environmental Consultants, LLC may have file information on hand from other projects from which a determination can be made as to the potential for material threat to the Subject Property.
- *Sierra Environmental Consultants, LLC* may have interviewed state, federal, or local regulatory personnel who may have knowledge from which a determination can be made as to the potential for material threat to the Subject Property.
- A site on any list may be in error, based on other information known about that site.
- Any off-site source which impacts the Subject Property, is subject to Michigan's Part 201 of PA 451, Part 20126 (4)(c), which states: "*The owner or operator of property onto which contamination has migrated unless that person is responsible for an activity causing the release that is the source of the contamination.* "

4.2 Soil Gas/Vapor Migration Pathway

The E1527-13 Standard Practice only requires an opinion on a soil gas/vapor risk if there is a soil gas condition that qualifies as REC and it has been determined that the pathway poses an actual risk to human

health. In many cases, the mere presence of contaminated vapors in soil gas may simply be a de minimis condition. Sub-slab or indoor air sampling to confirm if the vapor pathway is completed (exposures are occurring) or to determine the indoor air contaminant concentrations is outside the scope of E1527-13.

If the source of the contaminated vapors is an on-site source, that condition will be flagged as a REC. Thus, from a practical standpoint, identifying the vapor pathway as a REC will only be an issue when contaminated vapors are migrating onto the property from an off-site source. The factors used in evaluating this potential are outlined in Section 4.13.

- This assessment did not identify any likely nearby off-site sources with a strong potential to create a soil gas/vapor pathway migrating to the Property.
- Based on the foregoing, the potential for vapor intrusion risk is minimal.

4.3 Additional Environmental Record Sources

Additional environmental record sources are sometimes reviewed to supplement the standard environmental record sources. Only reasonably ascertainable and sufficiently useful, accurate, and complete records are used when and as necessary. Standard historical sources reviewed as part of a prior environmental site assessment do not need to be searched or reviewed again except to identify uses of the *property* since the prior environmental site assessment.

• NA

4.4 Physical Settings Sources

The objectives of reviewing physical setting sources are to locate the *property* relative to known sites of environmental contamination, to infer groundwater depth and migration direction, and to help identify potential contaminant migratory pathways. Monitor wells were not installed on-site as part of this *ESA*; therefore, the depth to and direction of groundwater at the *property* is uncertain. Frequently, near-surface unconfined groundwater gradients mimic topographic gradients. Many factors can affect the groundwater flow direction and velocity; including, but not limited to: spatial variations in the geologic materials present in the subsurface; man-made influences and structures; subsurface man-made conduits relative to the utilities servicing the area; and regional groundwater flow gradient may be altered proximal to the intermittent creeks and the groundwater flow direction may change seasonally in these areas.

4.41 USGS 7.5 topographical quadrangle

The objectives of reviewing this map are to locate the Subject Property relative to known sites of environmental contamination, to infer groundwater depth and migration direction, and to help identify potential contaminant migratory pathways. *Sierra Environmental Consultants, LLC* viewed a USGS 7.5 topographical quadrangle covering the *property*.



Elevation	Approximately 625 - 640 feet above sea level
Topographic Gradient (property)	Northeast
Topographic Gradient (vicinity)	Northeast
Nearest Surface Water	Kalamazoo Lake is located less than 1 mile northeast of the <i>property</i> .
Groundwater Flow Direction	Based on the topography of the vicinity of the <i>property</i> and the nearby surface water, groundwater flow at the Property is likely to primarily move north-northeast towards Kalamazoo Lake.
Depth to Groundwater	The depth to groundwater at the <i>property</i> is likely less than 20 feet.

Note: Monitor wells were not installed on-site as part of this Phase I EA; therefore, the depth to and direction of groundwater at the Subject Property is uncertain. It is important to note that many factors exist which can affect the groundwater flow direction and velocity, and which can only be determined with certainty by performance of a site-specific hydrogeological evaluation.
4.42 USDA Soils Map



The objectives of reviewing the soil and geology in the vicinity of the *property* are to utilize known soil characteristics to infer soil contaminant adsorption potential and potential contaminant mobility. If a release of a regulated contaminant were to occur at the *property* ground surface or subsurface, the potential for near-surface groundwater impact would be moderate. No such release at the property was identified.

5.0 HISTORICAL USE INFORMATION

According to the *standard practice*, all obvious uses of the *property* shall be identified from the present, back to the *property*'s first developed use (including agricultural uses and placement of fill dirt), or back to 1940, whichever is earlier.

5.1 Historical Use Summary of the Property

A summary of the historical usage of the *property* based on the information collected from the sources outlined above is presented below. Data gaps of more than 5 years are identified and *Sierra Environmental Consultants, LLC* opinion on the significance of the data gap is provided.

• The Property was first developed in the about 1901 as a residential parcel. A barn was added later. The house and barn remain presently. Aside from the footprint of the house and barn, it appears that most of the property is wooded and undeveloped, and has been so for many years.

5.2 Historical Use Information Sources

This task requires reviewing only as many of the standard historical sources (list in Section 1.2 as are necessary and both reasonably ascertainable and likely to be useful. Review of standard historical sources at less than five-year intervals is not required by the *standard practice*.

Standard historical sources reviewed as part of a prior environmental site assessment do not need to be searched or reviewed again except to identify uses of the *property* since the prior environmental site assessment.

Aerial Photographs

Historical aerial photography is often useful in identifying past usages of a *property* or surrounding area, building locations, and discernible notable features, which may indicate potential environmental concerns with regard to the *property* and/or surrounding area. The quality and scale of the aerial photographs often limit *Sierra Environmental Consultants, LLC* ability to make detailed observations and conclusions regarding the historical uses of the *property* and adjoining properties.

• *Sierra Environmental Consultants, LLC* previously reviewed 1969, 1976, 1981, 1987, and 1992 aerial photos available at the Allegan County Equalization Office. The photographs do not provide additional information regarding the site history relative to that obtained through other sources.

Fire Insurance Maps

Sanborn Fire Insurance Maps are historical map records of fire prevention hazards for specific urban areas. These maps often provide data that sometimes can be used to determine the presence of underground and aboveground storage tanks (USTs/ASTs), type of building materials, location of flammable material storage, and types of businesses that occupied a particular site. Sanborn Fire Insurance Maps typically are dated from the late 1800's to the 1950's, and include updates for selected areas as recently as 1990.

• Sanborn Map Coverage not available for this area.

Property Tax Files

Property tax files are maintained for *property* tax purposes by the local jurisdiction and may include records of past ownership, appraisals, maps, sketches, photographs, or other information pertaining to a *property*.

Online property tax records were reviewed from Allegan County's website (appendicized). No recent splits were registered, and no delinquent taxes were shown.

Recorded Land Title Records

Land title records include records of fee ownership, leases, land contracts, easements, liens, and other encumbrances on or of the site, recorded in the place where land title records are, by law or custom, and recorded for the local jurisdiction in which a *property* is located. Typically, the municipal or county recorder or clerk maintains these records.

• A title commitment was provided by the user (appendicized) which did not indicate increased environmental risk to the property.

USGS Topographic Maps

Historical topographic maps may indicate the presence of structures, roads, standing water, orchards, and other significant features. Elevation data is also presence, which may be used with more current data to determine if filling, or cutting of soil has occurred at the *property*. Sierra Environmental Consultants, LLC performed a review of readily available of historical topographic maps for the *property*.

Year	Summary
1918, 1951, 1969, 1973, 1985,1989	No environmental issues identified

Local Street Directories

Local street directories are published by public and private sources and show occupancy and/or use of properties by reference to street address.

• NA

Building Department Records

The local government maintains Building Department records. These records indicate permission of the local government to construct, alter, or demolish improvements on a specified *property*. Frequently, information regarding the dates of installation and/or removal of USTs, municipal sewer, and water connections, and natural gas or electrical service installation is contained in these records.

• The property is connected to municipal water and sewer per code since 1977.

Zoning/Land Use Records

Zoning ordinances, enacted by the local government, indicate the uses permitted by the local government in particular zones within the limits of its jurisdiction. Various local government offices such as the Planning Department or Commission maintain zoning/land use records.

• NA

Other Historical Sources: Previous Environmental Evaluations

The term "other historical sources" refers to any source or sources other than standard historical sources that are credible to a reasonable person, and that identify past uses of the *property*. This category includes miscellaneous maps, newspaper archives, and records or personal knowledge of the *property* owner or occupants. Historical use information from the *property* owner(s) and/or occupants is presented in Section 7.0 (Interviews) of this report. Standard historical sources reviewed as part of a prior environmental site assessment do not need to be searched or reviewed again except to identify uses of the *property* since the prior environmental site assessment.

• NA

5.3 Historical Use Information on the Adjoining Properties

The historical sources used in Section 5.2 to determine the historical use of the *property* were also used to determine the general historical use of the adjoining properties.

North adjoining	Residential/wooded
South adjoining	Residential/wooded
East adjoining	Residential/wooded
West adjoining	Residential/wooded

No *recognized environmental conditions* were identified at the *property* as a result of historical uses of the adjoining properties.

6.0 SITE RECONNAISSANCE

The purpose of the *property* reconnaissance is to obtain visual information to help identify potential *recognized environmental conditions* in connection with the *property*.

6.1 Methodology and Limiting Conditions

The *standard practice* requires that the periphery of the *property* shall be visually and/or physically observed as well as the periphery of all structures on the *property*, and the *property* shall be viewed from all adjacent public thoroughfares. On the interior of structures on the *property*, accessible common areas

expected to be used by occupants or the public (such as lobbies, hallways, utility rooms, recreation areas, etc.) maintenance and repair areas, including boiler rooms, and a representative sample of occupant spaces, should be visually and/or physically observed. Looking under floors, above ceilings, or behind walls is not necessary. Also in accordance with the *standard practice*, *Sierra Environmental Consultants, LLC* did not attempt to gain access into exterior areas not readily accessible to an occupant or visitor to the *property* such as beneath ground cover or water filled areas.

Date of Site Reconnaissance	02/24/21
Site Reconnaissance Conducted By	David G. VerSluis, REPA
Methodology	See the Section 1.2 of this report.
Limiting Conditions	None
Photographs	Appendicized

6.2 General Site Settings

The general site settings of the *property* are discussed below. Identified conditions may be discussed following the table.

Current Uses of the property	Residential/wooded
Past Uses of the <i>property</i>	Residential/wooded
Current Uses of the Adjoining Properties	See Section 2.5 of this report.
Past Uses of the Adjoining Properties	See Section 5.3 of this report.
Current or Past Uses in the Surrounding Area	See Section 2.5 and Section 5.3 of this report
Geologic, Hydrogeologic, Hydrologic, and Topographic	See Section 4.3 of this report.
General Description of Structures	See Section 2.4 of this report.
Roads	See Section 2.4 of this report.
Potable Water Supply	municipal
Sewage Disposal System	municipal

6.3 Exterior Observations

Exterior observations of the *property* are discussed below. Identified conditions may be discussed following the table.

Current Use(s) of the <i>property</i>	Residential/wooded
Past Use(s) of the <i>property</i>	Residential/wooded
Hazardous Substance Use (Identified <i>property</i> uses)	None observed
Evidence of Storage Tanks	None observed.
Strong, pungent, or noxious odors	None observed
Pools of Liquids	None observed
Drums	None observed
Hazardous Substance Containers (non-identified <i>property</i> uses)	None observed
Unidentified Substance Containers	None observed
Equipment likely to contain PCBs	None observed
Pits, Ponds, or Lagoons	None observed
Stained Soil or Pavement	None observed.
Stressed Vegetation	None observed
Solid Waste Disposal	None observed.
Waste Water Discharges	None observed
Wells (monitor, water, dry, etc.)	None observed
Septic System or Cesspools	None observed
Wetlands	None observed

6.4 Interior Observations

Interior observations of the *property* are discussed below. Identified conditions may be discussed following the table.

Current Use(s) of the <i>property</i>	Residential
Past Use(s) of the <i>property</i>	Residential
Hazardous Substance Use (Identified property uses)	None observed
Evidence of Storage Tanks	None observed
Strong, pungent, or noxious odors	None observed
Pools of Liquids	None observed
Drums	None observed
Hazardous Substance Containers Non-identified property uses	None observed

Unidentified Substance Containers	None observed
Equipment likely to contain PCBs	None observed.
Heating and Cooling Sources	None observed.
Stains or Corrosion	None observed
Drains and Sumps	None observed.

7.0 INTERVIEWS

These sections detail *Sierra Environmental Consultants, LLC* attempts to interview relevant personal related to the *property*.

7.1 Interview with Owners Representative

Owner William Underdown contracted the property in 2017 from William Renkema with a Phase I ESA at that time. Neither Mr. Underdown nor Mr Renkema disclosed any RECs, and they did not indicate that any RECs have transpired at the Subject Property since that time.

7.2 Interview with Site Manager

Residential tenant not home at time of site visit.

This represents a data gap that would not rise to the level of significance necessary to affect the outcome of the report, given the weight of the other evidence evaluated.

7.3 Interview with Occupants

See 7.1 above

7.4 Interview with Local Government Officials

7.5 Interview with Others NA

8.0 FINDINGS AND OPINIONS

As required by the *standard practice*, this section identifies known or suspect *recognized environmental conditions*, *historical recognized environmental conditions*, and *de minimis conditions* in connection to the *property*. Significant *data gaps* are also discussed in this section.

1. Significant data gaps

- No significant gaps identified.
- 2. Property listed as a site of known or suspected contamination.
 - None identified
- 3. Underground storage tanks on site
 - None identified
- 4. Environmental Questionnaire response from User
 - No issues identified
- 5. Recognized Environmental Conditions at the Property
 - None identified
- 6. *Historical Environmental Conditions* at the Property:
 - None identified
- 7. *Controlled Recognized Environmental Conditions* at the Property:
 - None identified
- 8. *De minimis Conditions* at the Property:
 - None identified
- 9. Other issues identified at the Property:
 - None identified

9.0 CONCLUSIONS

The *standard practice* requires that all *recognized environmental conditions* in connection with the *property* be summarized in the conclusion section of the report.

Sierra Environmental Consultants, LLC has completed this Phase I Environmental Site Assessment (ESA) for 324 Center Street parcels per furnished description, Douglas, Allegan County, Michigan (the *property*). This *ESA* has been completed in conformance with the scope and limitations of ASTM International E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (the *standard practice*). Any exceptions to or deletions from the *standard practice* are described in Section 1.4 of this report.

This ESA has not revealed evidence of recognized environmental conditions (RECs) associated with the property.

10.0 DEVIATIONS

Refer to Section 1.4 (Limitations and Exceptions) of this report for any limitations and exceptions to the *standard practice*. Deletions, deviations, and additions to the *standard practice* are described below.

Deletions

No deletions to the standard practice were made for this ESA.

Deviations

This ESA included the following deviations to the standard practice:

- This report generally follows the recommended report format in the *standard practice*. Additional subsections have been added throughout the report to assist with the readability of the report. Specific changes include:
 - A new section (Historical Use Information) was created to include the Historical Use Information on the Property and Historical Use Information on the Adjoining Properties subsections. These subsections were removed from the Records Review section of this report.
 - Subsections 5. (Summary of the Historical Use of the Property), 5. (Historical Use Information Sources), and Historical Use Information on the Adjoining Properties were added to the Historical Use Information section of this report. Subsection 6.3 (Interior and Exterior Observations) was added to the Site Reconnaissance section of this report.
 - The Findings section and Opinions section were combined to form the Findings and Opinions section of this report.
- 2. Written information requests may have been made instead of oral interviews with local governmental officials. Local agencies typically require a written request prior to processing requests for information. Responses from these agencies may not be received within the time allotted for this *ESA*.

Additions

This ESA included the following additions to the standard practice:

- 1. Significant *data gaps* that may affect the conclusions of this report are discussed in the Findings and Opinions section of this report.
- 2. The Remediation and Redevelopment Division of the MDEQ maintains two lists of leaking underground storage tank (LUST) sites. The "closed" list contains sites that have been remediated to the satisfaction of the MDEQ. These sites are not likely to present a material threat to human health or the environment. Therefore, "closed" LUST sites are only discussed if they are located on or adjoining the *property*.

11.0 ADDITIONAL SERVICES

Sierra Environmental Consultants, LLC did not perform any services outside the *standard practice* for this *ESA*.

12.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

As required by 40 CFR 312.21(d) and the *standard practice*:

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the subject *property*. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Jac VSt



David G. VerSluis, REPA Managing Member

13.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

Sierra Environmental Consultants, LLC[°] Mission Statement, as an organization of environmental professionals, is to provide knowledgeable decisions relating to the planning and management of environmental activities in which industry, government, and the general public may place their complete confidence. This includes responding to changing legislation and client needs with practical, innovative, and cost-effective environmental solutions. In addition, *Sierra Environmental Consultants, LLC* adheres to the Code of Professional Practice prepared by the National Registry of Environmental Professionals (NREP). *Sierra Environmental Consultants, LLC* personnel directly involved in the technical performance of this Phase I *ESA* included:

David G. VerSluis, Jr., R.E.P.A., holds a B.S. in Industrial and Environmental Health Management from Ferris State University in Big Rapids, Michigan. After graduation, Mr. VerSluis gained experience with a series of environmental engineering and consulting firms, and he developed expertise in the assessment, investigation, and remediation of contaminated soil and groundwater from a multitude of sources. In 1993, Mr. VerSluis founded *Sierra Environmental Consultants, LLC*, and the company has become a recognized leader in the field of environmental consulting. As a result of Mr. VerSluis' consulting experience, the company has diversified to included other services and products dedicated to pollution prevention.

Mr. VerSluis has served as a member of the Michigan Economic Developers Association (MEDA), the SBA's Economic Development Foundation, Certified (EDFC), the Michigan Rural Water Association (MWRA), the Michigan Water Environment Association (MWEA), past member of the "Ethics and Standards" committee of the Michigan Environmental Consultants and Contractors Association (MECCA), and has been a Selected, Honored member of the National Directory of "Who's Who" for Executive Professionals since 1995. Mr. VerSluis has taught the environmental seminar for the Small Business Administration's annual "Lender's Conference" in Lansing, Michigan since it's inception in 2001.

Mr. VerSluis has been a Registered Environmental Property Assessor (REPA) certified by the National Registry of Environmental Professionals (NREPA) since 1992, and is the Managing Member of *Sierra Environmental Consultants, LLC*. Mr. VerSluis has provided environmental expertise to several thousand successful Real Estate Transactions.

14.0 REFERENCES

The *standard practice* requires that supporting documentation shall be included in the report or adequately referenced to facilitate reconstruction of the *ESA* by an environmental professional other than the environmental professional who conducted it. The following sources are commonly used by *Sierra Environmental Consultants, LLC* during a Phase I *ESA*:

Information	Source		
Standard practice	ASTM International. 2005. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, E 1527-05. West Conshohocken, PA.		
Prior Assessments See page 19 of this report.			
User Provided Information			
Title Records	User provided title records.		
User	The <i>user</i> is identified in Section 1.6 (User Reliance) of this report.		
Records Review			
Federal, State, and Tribal	Environmental Discovery Inc. RadiusSearch Report®. Batavia, IL, or Nationwide Environmental Title Research, LLC		
Regulatory Agency	Local district office of the Michigan Department of Environmental Quality		
Health Department	Local Health Department		
Fie Department	Local Fire Department		
Building Department	Local Building Department		
Physical Settings Sources			
Topographic Map U.S. Department of Interior, Geological Survey. Reston, VA.			
Historical Sources	Historical Sources		
Aerial Photographs (one or more)	County Equalization, Geographic Information Systems (GIS), or Property Description and Mapping departments, msrmaps, Google Earth, USDA, USGS, Terrafly, Landvoyage, Nationwide Environmental Title Research, LLC		
Soils maps	USDA Natural Resources Conservation Service (NRCS)		
Fire Insurance Map, Atlases (one or more)	Public Library, Library of Congress, ProQuest		
Property Tax Files	Local Assessor and/or County Equalization Department, County GIS system, or user		
Recorded Land Title Records	Title records if provided by the user		
Topo Maps (one or more)	Public Library, topoquest.com, Topozone, digital-topo-maps.com, trails.com		
City Directories	Public Library		
Building Department	Local Building Department		
Zoning/Land Use	County or local zoning Dept		
Interviews	Interviews		
Owner			
Key Site Manager	See page 24 of this report.		
Occupants	See page 24 of this report.		
Local Government Officials	See page 16 of this report.		
Others	See page 24 of this report.		

Appendix I – Site Plan (furnished)







From 2017 Phase I



DAVE ZW. Senter 1024 Parcel 5

Furnished 2-2021

Appendix III - Vicinity Map



Appendix IV – Questionnaire

(scroll down)

USER QUESTIONNAIRE

The user (the person or a representative of the company intending to purchase, occupy, or foreclose on the property) must complete this questionnaire and return it to Sierra Consultants.

1. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

no

2. Are you aware of any AULs (Activity Use Limitations), such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

no

3. As the user of the ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

no

4. Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

yes

5. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

a. What are the past uses of the property?

Floral/Garden

b. What specific chemicals are present or once were present at the property?

N/A

c. What spills or other chemical releases have taken place at the property?

N/A

d. What environmental cleanups have taken place at the property?

N/A

6. As the user of the ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?

No

INITIAL HERE PLEASE:



Appendix V – Title Work

(N/A, not provided by user)

Appendix VI – Assessor Information

(scroll down)



324 CENTER ST DC	UGLAS, MI 49406 (Property Ad	dress)	
Parcel Number: 59-016-033-0	00		
Property Owner: RE	NKEMA WILLIAM		
Summary Information			
> Residential Building Sum	mary	> Assessed Value: \$198,300 Taxable Value: \$91,673	
- Year Built: 1950	- Bedrooms: 1	> Property Tax information found	
- Full Baths: 1	- Half Baths: 0		
- Sq. Feet: 1,320	- Acres: 7.500		

Owner and Taxpayer Information

Owner	RENKEMA WILLIAM 2313 59TH ST FENNVILLE, MI 49408	Taxpayer	SEE OWNER INFORMATION

General Information for Tax Year 2020

Property Class	RESIDENTIAL – IMPROVED	Unit	59 DOUGLAS CITY
School District	SAUGATUCK	Assessed Value	\$198,300
MAP #	29 3H	Taxable Value	\$91,673
ACTION	0	State Equalized Value	\$198,300
USER ALPHA 1	Not Available	Date of Last Name Change	02/13/2019
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	No	Census Block Group	No Data to Display
ADDESS CHANGE	Not Available	Exemption	No Data to Display

Principal Residence Exemption Information

Homestead Date	No Data to Display		
Principal Residence Exempt	ion	June 1st	Final
2020		0.0000 %	-
2019		0.0000 %	0.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2019	\$195,500	\$195,500	\$89,964
2018	\$190,000	\$190,000	\$87,856
2017	\$190,200	\$190,200	\$86,049

Land Information

Zoning Code	C-1 VILL COMM	Total Acres	7.500		
Land Value	\$321,417	Land Improvements	\$1,080		
Renaissance Zone	No	Renaissance Zone Expi Date	ration No Data to Disp	lay	
ECF Neighborhood	RESIDENTAL DEVELOPABLI	E Mortgage Code	No Data to Disp	lay	
Lot Dimensions/Comments	No Data to Display	Neighborhood Enterpr Zone	ise No		
Lot(s)		Frontage			Depth
Lot 1		495.00 ft			660.00 ft
		Total Frontage: 495.00 ft		Averag	ge Depth: 660.00 ft
Legal Description					
COM 660 FT E OF W 1/4 POS	T SEC 16 TH N 660 FT TH E 66	0 FT TH S 660 FT TH W 660 FT	TO POB EX E 165 FT TH	EREOF SEC 16 T3N R16W. (71).
Sale History					
Sale Date Sa	ale Price Instrument G	Grantor	antee	Terms of Sale	Liber/Page
No sales history found.	!	I			

Building Information - 1320 sq ft RANCH (Residential)

General

Floor Area	1,320 sq ft	Estimated TCV	\$74,078
Garage Area	0 sq ft	Basement Area	0 sq ft
Foundation Size	1,320 sq ft		
Year Built	1950	Year Remodeled	No Data to Display
Occupancy	Single Family	Class	D +10
Effective Age	41 yrs	Tri-Level	No
Percent Complete	100%	Heat	Forced Air w/ Ducts
AC w/Separate Ducts	No	Wood Stove Add-on	No
Basement Rooms	0	Water	Public Water
1st Floor Rooms	0	Sewer	Public Sewer
2nd Floor Rooms	0	Style	RANCH
Bedrooms	1		

Area Detail - Basic Building Areas

Height	Foundation	Exterior	Area	Heated
1 Story	Slab	Siding	1,320 sq ft	1 Story

Exterior Information

Brick Veneer	0 sq ft	Stone Veneer	0 sq ft
Basement Finish			
Recreation	0 sq ft	Recreation % Good	0%
Living Area	0 sq ft	Living Area % Good	0%
Walk Out Doors	0	No Concrete Floor Area	0 sq ft
Plumbing Information 3 Fixture Bath	1	_	
Built-In Information			
Appliance Allow.	1		
Deck Information			
Treated Wood	20 sq ft		

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382 CENTER ST DO	OUGLAS, MI 49406 (Property Add	lress)
Parcel Number: 59-650-001	-00	
Property Owner: K	ERR-REAL ESTATE LLC	
Summary Information		
> Residential Building Sur	nmary	> Assessed Value: \$55,600 Taxable Value: \$52,628
- Year Built: N/A	- Bedrooms: 0	> Property Tax information found
- Full Baths: 1	- Half Baths: 0	
- Sq. Feet: 1,066	- Acres: 0.473	

Owner and Taxpayer Information

Owner	KERR-REAL ESTATE LLC PO BOX 574 DOUGLAS, MI 49406	Taxpayer	SEE OWNER INFORMATION

General Information for Tax Year 2020

Property Class	COMMERCIAL – VACANT	Unit	59 DOUGLAS CITY
School District	SAUGATUCK	Assessed Value	\$55,600
MAP #	27-1	Taxable Value	\$52,628
ACTION	0	State Equalized Value	\$55,600
USER ALPHA 1	Not Available	Date of Last Name Change	11/09/2020
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	No	Census Block Group	No Data to Display
ADDESS CHANGE	Not Available	Exemption	No Data to Display

Principal Residence Exemption Information

Homestead Date	07/12/2002	-	
Principal Residence Exen	nption	June 1st	Final
2020		0.0000 %	-
2019		0.0000 %	0.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2019	\$55,600	\$55,600	\$51,647
2018	\$55,600	\$55,600	\$50,437
2017	\$49,400	\$49,400	\$49,400

Land Information

Zoning Code	C-1 VILL COMM	Total Acres	0.473	
Land Value	\$111,261	Land Improvements	\$0	
Renaissance Zone	No	Renaissance Zone Expir Date	ation No Data to Display	
ECF Neighborhood	COMMERCIAL	Mortgage Code	No Data to Display	
Lot Dimensions/Comments	No Data to Display	Neighborhood Enterpri Zone	se No	
Lot(s)		Frontage		Depth
Lot 1		103.00 ft		200.00 ft
		Total Frontage: 103.00 ft		Average Depth: 200.00 ft
egal Description				
PART OF LOTS 1 & 2 TERRAC W 103.94' TO POB SEC 16 T3	e park heights comm at N R16W (98)	W 1/4 PST SEC 16 TH E 474.08' TH	H N 33.26' TH E 84' TO POB TH N	200.11' TH E 102.79' TH S 200.33' TH
Sale History				
Sale Date S	ale Price Instrument	Grantor Gra	ntee Terms of	f Sale Liber/Page

Record Details | Allegan County | BS&A Online

Sale Date	Sale Price	Instrument	Grantor	Grantee	Terms of Sale	Liber/Page
09/30/2020	\$0.00	WD	EAGLE STORAGE SERVICES LLC	KERR REAL ESTATE LLC	TO BE DETERMINED	4518/905
10/09/2014	\$120,000.00	WD	WISEACRE LLC	EAGLE STORAGE SERVICES LLC	FAMILY SALE	3878/776
12/15/2005	\$0.00	WD	ANDERSON RICHARD W & CAROLE J	WISEACRE LLC	ARMS LENGTH	2931/585
10/01/2005	\$0.00	QC	OOMS KRISTINE	ANDERSON RICHARD W & CAROLE J	NOT USED	2915/936
07/12/2002	\$80,000.00	LC	ANDERSON RICHARD W & CAROLE J	OOMS KRISTINE	OUTLIER	2272/260
09/19/1997	\$40,000.00	WD	BARKER BROKERAGE	MOORE MARION	ARMS LENGTH	

Building Information - 1066 sq ft RANCH (Residential)

General

Floor Area	1,066 sq ft	Estimated TCV	No Data to Display
Garage Area	0 sq ft	Basement Area	0 sq ft
Foundation Size	1,066 sq ft		
Year Built	No Data to Display	Year Remodeled	No Data to Display
Occupancy	Single Family	Class	С
Effective Age	46 yrs	Tri-Level	No
Percent Complete	0%	Heat	Forced Air w/ Ducts
AC w/Separate Ducts	No	Wood Stove Add-on	No
Basement Rooms	0	Water	Public Water
1st Floor Rooms	0	Sewer	Public Sewer
2nd Floor Rooms	0	Style	RANCH
Bedrooms	0		

Area Detail - Basic Building Areas

Height	Foundation	Exterior	Area	Heated
1 Story	Crawl Space	Siding	1,066 sq ft	1 Story
Exterior Information				
Brick Veneer	0 sq ft Stor	ne Veneer	0 sq ft	
Basement Finish				
Recreation	0 sq ft Rec	reation % Good	0%	
Living Area	0 sq ft Livi	ng Area % Good	0%	
Walk Out Doors	0 No	Concrete Floor Area	0 sq ft	
Plumbing Information	1			
Average Fixture(s)	1 3 Fi	xture Bath	1	

**Disclaimer: BS&A Software provides BS&A Online as a way for municipalities to display information online and is not responsible for the content or accuracy of the data herein. This data is provided for reference only and WITHOUT WARRANTY of any kind, expressed or inferred. Please contact your local municipality if you believe there are errors in the data.

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80 WEST SHORE CT DOUGLAS, MI 49406	(Property Address)
Parcel Number: 59-750-010-00	
Property Owner: ST PETERS CHURCH	
Summary Information > Assessed Value: \$0 Taxable Value: \$0	> Property Tax information found

Owner and Taxpayer Information				
Owner	ST PETERS CHURCH PO BOX 248 DOUGLAS, MI 49406	Taxpayer	SEE OWNER INFORMATION	

General Information for Tax Year 2020

Property Class	EXEMPT FEDERAL PROPERTY	Unit	59 DOUGLAS CITY
School District	SAUGATUCK	Assessed Value	\$0
MAP #	31/10	Taxable Value	\$0
ACTION	0	State Equalized Value	\$0
USER ALPHA 1	Not Available	Date of Last Name Change	02/13/2019
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	No	Census Block Group	No Data to Display
ADDESS CHANGE	Not Available	Exemption	No Data to Display

Principal Residence Exemption Information

No Data to Display

Principal Residence Exemption	June 1st	Final
2020	0.0000 %	-
2019	0.0000 %	0.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2019	\$0	\$0	\$0
2018	\$0	\$0	\$0
2017	\$0	\$0	\$0

Land Information

Homestead Date

Zoning Code	R-2 RESIDENTIAL	Total Acres	0.000		
Land Value	\$0	Land Improvements	\$0		
Renaissance Zone	No	Renaissance Zone Exp	iration No Data to Di	splay	
		Date			
ECF Neighborhood	EXEMPT	Mortgage Code	No Data to Di	splay	
Lot Dimensions/Comments	No Data to Display	Neighborhood Enterp	rise No		
		Zone			
Lot(s)		Frontage	2		Depth
No lots found.			·		
		Total Frontage: 0.00 ft			Average Depth: 0.00 ft
Legal Description					
LOT 10 SEC 16 T3N R16W ST	PETER'S SUBDIV.				
Sale History					
Sale Date S	ale Price Instrument	Grantor	antee	Terms of Sale	Liber/Page
No sales history found.					

100 WEST SHORE CT DOUGLAS, MI 49406	(Property Address)
Parcel Number: 59-750-011-00	
Property Owner: ST PETERS CHURCH	
Summary Information > Assessed Value: \$0 Taxable Value: \$0	> Property Tax information found

 Owner and Taxpayer Information

 Owner
 ST PETERS CHURCH DOUGLAS, MI 49406

 General Information for Tax Year 2020

Property Class	EXEMPT FEDERAL PROPERTY	Unit	59 DOUGLAS CITY
School District	SAUGATUCK	Assessed Value	\$0
MAP #	31/11	Taxable Value	\$0
ACTION	0	State Equalized Value	\$0
USER ALPHA 1	Not Available	Date of Last Name Change	02/13/2019
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	No	Census Block Group	No Data to Display
ADDESS CHANGE	Not Available	Exemption	No Data to Display

Principal Residence Exemption Information

Homestead Date	No Data to Display	

Principal Residence Exemption	June 1st	Final
2020	0.0000 %	-
2019	0.0000 %	0.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2019	\$0	\$0	\$0
2018	\$0	\$0	\$0
2017	\$0	\$0	\$0

Land Information

Zoning Code	R-2 RESIDENTIAL	Total Acres	0.000	
Land Value	\$0	Land Improvements	\$0	
Renaissance Zone	No	Renaissance Zone Exp	ration No Data to Display	
		Date		
ECF Neighborhood	EXEMPT	Mortgage Code	No Data to Display	
Lot Dimensions/Comment	s No Data to Display	Neighborhood Enterp Zone	rise No	
Lot(s)		Frontag	2	Depth
No lots found.				
		Total Frontage: 0.00 f		Average Depth: 0.00 ft
egal Description				
LOT 11 SEC 16 T3N R16W S	T PETER'S SUBDIV.			
Sale History				
Sale Date	Sale Price Instrument	Grantor G	antee Terms of	Sale Liber/Page
No sales history found.	· · · · ·	' ''	'	· · · · · ·

424 ST PETERS DR DOUGLAS, MI 49406	(Property Address)
Parcel Number: 59-750-012-00	
Property Owner: ST PETERS CHURCH	
Summary Information Assessed Value: \$0 Taxable Value: \$0 	> Property Tax information found

Owner and Taxpayer Information					
Owner	ST PETERS CHURCH PO BOX 248 DOUGLAS, MI 49406	Taxpayer	SEE OWNER INFORMATION		

General Information for Tax Year 2020

Property Class	EXEMPT FEDERAL PROPERTY	Unit	59 DOUGLAS CITY
School District	SAUGATUCK	Assessed Value	\$0
MAP #	31/12	Taxable Value	\$0
ACTION	0	State Equalized Value	\$0
USER ALPHA 1	Not Available	Date of Last Name Change	02/13/2019
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	No	Census Block Group	No Data to Display
ADDESS CHANGE	Not Available	Exemption	No Data to Display

Principal Residence Exemption Information

No Data to Display

Principal Residence Exemption	June 1st	Final
2020	0.0000 %	-
2019	0.0000 %	0.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2019	\$0	\$0	\$0
2018	\$0	\$0	\$0
2017	\$0	\$0	\$0

Land Information

Homestead Date

Zoning Code	R-2 RESIDENTIAL	Total Acres	0.000		
Land Value	\$0	Land Improvements	\$0		
Renaissance Zone	No	Renaissance Zone Exp	iration No Data to	Display	
		Date			
ECF Neighborhood	EXEMPT	Mortgage Code	No Data to	Display	
Lot Dimensions/Comments	No Data to Display	Neighborhood Enterp	rise No		
		Zone			
Lot(s)		Frontag	e		Depth
No lots found.					
		Total Frontage: 0.00 ft	:		Average Depth: 0.00 ft
Legal Description					
LOT 12 SEC 16 T3N R16W ST	PETER'S SUBDIV.				
Sale History					
Sale Date S	ale Price Instrument	Grantor	rantee	Terms of Sale	Liber/Page
No sales history found.				·	·

420 ST PETERS DR DOUGLAS, MI 49406	(Property Address)
Parcel Number: 59-750-013-00	
Property Owner: ST PETERS CHURCH	
Summary Information Assessed Value: \$0 Taxable Value: \$0 	> Property Tax information found

Owner and Taxpayer Information					
Owner	ST PETERS CHURCH PO BOX 248 DOUGLAS, MI 49406	Taxpayer	SEE OWNER INFORMATION		

General Information for Tax Year 2020

Property Class	EXEMPT FEDERAL PROPERTY	Unit	59 DOUGLAS CITY
School District	SAUGATUCK	Assessed Value	\$0
MAP #	31/13	Taxable Value	\$0
ACTION	0	State Equalized Value	\$0
USER ALPHA 1	Not Available	Date of Last Name Change	02/13/2019
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	No	Census Block Group	No Data to Display
ADDESS CHANGE	Not Available	Exemption	No Data to Display

Principal Residence Exemption Information

Homestead Date	No Data to Display		
Principal Residence Exempt	ion	June 1st	Final
2020		0.0000 %	-
2019		0.0000 %	0.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2019	\$0	\$0	\$0
2018	\$0	\$0	\$0
2017	\$0	\$0	\$0

Land Information

Zoning Code	R-2 RESIDENTIAL	Total Acres	0.000		
Land Value	\$0	Land Improvements	\$0		
Renaissance Zone	No	Renaissance Zone Exp	iration No Data to Displa	У	
		Date			
ECF Neighborhood	EXEMPT	Mortgage Code	No Data to Displa	У	
Lot Dimensions/Comments	No Data to Display	Neighborhood Enterp	rise No		
		Zone			
Lot(s)		Frontag	e		Depth
No lots found.					
		Total Frontage: 0.00 ft			Average Depth: 0.00 ft
Legal Description					
LOT 13 SEC 16 T3N R16W ST	PETER'S SUBDIV.				
Sale History					
Sale Date S	ale Price Instrument	Grantor	rantee	Terms of Sale	Liber/Page
No sales history found.		I	I		I

400 ST PETERS DR DOUGLAS, MI 4940	6 (Property Address)
Parcel Number: 59-750-014-00	
Property Owner: ST PETERS CHURCH	
Summary Information > Assessed Value: \$0 Taxable Value: \$0	> Property Tax information found

Owner and Taxpayer Information					
Owner	ST PETERS CHURCH PO BOX 248 DOUGLAS, MI 49406	Taxpayer	SEE OWNER INFORMATION		

General Information for Tax Year 2020

Property Class	EXEMPT FEDERAL PROPERTY	Unit	59 DOUGLAS CITY
School District	SAUGATUCK	Assessed Value	\$0
MAP #	31/14	Taxable Value	\$0
ACTION	0	State Equalized Value	\$0
USER ALPHA 1	Not Available	Date of Last Name Change	02/13/2019
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	No	Census Block Group	No Data to Display
ADDESS CHANGE	Not Available	Exemption	No Data to Display

Principal Residence Exemption Information

No Data to Display

Principal Residence Exemption	June 1st	Final
2020	0.0000 %	-
2019	0.0000 %	0.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2019	\$0	\$0	\$0
2018	\$0	\$0	\$0
2017	\$0	\$0	\$0

Land Information

Homestead Date

Zoning Code	R-2 RESIDENTIAL	Total Acres	0.000		
Land Value	\$0	Land Improvements	\$0		
Renaissance Zone	No	Renaissance Zone Exp	iration No Data to Display		
		Date			
ECF Neighborhood	EXEMPT	Mortgage Code	No Data to Display		
Lot Dimensions/Comments	No Data to Display	Neighborhood Enterp	rise No		
		Zone			
Lot(s)		Frontag	e		Depth
No lots found.					
		Total Frontage: 0.00 ft		A	verage Depth: 0.00 ft
Legal Description					
LOT 14 SEC 16 T3N R16W ST	PETER'S SUBDIV.				
Sale History					
Sale Date S	ale Price Instrument	Grantor	rantee Terr	ns of Sale	Liber/Page
No sales history found.			I		!

300 ST PETERS DR DOUGLAS, MI 49406 (Property Address)	
Parcel Number: 59-016-034-00	
Property Owner: TRUSTEE FOR ST PETER'S CHUR	
Summary Information > Assessed Value: \$0 Taxable Value: \$0	> Property Tax information found

Owner and Taxpayer Information

Owner	TRUSTEE FOR ST PETER'S CHUR Taxpayer PO BOX 248	SEE OWNER INFORMATION
	DOUGLAS, MI 49406	

General Information for Tax Year 2020

Property Class	EXEMPT FEDERAL PROPERTY	Unit	59 DOUGLAS CITY
School District	SAUGATUCK	Assessed Value	\$0
MAP #	29-A	Taxable Value	\$0
ACTION	0	State Equalized Value	\$0
USER ALPHA 1	Not Available	Date of Last Name Change	02/13/2019
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	No	Census Block Group	No Data to Display
ADDESS CHANGE	Not Available	Exemption	No Data to Display

Principal Residence Exemption Information

Homestead Date	No Data to Display		
Principal Residence Exer	nption	June 1st	Fina
2020		0.0000 %	-
2019		0.0000 %	0.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2019	\$0	\$0	\$0
2018	\$0	\$0	\$0
2017	\$0	\$0	\$0

Land Information

Zoning Code	R-2 RESIDENTIAL	Total Acres	0.000	
Land Value	\$0	Land Improvements	\$0	
Renaissance Zone	No	Renaissance Zone Expi	ration No Data to Display	
		Date		
ECF Neighborhood	EXEMPT	Mortgage Code	No Data to Display	
Lot Dimensions/Comments	s No Data to Display	Neighborhood Enterpr	r ise No	
		Zone		
Lot(s)		Frontage		Depth
No lots found.				
		Total Frontage: 0.00 ft		Average Depth: 0.00 ft
egal Description				
E 165 FT SE 1/4 SW 1/4 NW	1/4 EX S 264 FT THEREOF	EX ST. PETERS DR. SEC 16 T3N R16	W.	
Sale History				
Sale Date	Sale Price Instrument	Grantor Gra	antee Terms of S	ale Liber/Page
No sales history found			1	

Appendix VII – Photographs

(scroll down)

Photo #1	Bit Weenter St, Douglas, MI 49406, USA Bit Weenter St, Douglas, MI 49406, USA
Description:	House
Date:	2/24/21

Photo #2		297 W Cente	r St. Douglas, MI 4 Feb 24, 2021, 5	9406, USA 24.42 PM
Description:	Barn/outbuilding			
Date:	2/24/21			





Photo #5	Handlon St. Douglas, MI 49406, USA Feb 24-2024, 5 23-35 PM
Description: Property Exterior – typical. Note Turk	eys
Date: 2/24/21	

Photo #6	A00 St Peters Dr, Douglas, MI 49406, USA Feb 24, 2021 5:20:14 PM
Description:	Property Exterior – typical. Note Deer
Date:	2/24/21

Photo #7	
	400 St Peters Dr, Douglas, MI 49406, USA Feb 24, 2021 5:20;49 PM
Description:	Grounds- typical
Date:	02/24/21


Photo #9	Die St. Peters Dt. Douglas, MI 49404, USA Feb 24, 2021 5/19/29 PM
Description:	Adjacent NE along St. Peter Drive. Note deer.
Date:	02/24/21

Photo #10	294W center St. Douglas MI 49400 USA Eeb 24. 2021 5.25.30 PM
Description:	Former residential converted to offices, adjacent E.
Date:	02/24/21

Photo #11	At Hamilton St, Douglas, MI-49406, USA Eb 24, 2021 5:21:54 PM
Description:	Commercial warehouse-type businesses adjacent to the west along Hamilton, looking South.
Date:	02/24/21

Photo #12	400 St Peters Dr, Douglas, MI 49406, USA Feb 24, 2021 5:20:39 PM
Description:	Residential adjoining on N side, on Peters.
Date:	09/19/17
Duio.	07/17/17

Appendix VII - Government Listed Sites - Database Report

(Scroll down)

42.644738, -86.209064 prepared for: Ref:

February 17, 2021

Environmental Radius Report

Summary

Summary

	< 1/4	1/4 - 1/2	1/2 - 1
National Priorities List (NPL)			
CERCLIS List			
CERCLIS NFRAP			
RCRA CORRACTS Facilities			
RCRA non-CORRACTS TSD Facilities			
Federal Institutional Control / Engineering Control Registry			
Emergency Response Notification System (ERNS)			3
US Toxic Release Inventory			1
US RCRA Generators (CESQG, SQG, LQG)	2	4	9
US ACRES (Brownfields)	2	1	2
US NPDES	1		2
US Air Facility System (AIRS / AFS)			1
MI Baseline Environmental Assessment (BEA)	6	2	9
MI Underground Storage Tanks	8		3
MI Leaking Underground Storage Tanks	2		2
MI Contaminated Sites - Part 201 List		1	
MI Active Solid Waste Landfills			
MI Closed Solid Waste Landfills			

National Priorities List (NPL)

This database includes Proposed Sites, Final Sites and Deleted NPL Sites. The Superfund Program, administered under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is an EPA Program to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. The NPL (National Priorities List) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

The boundaries of an NPL site are not tied to the boundaries of the property on which a facility is located. The release may be contained with a single property's boundaries or may extend across property boundaries onto other properties. The boundaries can, and often do change as further information on the extent and degree of contamination is obtained.

CERCLIS List

The United States Environmental Protection Agency (EPA) investigates known or suspected uncontrolled or abandoned hazardous substance facilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA maintains a comprehensive list of these facilities in a database known as the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). These sites have either been investigated or are currently under investigation by the EPA for release or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and ultimately placed on the National Priority List (NPL).

CERCLIS sites designated as "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration.

CERCLIS NFRAP

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" NFRAP have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the site being placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed these NFRAP sites from CERCLIS to lift unintended barriers to the redevelopment of these properties. This policy change is part of EPA"s Brownfields Redevelopment Program to help cities, states, private investors and affected citizens promote economic redevelopment of unproductive urban sites.

RCRA CORRACTS Facilities

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). The EPA maintains the Corrective Action Report (CORRACTS) database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing "corrective action." A "corrective action order" is issued pursuant to RCRA Section 3008(h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility"s boundary and can be required regardless of when the release occurred, even if it predated RCRA.

RCRA non-CORRACTS TSD Facilities

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). The EPA's RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilites database is a compilation by the EPA of facilities that report generation, storage, transportation, treatment, or disposal of hazardous waste. RCRA Permitted Treatment, Storage, Disposal Facilities (RCRA-TSD) are facilities which treat, store and/or dispose of hazardous waste.

Federal Institutional Control / Engineering Control Registry

Federal Institutional Control / Engineering Control Registry

Emergency Response Notification System (ERNS)

The Emergency Response Notification System (ERNS) is a national computer database used to store information on unauthorized releases of oil and hazardous substances. The program is a cooperative effort of the Environmental Protection Agency, the Department of Transportation Research and Special Program Administration's John Volpe National Transportation System Center and the National Response Center. There are primarily five Federal statutes that require release reporting: the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) section 103; the Superfund Amendments and Reauthorization Act(SARA) Title III Section 304; the Clean Water Act of 1972(CWA) section 311(b)(3); and the Hazardous Material Transportation Act of 1974(HMTA section 1808(b).



Emergency Response Notification System (ERNS)

1	Coordinates Distance to site	42.636341094971, -86.210548400879 3088 ft / 0.585 mi S
Incident		CALLER IS REPORTING A GASOLINE TANK THAT WASHED UP ON SHORELINE DO TO UNKNOWN CAUSES. THE GASOLINE TANK IS STILL SLIGHTLY UNDERWATER. CALLER STATED THERE IS A POTENTIAL FOR A FUEL SPILL.
Incident Date		7/14/2009 19:30
Incident location		KALAMAZOO RIVER
Year Reported		2009
City		DOUGLAS
State		MI
County		ALLEGAN
2	Coordinates Distance to site	42.655250549316, -86.20288848877 4177 ft / 0.791 mi NE
Incident		CALLER IS REPORTING AN UNKNOWN SHEEN SIGHTING. EXACT SOURCE OF THE SHEEN IS UNKNOWN AT THIS TIME.
Incident Date		6/19/2013 20:54
Incident location		KALAMACO RIVER, ON THE SOUTHERN AREA OF THE RIVER, BY SAUGATUCK
Year Reported		2013
City		SAUGATUCK
State		MI
County		OTTAWA
3	Coordinates Distance to site	42.655250549316, -86.20288848877 4177 ft / 0.791 mi NE
Incident		CALLER IS REPORTING AN UNKNOWN SHEEN IN THE WATER.
Incident Date		10/2/2013 19:09
Incident location		UNKNOWN SHEEN INCIDENT
Year Reported		2013
Address		BETWEEN PIER HEADS
City		SAUGATUCK
State		MI
County		ALLEGAN

US Toxic Release Inventory

The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. TRI reporters for all reporting years are provided in the file.



US Toxic Release Inventory

1	Coordinates Distance to site	42.63208, -86.21057 4635 ft / 0.878 mi S
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110002118903
EPA Identifier		110002118903
Primary Name		DOUGLAS MARINE CORP
Address		6780 ENTERPRISE DR.
City		DOUGLAS
County		ALLEGAN
State		MI
Zipcode		49406
NAICS Codes		336611, 336612
SIC Codes		3732
SIC Descriptions		BOAT BUILDING AND REPAIRING
Programs		BR:MID982633117, RCRAINFO:MID982633117, TRIS:49406DGLSM6780E
Program Interests		HAZARDOUS WASTE BIENNIAL REPORTER, SQG, TRI REPORTER
Updated On		31-DEC-2015 10:57:59
Recorded On		01-MAR-2000 00:00:00
NAICS Description	S	BOAT BUILDING., SHIP BUILDING AND REPAIRING.

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). EPA maintains a database of facilities, which generate hazardous waste or treat, store, and/or dispose of hazardous wastes.

Conditionally Exempt Small Quantity Generators (CESQG) generate 100 kilograms or less per month of hazardous waste, or 1 kilogram or less per month of acutely hazardous waste.

Small Quantity Generators (SQG) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Large Quantity Generators (LQG) generate 1,000 kilograms per month or more of hazardous waste, or more than 1 kilogram per month of acutely hazardous waste.



1	Coordinates Distance to site	42.64701, -86.20918 829 ft / 0.157 mi N
Info UBL		http://ofmpub.epa.gov/enviro/fij.guery.detail.disp.program.facility?p.registry.id=110003596092
FPA Identifier		
Primary Name		TOWER MABINE
Address		216 SAINT PETERS DR
City		DOUGLAS
County		ALLEGAN
State		M
Zincode		19106
NAICS Codes		713030
Programs		BCBAINEO-MID050951474
Program Intereste		906
Filiphated On		20 DEC 2014 10:09:16
Populated On Populated On		23-DEC-2014 10.00.10
NAICS Description		
NAICS Descriptions	5	
2	Coordinates Distance to site	42.64377, -86.21216 903 ft / 0.171 mi W
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110043185095
EPA Identifier		110043185095
Primary Name		MACATAWA BANK
Address		14 FERRY ST
City		DOUGLAS
County		ALLEGAN
State		M
Zipcode		49406
Programs		RCRAINFO:MIK612445361
Program Interests		UNSPECIFIED UNIVERSE
Updated On		28-MAR-2014 23:45:26
Recorded On		05-JAN-2011 14:56:52
-		
3	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S
3 Info URL	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204
3 Info URL EPA Identifier	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204
3 Info URL EPA Identifier Primary Name	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC
3 Info URL EPA Identifier Primary Name Address	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY
3 Info URL EPA Identifier Primary Name Address City	Coordinates Distance to site	 42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS
3 Info URL EPA Identifier Primary Name Address City County	Coordinates Distance to site	 42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN
3 Info URL EPA Identifier Primary Name Address City County State	Coordinates Distance to site	 42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI
3 Info URL EPA Identifier Primary Name Address City County State Zipcode	Coordinates Distance to site	 42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi Shttp://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204110055060204WEATHERVANE PARTNERS LLC102 BLUE STAR HWYDOUGLASALLEGANMI49406RCRAINFO:MIK146550217
3 Info URL EPA Identifier Primary Name Address City County County State Zipcode Programs Program Interests	Coordinates Distance to site	 42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE
3 Info URL EPA Identifier Primary Name Address City County County State Zipcode Programs Program Interests Updated On	Coordinates Distance to site	 42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15
3 Info URL EPA Identifier Primary Name Address City County County State Zipcode Programs Program Interests Updated On Recorded On	Coordinates Distance to site	 42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 10055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On County Info URL EPA Identifier Primary Name	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 HU046088167 HAWORTH INC
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Info URL EPA Identifier Primary Name Address	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 HAWORTH INC 200 BLUE STAR HWY
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On EPA Identifier Primary Name Address City	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 HAWORTH INC 200 BLUE STAR HWY
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On EPA Identifier Primary Name Address City County	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 HAWORTH INC 200 BLUE STAR HWY
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On EPA Identifier Primary Name Address City County State	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFC:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 HAWORTH INC 200 BLUE STAR HWY DOUGLAS ALLEGAN
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On EPA Identifier Primary Name Address City County State Zipcode	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 HAWORTH INC 200 BLUE STAR HWY DOUGLAS
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On EPA Identifier Primary Name Address City County State Zipcode NaICS Codes	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 10055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 HAWORTH INC 200 BLUE STAR HWY DOUGLAS ALLEGAN MI 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 HAWORTH INC 200 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 337214
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 110046088167 110046088167 MI 49406 RCRAINFC:MIT270011521
3Info URLEPA IdentifierPrimary NameAddressCityCountyStateZipcodeProgramsProgram InterestsUpdated OnRecorded OnEPA IdentifierPrimary NameAddressCityCountyStateInfo URLEPA IdentifierPrimary NameAddressCityCountyStateZipcodeNAICS CodesProgramsProgram Interests	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFC:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 HAWORTH INC 200 BLUE STAR HWY DOUGLAS ALLEGAN MI 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 HAWORTH INC 200 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 337214 RCRAINFC:MIT270011521 CESQG
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On 4 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFC:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 HAWORTH INC 200 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 337214 RCRAINFC:MIT270011521 CESQG 28-MAR-2014 23:49:12 24-JUN-2012 11:48:42
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On	Coordinates Distance to site	42.64112, -86.20893 1320 ft / 0.250 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110055060204 WEATHERVANE PARTNERS LLC 102 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 RCRAINFO:MIK146550217 UNSPECIFIED UNIVERSE 28-MAR-2014 23:38:15 19-FEB-2013 13:04:59 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 HAWORTH INC 200 BLUE STAR HWY DOUGLAS ALLEGAN Mt 42.63938, -86.21029 1981 ft / 0.375 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046088167 110046088167 HAWORTH INC 200 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 337214 RCRAINFO:MIT270011521 CESQG 28-MAR-2014 23:49:12 24-JUN-2012 11:48:42

5	Coordinates Distance to site	42.647489, -86.200903 2408 ft / 0.456 mi E
Info URL		http://ofmpub.epa.gov/enviro/fii_guery_detail.disp_program_facility?p_registry_id=110003591970
EPA Identifier		110003591970
Primary Name		METALLUBGICAL HIGH VACUUM CORP
Address		471 WASHINGTON ST
City		DOUGLAS
County		ALLEGAN
State		M
Zipcode		49406
Programs		BCBAINEO:MID027114123
Program Interests		
Undated On		27-SEP-2010 18:19:14
Becorded On		01-MAB-2000 00:00:00
6	Coordinates Distance to site	42.645642, -86.199586 2563 ft / 0.486 mi E
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003629119
EPA Identifier		110003629119
Primary Name		WEATHER VAN CLEANERS
Address		102 WASHINGTON ST
City		DOUGLAS
County		ALLEGAN
State		MI
Zipcode		49406
Programs		RCRAINFO:MID982424491
Program Interests		UNSPECIFIED UNIVERSE
Updated On		27-SEP-2010 18:32:53
Recorded On		01-MAR-2000 00:00:00
7	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E
7 Info URL	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534
7 Info URL EPA Identifier	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534
7 Info URL EPA Identifier Primary Name	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP
7 Info URL EPA Identifier Primary Name Address	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST
7 Info URL EPA Identifier Primary Name Address City	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS
7 Info URL EPA Identifier Primary Name Address City County	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN
7 Info URL EPA Identifier Primary Name Address City County State	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI
7 Info URL EPA Identifier Primary Name Address City County State Zipcode	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 110008452539
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On Recorded In 8 Info URL EPA Identifier Primary Name	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 10003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 110008452539 DOUGLAS SITE
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On EPA Identifier Primary Name Address	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 110008452539 DOUGLAS SITE AMITY LANE
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On City	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:000 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 10008452539 DOUGLAS SITE AMITY LANE DOUGLAS
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On County Name Address City County	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 110008452539 DOUGLAS SITE AMITY LANE DOUGLAS ALLEGAN
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On EPA Identifier Primary Name Address City County State	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 10003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 110008452539 DOUGLAS SITE AMITY LANE DOUGLAS ALLEGAN MI
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On EPA Identifier Primary Name Address City County State Zipcode	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 110008452539 DOUGLAS ALLEGAN MI 49406
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On EPA Identifier Primary Name Address City County State Zipcode Programs	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:000 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 DOUGLAS SITE AMITY LANE DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID982073595
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On Recorded On County State Primary Name Address City County State Zipcode Programs Programs Program Interests	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 110008452539 DOUGLAS SITE AMITY LANE DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID982073595 UNSPECIFIED UNIVERSE
7 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On Recorded On Recorded On Recorded On EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On	Coordinates Distance to site	42.646556, -86.199482 2654 ft / 0.503 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003607534 DOUGLAS MARINE CORP 160 WASHINGTON ST DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID089964613 UNSPECIFIED UNIVERSE 27-SEP-2010 18:36:16 01-MAR-2000 00:00:00 42.63636, -86.20773 3076 ft / 0.583 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110008452539 110008452539 DOUGLAS SITE AMITY LANE DOUGLAS ALLEGAN MI 49406 RCRAINFO:MID982073595 UNSPECIFIED UNIVERSE 26-JAN-2012 18:03:03

9	Coordinates Distance to site	42.655917, -86.209239 4078 ft / 0.772 mi N
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110031356547
EPA Identifier		110031356547
Primary Name		KLSWA LIFT STATION 6
Address		178 PARK ST
City		SAUGATUCK
County		ALLEGAN
State		MI
Zipcode		49453
Programs		RCRAINFO:MIK811411669
Program Interests		UNSPECIFIED UNIVERSE
Updated On		26-JAN-2012 18:35:34
Recorded On		22-OCT-2007 16:07:08
10	Coordinates Distance to site	42.636504, -86.197163 4383 ft / 0.830 mi SE
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110015840697
EPA Identifier		110015840697
Primary Name		INTERURBAN TRANSIT AUTHORITY
Address		100 WILEY ST
City		DOUGLAS
County		ALLEGAN
State		MI
Zipcode		49406
NAICS Codes		485113
Programs		RCRAINFO:MIK366242642
Program Interests		CESQG
Updated On		27-SEP-2010 18:40:41
Recorded On		04-DEC-2003 09:39:05
NAICS Descriptions	S	BUS AND OTHER MOTOR VEHICLE TRANSIT SYSTEMS.
P		
11	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S
11 Info URL	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272
11 Info URL EPA Identifier	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272
11 Info URL EPA Identifier Primary Name	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING
11 Info URL EPA Identifier Primary Name Address	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY
11 Info URL EPA Identifier Primary Name Address City	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS
11 Info URL EPA Identifier Primary Name Address City County	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN
11Info URLEPA IdentifierPrimary NameAddressCityCountyState	Coordinates Distance to site	42.63229, -86.211944605 ft / 0.872 mi Shttp://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272110003610272HANSEN MANUFACTURING2948 BLUE STAR HWYDOUGLASALLEGANMI
11Info URLEPA IdentifierPrimary NameAddressCityCountyStateZipcode	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi Shttp://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272110003610272HANSEN MANUFACTURING2948 BLUE STAR HWYDOUGLASALLEGANMI49406
11Info URLEPA IdentifierPrimary NameAddressCityCountyStateZipcodeNAICS Codes	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi Shttp://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272110003610272HANSEN MANUFACTURING2948 BLUE STAR HWYDOUGLASALLEGANMI49406333513
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs	Coordinates Distance to site	42.63229, -86.211944605 ft / 0.872 mi Shttp://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272110003610272HANSEN MANUFACTURING2948 BLUE STAR HWYDOUGLASALLEGAN4406333513RCRAINFO:MID103472577
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests	Coordinates Distance to site	42.63229, -86.211944605 ft / 0.872 mi Shttp://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272110003610272HANSEN MANUFACTURING2948 BLUE STAR HWYDOUGLASALLEGAN41406333513RCRAINFO:MID103472577UNSPECIFIED UNIVERSE
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On	Coordinates Distance to site	42.63229, -86.211944605 ft / 0.872 mi Shttp://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272110003610272HANSEN MANUFACTURING2948 BLUE STAR HWYDOUGLASALLEGAN41406333513RCRAINFO:MID103472577UNSPECIFIED UNIVERSE26-JAN-2012 18:07:31
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On	Coordinates Distance to site	42.63229, -86.211944605 ft / 0.872 mi Shttp://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272110003610272HANSEN MANUFACTURING2948 BLUE STAR HWYDOUGLASALLEGANMI49406333513RCRAINFO:MID103472577UNSPECIFIED UNIVERSE26-JAN-2012 18:07:3101-MAR-2000 00:00:00
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions	Coordinates Distance to site	42.63229, -86.211944605 ft / 0.872 mi Shttp://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272110003610272HANSEN MANUFACTURING2948 BLUE STAR HWYDOUGLASALLEGAN49406333513RCRAINFO:MID103472577UNSPECIFIED UNIVERSE26-JAN-2012 18:07:3101-MAR-2000 00:00MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING.
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING.
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions 12 Info URL	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING.
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions 12 Info URL EPA Identifier	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING.
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions 12 Info URL EPA Identifier Primary Name	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING. 42.63208, -86.20886 4617 ft / 0.875 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110016734060 RANDY'S WEST SHORE BOAT REPAIR INC
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions 12 Info URL EPA Identifier Primary Name Address	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING. 42.63208, -86.20886 4617 ft / 0.875 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110016734060 110016734060 RANDY'S WEST SHORE BOAT REPAIR INC 6765 ENTERPRISE DR
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions 12 Info URL EPA Identifier Primary Name Address City	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING. 42.63208, -86.20886 4617 ft / 0.875 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110016734060 11016734060 RANDY'S WEST SHORE BOAT REPAIR INC 6765 ENTERPRISE DR DOUGLAS
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions 12 Info URL EPA Identifier Primary Name Address City County	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING. 42.63208, -86.20886 4617 ft / 0.875 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110016734060 110016734060 RANDY'S WEST SHORE BOAT REPAIR INC 6765 ENTERPRISE DR DOUGLAS ALLEGAN
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions 12 Info URL EPA Identifier Primary Name Address City County State	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING. 42.63208, -86.20886 4617 ft / 0.875 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110016734060 11016734060 RANDY'S WEST SHORE BOAT REPAIR INC 6765 ENTERPRISE DR DOUGLAS ALLEGAN MI
11 Info URL EPA Identifier Primary Name Address City County State Zipcode NAICS Codes Programs Program Interests Updated On Recorded On NAICS Descriptions 12 Info URL EPA Identifier Primary Name Address City County State Zipcode	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING. 42.63208, -86.20886 4617 ft / 0.875 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110016734060 110016734060 RANDY'S WEST SHORE BOAT REPAIR INC 6765 ENTERPRISE DR DOUGLAS ALLEGAN MI 42406
11Info URLEPA IdentifierPrimary NameAddressCityCountyStateZipcodeNAICS CodesProgramsProgram InterestsUpdated OnRecorded OnNAICS Descriptions12Info URLEPA IdentifierPrimary NameAddressCityCountyStateZipcodePrograms	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING. 42.63208, -86.20886 4617 ft / 0.875 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110016734060 RANDY'S WEST SHORE BOAT REPAIR INC 6765 ENTERPRISE DR DOUGLAS ALLEGAN MI 42.63208, -86.20886 4617 ft / 0.875 mi S
11Info URLEPA IdentifierPrimary NameAddressCityCountyStateZipcodeNAICS CodesProgramsProgram InterestsUpdated OnRecorded OnNAICS Descriptions12Info URLEPA IdentifierPrimary NameAddressCityCountyStateZipcodePrimary NameAddressCityCountyStateZipcodeProgramsProgram Interests	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fli_query_detail.disp_program_facility?p_registry_id=110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN MI 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING. 42.63208, -86.20886 4617 ft / 0.875 mi S http://ofmpub.epa.gov/enviro/fli_query_detail.disp_program_facility?p_registry_id=110016734060 110016734060 RANDY'S WEST SHORE BOAT REPAIR INC 6765 ENTERPRISE DR DOUGLAS ALLEGAN MI 49406 RANDY'S WEST SHORE BOAT REPAIR INC 6765 ENTERPRISE DR DOUGLAS ALLEGAN MI MI MI CRAINFO:MIK369822291 CESQG
11Info URLEPA IdentifierPrimary NameAddressCityCountyStateZipcodeNAICS CodesProgramsProgram InterestsUpdated OnRecorded OnNAICS DescriptionsInfo URLEPA IdentifierPrimary NameAddressCityCountyStateZipcodeProgramsProgramsPrimary NameAddressCityCountyStateZipcodeProgramsProgram InterestsUpdated On	Coordinates Distance to site	42.63229, -86.21194 4605 ft / 0.872 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110003610272 HANSEN MANUFACTURING 2948 BLUE STAR HWY DOUGLAS ALLEGAN Mi 49406 333513 RCRAINFO:MID103472577 UNSPECIFIED UNIVERSE 26-JAN-2012 18:07:31 01-MAR-2000 00:00:00 MACHINE TOOL (METAL FORMING TYPES) MANUFACTURING. 42.63208, -86.20886 4617 ft / 0.875 mi S http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110016734060 110016734060 RANDYS WEST SHORE BOAT REPAIR INC 6765 ENTERPRISE DR DOUGLAS ALLEGAN Mi 49406 CRAINFO:MIK369822291 CESQG 29-JUN-2009 11:32:58

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13	Coordinates	42.63208, -86.21057
	Distance to site	4635 ft / 0.878 mi S
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110002118903
EPA Identifier		110002118903
Primary Name		DOUGLAS MARINE CORP
Address		6780 ENTERPRISE DR.
City		DOUGLAS
County		ALLEGAN
State		MI
Zipcode		49406
NAICS Codes		336611, 336612
SIC Codes		3732
SIC Descriptions		BOAT BUILDING AND REPAIRING
Programs		BR:MID982633117. RCRAINFO:MID982633117. TRIS:49406DGLSM6780E
Program Interests		HAZARDOUS WASTE BIENNIAL REPORTER, SQG. TRI REPORTER
Updated On		31-DEC-2015 10:57:59
Recorded On		01-MAR-2000 00:00:00
NAICS Description	9	BOAT BUILDING. SHIP BUILDING AND REPAIRING.
14	Coordinates	42.65814, -86.204141
	Distance to site	5064 ft / 0.959 mi N
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110015911682
EPA Identifier		110015911682
Primary Name		MARINA MAN
Address		471 BUTLER ST
City		SAUGATUCK
County		ALLEGAN
State		MI
Zipcode		49453
Programs		RCRAINFO:MIK132871120
Program Interests		CESQG
Updated On		26-JAN-2012 18:23:13
Recorded On		04-DEC-2003 15:50:54
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	• · · ·	40.05000 00.10000
15	Coordinates	42.00293, -80.19293
	Distance to she	5259 IL/ 0.990 IIII NE
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110015831634
EPA Identifier		110015831634
Primary Name		MACATAWA BAY BOAT WORKS LLC
Address		297 S MAPLE ST
City		SAUGATUCK
County		ALLEGAN
State		MI
Zipcode		49453
NAICS Codes		441222
Programs		RCRAINFO:MIK455433581
Program Interests		CESQG
Updated On		26-JAN-2012 18:27:02
Recorded On		04-DEC-2003 09:01:37
NAICS Description	s	BOAT DEALERS.

16	Coordinates Distance to site	42.65868, -86.19852 5819 ft / 1.102 mi NE
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110015911842
EPA Identifier		110015911842
Primary Name		SAUGATUCK PUBLIC SCHOOLS
Address		401 ELIZABETH ST
City		SAUGATUCK
County		ALLEGAN
State		MI
Zipcode		49453
Programs		RCRAINFO:MIK136322948
Program Interests		UNSPECIFIED UNIVERSE
Updated On		26-JAN-2012 18:24:10
Recorded On		04-DEC-2003 15:52:42
17	Coordinates	42.65854, -86.19044
17	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE
17 Info URL	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946
17 Info URL EPA Identifier	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946
17 Info URL EPA Identifier Primary Name	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946 COASTAL REAL ESTATE HOLDINGS 1 LLC
17 Info URL EPA Identifier Primary Name Address	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946 COASTAL REAL ESTATE HOLDINGS 1 LLC 3295 BLUE STAR HWY
17 Info URL EPA Identifier Primary Name Address City	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946 COASTAL REAL ESTATE HOLDINGS 1 LLC 3295 BLUE STAR HWY SAUGATUCK
17 Info URL EPA Identifier Primary Name Address City County	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946 COASTAL REAL ESTATE HOLDINGS 1 LLC 3295 BLUE STAR HWY SAUGATUCK ALLEGAN
17 Info URL EPA Identifier Primary Name Address City County State	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946 COASTAL REAL ESTATE HOLDINGS 1 LLC 3295 BLUE STAR HWY SAUGATUCK ALLEGAN MI
17 Info URL EPA Identifier Primary Name Address City County State Zipcode	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946 COASTAL REAL ESTATE HOLDINGS 1 LLC 3295 BLUE STAR HWY SAUGATUCK ALLEGAN MI 49453
17 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946 COASTAL REAL ESTATE HOLDINGS 1 LLC 3295 BLUE STAR HWY SAUGATUCK ALLEGAN MI 49453 RCRAINFO:MI0000118646
17 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946 COASTAL REAL ESTATE HOLDINGS 1 LLC 3295 BLUE STAR HWY SAUGATUCK ALLEGAN MI 49453 RCRAINFO:MI0000118646 UNSPECIFIED UNIVERSE
17 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Updated On	Coordinates Distance to site	42.65854, -86.19044 7093 ft / 1.343 mi NE http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110044972946 110044972946 COASTAL REAL ESTATE HOLDINGS 1 LLC 3295 BLUE STAR HWY SAUGATUCK ALLEGAN MI 49453 RCRAINFO:MI0000118646 UNSPECIFIED UNIVERSE 28-MAR-2014 23:31:57

US ACRES (Brownfields)

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. The Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an online database for Brownfields Grantees to electronically submit data directly to The United States Environmental Protection Agency (EPA)



US ACRES (Brownfields)

1	Coordinates Distance to site	42.644742, -86.206385 717 ft / 0.136 mi E
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110046369443
EPA Identifier		110046369443
Primary Name		TOWER MARINE
Address		216 PETER'S DRIVE
City		DOUGLAS
County		ALLEGAN
State		MI
Zipcode		49406
Programs		ACRES:125683, ACRES:142101
Program Interests		BROWNFIELDS PROPERTY
Updated On		30-DEC-2014 19:05:08
Recorded On		17-AUG-2012 11:55:04
2	Coordinates Distance to site	42.64352, -86.212156 941 ft / 0.178 mi W
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384490
EPA Identifier		110070384490
Primary Name		
Address		WEST OF CHASE AND SOUTH OF CENTER STREET
City		DOUGLAS
County		ALLEGAN
State		MI
Zipcode		
Programs		
Program Interests		
Recorded On		13-NOV-2018 11:03:09
3	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E
3 Info URL	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492
3 Info URL EPA Identifier	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492
3 Info URL EPA Identifier Primary Name	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE
3 Info URL EPA Identifier Primary Name Address	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET
3 Info URL EPA Identifier Primary Name Address City	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS
3 Info URL EPA Identifier Primary Name Address City County	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN
3 Info URL EPA Identifier Primary Name Address City County State	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI
3 Info URL EPA Identifier Primary Name Address City County State Zipcode	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On 4 Info URL EPA Identifier	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On 4 Info URL EPA Identifier Primary Name	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384489 110070384489 PROPOSED DOUGLAS DPW SITE
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On 4 Info URL EPA Identifier Primary Name Address	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384489 110070384489 PROPOSED DOUGLAS DPW SITE 6825 WILEY ROAD (130TH STREET)
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On 4 Info URL EPA Identifier Primary Name Address City City	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384489 PROPOSED DOUGLAS DPW SITE 6825 WILEY ROAD (130TH STREET) SAUGATUCK
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On 4 Info URL EPA Identifier Primary Name Address City County	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fti_query_detail.disp_program_facility?p_registry_id=110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW http://ofmpub.epa.gov/enviro/fti_query_detail.disp_program_facility?p_registry_id=110070384489 PROPOSED DOUGLAS DPW SITE 6825 WILEY ROAD (130TH STREET) SAUGATUCK ALLEGAN
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On Info URL EPA Identifier Primary Name Address City County State	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384489 PROPOSED DOUGLAS DPW SITE 6825 WILEY ROAD (130TH STREET) SAUGATUCK ALLEGAN MI
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On 4 Info URL EPA Identifier Primary Name Address City County State Zipcode	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384489 PROPOSED DOUGLAS DPW SITE 6825 WILEY ROAD (130TH STREET) SAUGATUCK ALLEGAN MI
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On Info URL EPA Identifier Primary Name Address City County State Zipcode Programs	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384489 PROPOSED DOUGLAS DPW SITE 6825 WILEY ROAD (130TH STREET) SAUGATUCK ALLEGAN MI 49453 ACRES:169445
3 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Program Interests Recorded On 4 Info URL EPA Identifier Primary Name Address City County State Zipcode Programs Programs Program Interests	Coordinates Distance to site	42.645041, -86.199546 2555 ft / 0.484 mi E http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384492 SAUGATUCK PUBLIC SCHOOLS BUS GARAGE 68 WASHINGTON STREET DOUGLAS ALLEGAN MI 49406 ACRES:169541 BROWNFIELDS PROPERTY 13-NOV-2018 11:03:10 42.636258, -86.217981 3911 ft / 0.741 mi SW http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070384489 110070384489 PROPOSED DOUGLAS DPW SITE 6825 WILEY ROAD (130TH STREET) SAUGATUCK ALLEGAN MI 49453 ACRES:169445 BROWNFIELDS PROPERTY

US ACRES (Brownfields)

5	Coordinates Distance to site	42.632919, -86.211948 4380 ft / 0.830 mi S
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110045012393
EPA Identifier		110045012393
Primary Name		2987 BLUE STAR HIGHWAY
Address		2987 BLUE STAR HIGHWAY
City		DOUGLAS
County		ALLEGAN
State		MI
Zipcode		49408
Programs		ACRES:135794
Program Interests		BROWNFIELDS PROPERTY
Updated On		23-SEP-2014 04:19:31
Recorded On		23-MAR-2012 09:57:42

US NPDES

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.



US NPDES

1	Coordinates Distance to site	42.64701, -86.20918 829 ft / 0.157 mi N
INTO URL		nttp://ofmpub.epa.gov/enviro/ni_query_detail.disp_program_facility ?p_registry_id=110063867070
EPA Identifier		
Address		
City		
State		M
Zincode		49406
SIC Codes		3732
SIC Descriptions		BOAT BUILDING AND REPAIRING
Programs		NPDES:MIG690005
Program Interests		ICIS-NPDES NON-MAJOR
Updated On		03-SEP-2016 09:15:15
Recorded On		10-APR-2015 15:07:38
2	Coordinates Distance to site	42.642224, -86.197895 3133 ft / 0.593 mi E
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110006742007
EPA Identifier		110006742007
Primary Name		KALAMAZOO LAKE WTP
Address		22 BAYOU STREET
City		DOUGLAS
County		ALLEGAN
State		MI
Zipcode		49406
SIC Codes		4941
SIC Descriptions		WATER SUPPLY
Programs		NPDES:MIG640101
Program Interests		ICIS-NPDES NON-MAJOR
Updated On		09-MAY-2016 08:07:42
Recorded On		01-MAR-2000 00:00:00
-		
3	Coordinates	42.65483, -86.20212
	Distance to site	4125 ft / 0.781 mi NE
Info URL		http://ofmpub.epa.gov/enviro/fii guery detail.disp program facility?p registry id=110001300146
EPA Identifier		110001300146
Primary Name		RICH PRODUCTS CORP
Address		350 CULVER
City		SAUGATUCK
County		ALLEGAN
State		MI
Zipcode		49453
NAICS Codes		311411
SIC Codes		2037, 2053
SIC Descriptions		FROZEN BAKERY PRODUCTS, EXCEPT BREAD, FROZEN FRUITS, FRUIT JUICES, AND VEGETABLES
Programs		AIR:MI000000000000017, AIRS/AFS:2600500002, NPDES:MIG250144
Program Interests		AIR SYNTHETIC MINOR, ICIS-NPDES NON-MAJOR
Updated On		11-JAN-2016 07:45:00
Recorded On		01-MAR-2000 00:00:00
NAICS Description	S	FROZEN FRUIT, JUICE, AND VEGETABLE MANUFACTURING.

US Air Facility System (AIRS / AFS)

The Air Facility System (AIRS / AFS) contains compliance and permit data for stationary sources of air pollution (such as electric power plants, steel mills, factories, and universities) regulated by EPA, state and local air pollution agencies. The information in AFS is used by the states to prepare State Implementation Plans (SIPs) and to track the compliance status of point sources with various regulatory programs under Clean Air Act.



US Air Facility System (AIRS / AFS)

1	Coordinates Distance to site	42.65483, -86.20212 4125 ft / 0.781 mi NE
Info URL		http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110001300146
EPA Identifier		110001300146
Primary Name		RICH PRODUCTS CORP
Address		350 CULVER
City		SAUGATUCK
County		ALLEGAN
State		MI
Zipcode		49453
NAICS Codes		311411
SIC Codes		2037, 2053
SIC Descriptions		FROZEN BAKERY PRODUCTS, EXCEPT BREAD, FROZEN FRUITS, FRUIT JUICES, AND VEGETABLES
Programs		AIR:MI00000000000000017, AIRS/AFS:2600500002, NPDES:MIG250144
Program Interests		AIR SYNTHETIC MINOR, ICIS-NPDES NON-MAJOR
Updated On		11-JAN-2016 07:45:00
Recorded On		01-MAR-2000 00:00:00
NAICS Description	S	FROZEN FRUIT, JUICE, AND VEGETABLE MANUFACTURING.

A Michigan Baseline Environmental Assessment (BEA) allows people to purchase or begin operating at a facility without being held liable for existing contamination. BEAs are used to gather enough information about the property being transferred so that existing contamination can be distinguished from any new releases that might occur after the new owner or operator takes over the property.



	Coordinates	42.643672674894, -86.207548901439
	Distance to site	561 ft / 0.106 mi SE
Property Name		Center (294) Street, West
Address		294 W. Center Street
City		Douglas
Zip Code		49406
BEA Number		1870
Date Received		5/29/2013
Division Assigned		RRD
Petition Determination	tion	No Request
Determination 2010)7a	No Request
Reviewer		spauldie
2	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W
Property Name		Ferry (14) Street
Address		14 Ferry Street
City		Douglas
Zip Code		49406
BEA Number		1629
Date Received		7/18/2011
Division Assigned		RRD
Petition Determination	tion	No Request
Determination 2010)7a	No Request
Reviewer		zimontb
3	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W
3 Property Name	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street
3 Property Name Address	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street
3 Property Name Address City	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas
3 Property Name Address City Zip Code	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406
3 Property Name Address City Zip Code BEA Number	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544
3 Property Name Address City Zip Code BEA Number Date Received	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010
3 Property Name Address City Zip Code BEA Number Date Received Category	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned	Coordinates Distance to site	 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinat	Coordinates Distance to site	 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD No Request
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination 2010	Coordinates Distance to site	 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD RRD No Request No Request
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination 2010 Reviewer	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD No Request No Request zimontb
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinai Determination 2010 Reviewer	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 1544 12/3/2010 N RRD No Request No Request No Request 2 zimontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinai Determination 2010 Reviewer 4 Property Name	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD No Request No Request No Request 2 imontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination 2010 Reviewer 4 Property Name Address	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD No Request No Request No Request 2 zimontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination 2010 Reviewer 4 Property Name Address City	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD No Request No Request zimontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinan Determination 2010 Reviewer 4 Property Name Address City Zip Code	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD No Request No Request zimontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination Determination 2010 Reviewer 4 Property Name Address City Zip Code BEA Number	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street Douglas 49406 1544 12/3/2010 N RRD No Request No Request No Request 2imontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 14 Ferry Street 14 Ferry Street
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinat Determination 2010 Reviewer 4 Property Name Address City Zip Code BEA Number Date Received	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street Douglas 49406 1544 12/3/2010 N RRD No Request No Request No Request 2imontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1543 12/3/2010
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinat Determination 2010 Reviewer 4 Property Name Address City Zip Code BEA Number Date Received Category	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street Douglas 49406 1544 12/3/2010 N RRD No Request No Request Zimontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street Douglas 49406 14 Ferry Street 1543 1543 1543 1544 15453 15453 15453 1545 1543 1543 1543 1543 1543 1543 1543 1543 12/3/2010 N
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination Determination 2010 Reviewer 4 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD No Request No Request 2imontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1543 12/3/2010 RRD No Request 2imontb
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinar Determination 2010 Reviewer 4 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinar	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD No Request zimontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1543 12/3/2010
3 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinan Determination 2010 Reviewer 4 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinan Determination 2010	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1544 12/3/2010 N RRD No Request ximontb 42.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1543 12/3/2010 RRD No Request Ximontb RED A2.643808797002, -86.212221309543 913 ft / 0.173 mi W Ferry (14) Street 14 Ferry Street Douglas 49406 1543 12/3/2010 N RRD No Request No Request

5	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W
Property Name		Ferry (14) Street
Address		14 Ferry Street
City		Douglas
Zip Code		49406
BEA Number		1630
Date Received		7/18/2011
Division Assigned		RRD
Petition Determina	tion	No Request
Determination 2010	07a	No Request
Reviewer		zimontb
6	Coordinates Distance to site	42.643808797002, -86.212221309543 913 ft / 0.173 mi W
Property Name		Ferry (14) Street
Address		14 Ferry Street
City		Douglas
Zip Code		49406
BEA Number		1628
Date Received		7/18/2011
Division Assigned		RRD
Petition Determina	tion	No Request
Determination 2010	07a	No Request
Reviewer		zimontb
7	Coordinates Distance to site	42.644021362066, -86.19958743453 2555 ft / 0.484 mi E
Property Name		Douglas Amoco
Address		10-1/2 Washington
City		Douglas
BEA Number		149
Date Received		4/2/1998
Category		Ν
Division Assigned		STD
Petition Determina	tion	No Request
Determination 2010	07a	No Request
Reviewer		kieslinb
8	Coordinates Distance to site	42.644021362066, -86.19958743453 2555 ft / 0.484 mi E
Property Name		Douglas Amoco
Address		10-1/2 Washington
City		Douglas
BEA Number		150
Date Received		4/1/1998
Category		Ν
Division Assigned		STD
Petition Determina	tion	No Request
Determination 2010	07a	No Request
Reviewer		kieslinb
9	Coordinates Distance to site	42.641376033425, -86.199469417334 2850 ft / 0.540 mi E
Address		160 South Washington Road
City		Douglas
BEA Number		108
Date Received		11/12/1997
Category		Ν
Reviewer		unas_pl

	Coordinates Distance to site	42.648128509521, -86.199111938477 2942 ft / 0.557 mi E
Property Name		Metropolitan Title Company
Address		25-29 Blue Star Highway
City		Douglas
BEA Number		301
Date Received		9/14/1999
Category		N
Division Assigned		STD
Petition Determinat	ion	Affirmed
Determination 2010	7a	No Bequest
Reviewer		kieslinb
,		
11	Coordinates Distance to site	42.648128509521, -86.199111938477 2942 ft / 0.557 mi E
Property Name		Metropolitan Title Company
Address		25-29 Blue Star Hwy
City		Douglas
BEA Number		300
Date Received		9/14/1999
Category		Ν
Division Assigned		STD
Petition Determinat	ion	Affirmed
Determination 2010	7a	No Request
Reviewer		kieslinb
	Coordinates	42.648128509521, -86.199111938477
12	Distance to site	2942 ft / 0.557 mi E
Property Name	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway
Property Name Address	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway
Property Name Address City	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas
12 Property Name Address City Zip Code	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406
Property Name Address City Zip Code BEA Number	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547
12 Property Name Address City Zip Code BEA Number Date Received	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002
12 Property Name Address City Zip Code BEA Number Date Received Category	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinat	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination 2010	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request No Request
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination 2010 Reviewer	Distance to site tion 7a	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request No Request No Request ducharmm
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination 2010 Reviewer	Distance to site ion 7a Coordinates Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request No Request No Request 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination Determination 2010 Reviewer	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request No Request No Request duchamm 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E Blue Star (2948) Highway
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination Determination 2010 Reviewer 13 Property Name Address	Distance to site ion 7a Coordinates Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request No Request No Request ducharmm 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination Determination 2010 Reviewer 13 Property Name Address City	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request No Request ducharmm 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway 2948 Blue Star Highway
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination Determination 2010 Reviewer 13 Property Name Address City Zip Code	Distance to site ion 7a Coordinates Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request No Request Automation Antional A
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determination Determination 2010 Reviewer 13 Property Name Address City Zip Code BEA Number	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request No Request No Request ducharmm 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway 2948 Blue Star Highway 2948 Blue Star Highway 2948 Blue Star Highway
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinat Determination 2010 Reviewer 13 Property Name Address City Zip Code BEA Number Date Received	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RD No Request No Request Auchamm 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway 2948 Blue Star Highway 2948 Blue Star Highway 2948 Blue Star Highway
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinat Determination 2010 Reviewer 13 Property Name Address City Zip Code BEA Number Date Received Category	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request No Request Autohamm 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star (2948) Highway 2948 Blue Star Highway 2948 Blue Star (2948) Highway 2948 Blue Star Highway 2948 Blue
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinat Determination 2010 Reviewer 13 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request ducharmm 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E Blue Star (2948) Highway 2942 ft / 0.557 mi E Blue Star (2948) Highway 29406 750 5/26/2004 N RRD
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinat Determination 2010 Reviewer 13 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinat	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request ducharmm 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E Blue Star (2948) Highway 2942 ft / 0.557 mi E No Request Model 49406 750 5/26/2004 N RRD No Request No Request More than the star (2948) Highway 2942 ft / 0.557 mi E Blue Star (2948) Highway 2942 ft / 0.557 mi E No Request Mone RD No Request
12 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinant Determination 2010 Reviewer 13 Property Name Address City Zip Code BEA Number Date Received Category Division Assigned Petition Determinant Determination 2010	Distance to site	2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 547 7/2/2002 N RRD No Request ducharmm 42.648128509521, -86.199111938477 2942 ft / 0.557 mi E Blue Star (2948) Highway 2948 Blue Star Highway Douglas 49406 750 5/26/2004 N RRD No Request No Request No Request 0ucharmm

14	Coordinates Distance to site	42.63633, -86.2119 3160 ft / 0.599 mi S
Property Name		Wiley Road (Vacant Land (V/L))
Address		Wiley Road (Vacant Land (V/L))
City		Douglas
Zip Code		49408
BEA Number		1334
Date Received		1/5/2009
Category		N
Division Assigned		BBD
Petition Determina	tion	No Request
Determination 2010	17a	
Beviewer	574	zimonth
Tieviewei		Zinono
15	Coordinates Distance to site	42.63633, -86.2119 3160 ft / 0.599 mi S
Property Name		Wiley Road (Vacant Land (V/L))
Address		Wiley Road (Vacant Land (V/L))
City		Douglas
Zip Code		49408
BEA Number		1333
Date Received		1/5/2009
Category		Ν
Division Assigned		RRD
Petition Determina	tion	No Request
Determination 2010	07a	No Request
Reviewer		zimontb
Reviewer		zimontb
16	Coordinates Distance to site	42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE
16 Property Name	Coordinates Distance to site	2Imontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties
16 Property Name Address	Coordinates Distance to site	2/montb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street
16 Property Name Address City	Coordinates Distance to site	2imontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck
16 Property Name Address City BEA Number	Coordinates Distance to site	2imontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354
16 Property Name Address City BEA Number Date Received	Coordinates Distance to site	2imontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000
16 Property Name Address City BEA Number Date Received Category	Coordinates Distance to site	2imontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N
16 Property Name Address City BEA Number Date Received Category Division Assigned	Coordinates Distance to site	2imontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina	Coordinates Distance to site	2imontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed
Reviewer 16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010	Coordinates Distance to site tion	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer	Coordinates Distance to site	2imontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N Water (326 Street
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N Water (326 Street 326 Water Street
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N Water (326 Street 326 Water Street Saugatuck
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer 17 Property Name Address City BEA Number	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N Water (326 Street 326 Water Street Saugatuck 1032
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer 17 Property Name Address City BEA Number Date Received	Coordinates Distance to site	zimonto 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N Water (326 Street 326 Water Street Saugatuck 1032 11/20/2006
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer 17 Property Name Address City BEA Number Date Received Category	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N Water (326 Street 326 Water Street Saugatuck 1032 11/20/2006 N
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer 17 Property Name Address City BEA Number Date Received Category Division Assigned	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N Water (326 Street 326 Water Street Saugatuck 1032 11/20/2006 N ERD
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer 17 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N Water (326 Street 328 Water Street Saugatuck 1032 11/20/2006 N ERD No Request No Request
16 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010 Reviewer 17 Property Name Address City BEA Number Date Received Category Division Assigned Petition Determina Determination 2010	Coordinates Distance to site	zimontb 42.654731422663, -86.203880980611 3901 ft / 0.739 mi NE Kiama Properties 201 Culver Street Saugatuck 354 3/22/2000 N STD Affirmed No Request kieslinb 42.656872496009, -86.205411180854 4533 ft / 0.859 mi N Water (326 Street 326 Water Street Saugatuck 1032 11/20/2006 N N ERD No Request No Request

MI Underground Storage Tanks

Underground Storage Tanks (UST) containing hazardous or petroleum substances are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The Michigan Department of Environmental Quality (MDEQ) maintains a list of registered USTs.

ACTIVE UST FACILITIES are those where there is at least one tank at the facility that is not closed in place or removed and is regulated under Part 211, Underground Storage Tank Regulations, of the Natural Resources and Environment Protection Act, 1994 PA 451, as amended (Act 451). There may be closed tanks and/or active non-regulated tanks (such as heating oil tanks) at the facility.

CLOSED UST FACILITIES are those where all tanks at the facility that are regulated under Part 211 of Act 451 are closed. There may be non-regulated active tanks at the facility, such as heating oil tanks or tanks that are smaller than the regulatory cutoff.



MI Underground Storage Tanks



Zip Code

County

Tank ID

Capacity

Tank Status

Install Date

Substance

Tank Release

Pipe Material

Tank Material

Pipe Type

3

Piping Release

Coordinates Distance to site

	Distance to site	600 ft / 0.114 mi E	
Facility ID		4516	
Facility Name		Douglas Shell	
Address		30 N WASHINGTON	
City		DOUGLAS	
Zip Code		49090	
County		Allegan	
Tank ID		1	
Tank Status		Currently In Use	
Capacity		6000	
Install Date		Apr 19 1974	
Substance		Gasoline	
Tank Release		Automatic Tank Gauging, Inventory Control	
Piping Releas	e	Automatic Line Leak Detectors	
Pipe Material		ENVIRO-FLEX TOTAL CO, Secondary Containment	
Pipe Type		Pressure	
Tank Material		Asphalt Coated or Bare Steel, Lined Interier	
Impressed Cathodic Protection		No	
	Coordinatos	42 6441104866 -86 2069921001	
2	Distance to site	600 ft / 0.114 mi E	
Facility ID		4516	
Facility Name		Douglas Shell	
Address		30 N WASHINGTON	
City		DOUGLAS	

42.6441104866, -86.2069921001

Impressed Cathodic Protection

Coordinates Distance to site

Facility ID	
Facility Name	
Address	
City	
Zip Code	
County	
Tank ID	
Tank Status	
Capacity	
Install Date	
Substance	
Tank Release	
Piping Release	
Pipe Material	
Ріре Туре	
Tank Material	
Impressed Cathodic Protection	

42.6441104866, -86.2069921001 600 ft / 0.114 mi E

Automatic Tank Gauging, Inventory Control

ENVIRO FLEX, Secondary Containment

Asphalt Coated or Bare Steel, Lined Interier

Automatic Line Leak Detectors

49090

Allegan

Currently In Use

Apr 19 1974

Gasoline

Pressure

No

2

6000

4516 Douglas Shell 30 N WASHINGTON DOUGLAS 49090 Allegan 3 Currently In Use 6000 Apr 19 1974 Gasoline Automatic Tank Gauging, Inventory Control Automatic Line Leak Detectors ENVIRO FLEX, Secondary Containment Pressure Asphalt Coated or Bare Steel, Lined Interier No

MI Underground Storage Tanks

Closed Date

Pipe Material

Tank Material

Impressed Cathodic Protection



Sep 1 1991

No

Galvanized Steel

Asphalt Coated or Bare Steel
MI Underground Storage Tanks

7	Coordinates Distance to site	42.6441104866, -86.2069921001 600 ft / 0.114 mi E
Facility ID		4516
Facility Name		Douglas Shell
Address		30 N WASHINGTON
City		DOUGLAS
Zip Code		49090
County		Allegan
Tank ID		7
Tank Status		Currently In Use
Capacity		20
Install Date		Apr 20 1971
Substance		HOIST TANK
Pipe Material		Unknown
Tank Material		Asphalt Coated or Bare Steel
Impressed Cathod	ic Protection	No
8	Coordinates Distance to site	42.6441104866, -86.2069921001 600 ft / 0.114 mi E
Facility ID		4516
Facility Name		Douglas Shell
Address		30 N WASHINGTON
City		DOUGLAS
Zip Code		49090
County		Allegan
Tank ID		8
Tank Status		Currently In Use
Capacity		20
Install Date		Apr 20 1971
Substance		HOIST TANK
Pipe Material		Unknown
Tank Material	in Durate ation	Asphalt Coated or Bare Steel
Impressed Cathod	IC Protection	No
9	Coordinates Distance to site	42.654306, -86.203887 3756 ft / 0.711 mi NE
Facility ID		5096
Facility Name		Sergeant Marina Condo Assoc
Address		39 Butler St
City		Saugatuck
Zip Code		49453
County		Allegan
Tank ID		3
Tank Status		Currently In Use
Capacity		6000
Install Date		Apr 10 1972
Substance		Gasoline
Dining Pelage		Automatic Tank Gauging
Pipe Matorial		Relivanized Steel
Pipe Material		Gravity Fed? Suction: Valve at Tank
Tank Material		Asphalt Coated or Bare Steel Lined Interior
Impressed Cathod	ic Protection	No

MI Underground Storage Tanks



MI Leaking Underground Storage Tanks

The Michigan Department of Environmental Quality (MDEQ) maintains a list of leaking underground storage tanks (LUST).

An OPEN LUST site means a location where a release has occurred from an underground storage tank system, and where corrective actions have not been completed to meet the appropriate land use criteria. An OPEN LUST site may have more than one confirmed release.

A CLOSED LUST site means a location where a release has occurred from an underground storage tank system, and where corrective actions have been completed to meet the appropriate land use criteria. In accordance with Section 21315(1) of Part 213, Leaking Underground Storage Tank, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the MDEQ may audit a closure report, wherein the results of corrective actions are documented, up to 6 months after receipt of the closure report. This audit window may result in a confirmed release(s) being reopened during the 6 month time frame following receipt of a closure report if deficiencies are noted.



This database returned 4 results for your area

MI Leaking Underground Storage Tanks

1	Coordinates Distance to site	42.643119, -86.207729 690 ft / 0.131 mi SE
Site Name		Amoco #28876 (Douglas)
Leak Number		C-1267-85
Status		Open
Facility ID		50001810
Facility Name		Douglas Amoco 28876
Address		10 1/2 S WASHINGTON
City		DOUGLAS
Zip Code		48152
County		Allegan
2	Coordinates Distance to site	42.643808, -86.206332 806 ft / 0.153 mi E
Site Name		Texaco Gas Station
Leak Number		C-0022-99
Substance		Unknown
Status		Open
Facility ID		50002327
Facility Name		Metropolitan Title Office
Address		25-27 BLUE STAR
City		SAUGATUCK
Zip Code		99999
County		Allegan
3	Coordinates Distance to site	42.654392, -86.203773 3797 ft / 0.719 mi NE
Site Name		Culver Street
Leak Number		C-0335-00
Release Date		2000-03-15
Substance		Unknown
Status		Open
Facility ID		50002605
Facility Name		0002000
Address		Culver St Site
0:1		Culver St Site 201 CULVER ST
City Zin Onda		Culver St Site 201 CULVER ST SAUGATUCK
City Zip Code		Culver St Site 201 CULVER ST SAUGATUCK 99999
City Zip Code County		Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan
City Zip Code County	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N 1000000000000000000000000000000000000
City Zip Code County 4 Site Name	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N Allegan Co. Rd. Comm. (Douglas)
City Zip Code County 4 Site Name Leak Number	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N Allegan Co. Rd. Comm. (Douglas) C-1215-85
City Zip Code County 4 Site Name Leak Number Release Date	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N Allegan Co. Rd. Comm. (Douglas) C-1215-85 1989-04-17
City Zip Code County 4 Site Name Leak Number Release Date Status	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N Allegan Co. Rd. Comm. (Douglas) C-1215-85 1989-04-17 Open
City Zip Code County 4 Site Name Leak Number Release Date Status Facility ID	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N Allegan Co. Rd. Comm. (Douglas) C-1215-85 1989-04-17 Open 6446
City Zip Code County 4 Site Name Leak Number Release Date Status Facility ID Facility Name	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N Allegan Co. Rd. Comm. (Douglas) C-1215-85 1989-04-17 Open 6446 Branch Maintenance Garage
City Zip Code County 4 Site Name Leak Number Release Date Status Facility ID Facility Name Address	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N Allegan Co. Rd. Comm. (Douglas) C-1215-85 1989-04-17 Open 6446 Branch Maintenance Garage 486 WATER ST
City Zip Code County 4 Site Name Leak Number Release Date Status Facility ID Facility Name Address City	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N Allegan Co. Rd. Comm. (Douglas) C-1215-85 1989-04-17 Open 6446 Branch Maintenance Garage 486 WATER ST DOUGLAS
City Zip Code County 4 Site Name Leak Number Release Date Status Facility ID Facility Name Address City Zip Code	Coordinates Distance to site	Culver St Site 201 CULVER ST SAUGATUCK 99999 Allegan 42.658315, -86.205707 5034 ft / 0.953 mi N Allegan Co. Rd. Comm. (Douglas) C-1215-85 1989-04-17 Open 6446 Branch Maintenance Garage 486 WATER ST DOUGLAS 49010

MI Contaminated Sites - Part 201 List

The Michigan Department of Environmental Quality (MDEQ) maintains a database of contaminated sites in their "Part 201 Site List". A Part 201 Listed site is a location that has been evaluated and scored by the MDEQ using the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the MDEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to MDEQ are not on the list, nor are sites with releases that resulted in low environmental impact. A deleted site has been removed from the Part 201 List because information known to the MDEQ at the time of the evaluation does not support inclusion on the Part 201 List. This designation is often applied to sites where changes in cleanup criteria resulted in a determination that the site no longer exceeds any applicable cleanup criterion. A delisted site has been removed from the Part 201 List because reduced the levels of contaminants to concentrations which meet or are below the criteria for unrestricted residential use. The list DOES NOT include the sites of contamination regulated under Part 213, Leaking Underground Storage Tanks, of Act 451.



This database returned 1 result for your area

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MI Contaminated Sites - Part 201 List

1	Coordinates Distance to site	42.638139, -86.21179 2515 ft / 0.477 mi S
Source		Furniture & Fixtures
Site ID		'03000032'
Pollutant		Ni; TCE
Status		Remedial Action in Progress (may incl. use restrictions O&M and/or monitoring)
Name		Village of Douglas Contamination
Township		03N
Address		281 Chase Rd
Range		16W
City		Douglas
Section		16
Zip Code		49406
County		Allegan
Quarter Section		NE

MI Active Solid Waste Landfills

The Solid Waste Landfill List (SWLF) database is provided by the Michigan Department of Environmental Quality (MDEQ) and consists of open solid waste disposal facilities and transfer stations.

This database returned no results for your area

MI Closed Solid Waste Landfills

The Solid Waste Closed Landfill List (SWLF) database is provided by the Michigan Department of Environmental Quality (MDEQ) and consists of closed inactive solid waste disposal facilities.

This database returned no results for your area





05 NORTH ELEVATION

Issue: Issue for Review Issue Date: October 21, 2022 A2.00

REF:

