

# Environmental Report

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## Oshtemo Township Sanitary Sewer System: Kalamazoo County, Michigan

5/30/2017

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# 1.0 Purpose and Need of Project

## 1.1 Project Description

Oshtemo Township is planning for the installation of a sanitary sewer system to provide municipal sanitary sewer service to 11 neighborhoods currently served by individual septic systems. The proposed system will connect to the existing Township collection system. The existing collection system conveys the sanitary wastewater from Oshtemo Township service area to intercepting sewers in the City of Kalamazoo leading to the City of Kalamazoo wastewater treatment plant.

A map showing the project limits can be found in Appendix A.

## 1.2 Purpose and Need of Project

The Township of Oshtemo has a Master Capital Plan to expand sanitary service to properties not currently serviced. A high proportion of the area is residential subdivisions located near existing service but currently using private, on-site septic systems. As these systems fail, an additional financial burden is placed on the residents to maintain them. Failed systems in highly populated areas have potential to create health hazards. The Township delayed street reconstruction and repairs hoping to secure funding for the sanitary updates to include them in the street reconstruction and repairs.

Many of the parcels in the project area are small and have already replaced the original septic system. Most of the parcels do not contain enough space to meet requirements for future septic system replacements.

# 2.0 Alternatives Evaluated Including the Proposed Action

**Table 1. List of Alternatives**

Alternative	Beneficial Environmental Impacts	Potential Adverse Environmental Impacts
No Action Alternative	None	On-site septic tanks will continue to discharge raw effluent in the soil.
Proposed Action: Provide gravity sanitary sewer service with mechanical pumping stations to residential areas with no current sanitary sewer.	Improve groundwater quality and alleviating owners of small parcels of the potential for excessive expense on septic system maintenance/ replacement.	None
Install a pressure/vacuum collection system	Improve groundwater quality and alleviating owners of small parcels of the potential for excessive expense.	None

## **2.1 Proposed Action**

The proposed project will provide gravity sanitary sewer service with mechanical pumping stations to residential areas with no current sanitary sewer.

Installing a sanitary sewer system for the entire project area may provide widespread benefits for the project area by improving groundwater quality and alleviating owners of small parcels of the potential for excessive expense on septic system maintenance/replacement.

## **2.2 Other Alternatives Evaluated**

Another alternative is to install a pressure/vacuum collection system.

This option was discussed with the City of Kalamazoo. The City of Kalamazoo currently has no pressure/vacuum sewers in the existing collection system.

Administrative obstacles are also significant. The City of Kalamazoo currently provides sanitary sewer O&M services to 11 local jurisdictions outside the City boundary. By individual contract (with common language), O&M costs are proportioned among the local entities. The increased O&M required of a vacuum-based sewer system unique to the Township of Oshtemo would disrupt the common, equity-based formula used for the distribution of O&M costs among customer communities. The use of vacuum based system by Oshtemo could potentially invalidate the basis for distributing O&M costs among each of the City's customer jurisdictions.

## **2.3 No Action Alternative**

Alternatives to the proposed project have been considered in the feasibility study including doing nothing. Allowing continued use of existing systems does not address the stated need for the project. Further, it would leave the residents without connection to sanitary sewer. The current on-site septic tanks will continue to discharge raw effluent into the soil. Eventually these systems will reach the end of useful lives and the Township will be required to construct a sanitary expansion at a great expense to the community. This alternative was not further considered for these reasons.

The "No Action" alternative does not meet the project objectives and will not be evaluated further as a principle alternative.

## **3.0 Affected Environment and Environmental Consequences**

### **3.1 Land Use/Important Farmland/Formally Classified Lands**

#### **3.1.1 Affected Environment**

The project will have no environmental effect. Oshtemo Township Sanitary Sewer project will take place within existing Township right-of-way and limited property easements. The sanitary sewer pipe will be contained within previously disturbed right-of-way. The lift Stations will be placed within the existing right-of-way to the maximum extent possible.

A review of the proposed project for potential impacts on prime, unique, or locally important farmland by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) was requested.

The NRCS Web Soil Survey was created for the extents of the project area. The soil survey confirmed that four of the projects are in areas with prime farmland. Three of the four projects have been redeveloped into residential areas and are no longer used as farmland. The remaining project is being coveted to residential and all the excavation will take place in an existing street right-of-way. We concluded the project has no adverse effect on prime farm land.

A soils report and map is included in Section 7.0 of this report.

### **3.1.2 Environmental Consequences**

No environmental consequences will be experienced from the proposed project.

### **3.1.3 Mitigation**

No mitigation is necessary as no direct impact is anticipated with regard to prime and important soils, or farmland preservation with the proposed project.

## **3.2 Floodplains**

### **3.2.1 Affected Environment**

The project area has been mapped for the FEMA National Flood Insurance Program. The FEMA National Flood Insurance Rate Map (FIRM) and the Flood Certificates are included in Section 7.0. There are no bodies of water mapped as flood plain in the project area.

### **3.2.2 Environmental Consequences**

No environmental consequences associated with the floodplains are anticipated in association with the proposed project.

### **3.2.3 Mitigation**

No mitigation measures are anticipated for floodplains for this project. The MDEQ will be consulted and if it is determined a floodplain does exist within the project area, a joint permit will be obtained.

## **3.3 Wetlands**

### **3.3.1 Affected Environment**

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory on-line database of wetlands was consulted to determine if wetlands are present within the project area. The MDEQ was also consulted to evaluate the impacts the project may have on wetlands. The USFWS Wetlands map shows that one wetland is located near one of the neighborhoods proposed for sewer. The project will not be constructed in any wetlands.

It is not anticipated that the proposed project will have impacts on wetlands, however, if it is found that there may be impacts, the MDEQ will be consulted and a permit will be obtained that will define

provisions to protect wetlands. The National Final Wetlands Inventory and project map is shown on the map in Section 7.0.

### **3.3.2 Environmental Consequences**

There are no perceived environmental consequences with respect to wetlands as result of the project.

### **3.3.3 Mitigation**

No mitigation will be required, as no significant adverse impacts exist. Any excavations will be below ground and the ground returned to its original condition.

## **3.4 Historic and Cultural Resources**

### **3.4.1 Affected Environment**

There are no historic properties located adjacent to the project area. The State Historic Preservation Office has reviewed the impact that the project may have on the adjacent historic properties, and has stated: "Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that proposed undertaking will have no adverse effect on the historic properties within the area of potential effects for the above-cited undertaking.

### **3.4.2 Environmental Consequences**

The National Historic Preservation Act of 1966 requires a Section 106 review to determine any impacts upon historic properties. A Section 106 review was performed and found no historic properties effected. See State Historic Preservation Officer response in Sec 6.0.

### **3.4.3 Mitigation**

No mitigation required.

## **3.5 Biological Resources**

### **3.5.1 Affected Environment**

No environmental consequences are anticipated to occur as a result of the proposed sanitary sewer extension. The proposed project will be constructed within easements and road rights-of-way. Within Kalamazoo County, there are known endangered and threatened species including: Indiana bat, Northern long-eared bat, Eastern massasauga, and Mitchell's satyr butterfly. The paved roadway and mowed rights-of-way are not biological habitat. None of the habitats for known listed threatened or endangered species is present on these properties. No known candidate, threatened or endangered species or critical habitat is in or near the proposed project area.

### **3.5.2 Environmental Consequences**

USDA RD has checked the species listed by the U.S. Fish and Wildlife Service website and determined that the proposed project will have no effect with regard to candidate, threatened, or endangered species. See the attached correspondence in Section 6.0 of this report.

Michigan Act 451 of 1994, Section 365, Endangered Species Protection, affords protection of state threatened and endangered species. The Michigan Department of Natural Resources (MDNR) has



ceased to accept review requests to the Environmental Review Program after September 16, 2011. Project review requests have been referred to the Michigan Natural Resources Inventory (MNFI) a program of Michigan State University Extension.

The project is located along road and mowed rights-of-way. The project will not impact state threatened and endangered species.

### **3.5.3 Mitigation**

No mitigation will be required, as no impacts are anticipated with regard to biological resources for the proposed construction project.

## **3.6 Water Resources**

### **3.6.1 Affected Environment**

The environment affected by the proposed project is within existing road rights-of-way, and mowed rights-of-way. There are no anticipated water quality issues with the proposed project. The additional sanitary sewer will be treated under the City of Kalamazoo NPDES permit #MI0023299.

### **3.6.2 Environmental Consequences**

This project should not have any negative impact on surface or ground water quality in the area as a result of the proposed actions. Installing a sanitary sewer system for the entire project area may provide widespread benefits for the project area by improving groundwater quality. These proposed improvements will provide the opportunity for the elimination of associated public health and environmental issues.

### **3.6.3 Mitigation**

No mitigation measures are necessary with regard to water quality as no negative impacts are anticipated to result from the proposed project.

## **3.7 Coastal Resources**

### **3.7.1 Affected Environment**

The project is not located in a Coastal Zone Management (CZM) Area.

### **3.7.2 Environmental Consequences**

No environmental consequences are anticipated with respect to coastal resources associated with this project.

### **3.7.3 Mitigation**

No mitigation will be required, as there are no environmental impacts are anticipated with regard to coastal resources.

## **3.8 Socio-Economic Impact Assessment/Environmental Justice**

### **3.8.1 Affected Environment**

As of the census of 2010, there were 21,705 people living in the Oshtemo Township, 9,708 households, and 4,787 families residing in the Township. The racial makeup of the township was 82.9% White, 14.2% African American, 1.3% Native American, 3.5% Asian, and 1.8% from other races. Hispanic or Latino of any race made up 4.0% of the population.

There were 9,708 households out of which 20.7% had children under the age of 18 living with them, 36.9% were married couples living together, 9.4% had a female householder with no husband present, and 50.7% were non-families. Of all households, 24.3% had someone living alone who was 65 years of age or older. The average household size was 2.21 and the average family size was 2.85. The Township has a population range that consists of 18.4% under the age of 18, and 15.2% who were 65 years of age or older. The median age was 32.0 years.

According to the American Community Survey 2015, the median income for a household in Oshtemo Township was \$42,627, and the median family income was \$62,129. The per capita income for Oshtemo Township was \$27,954. Individuals and families below the poverty line made up 20.7% and 14.0%, of the population, respectively. Out of the total people living in poverty, 18.6% are under the age of 18 and 8.2% are 65 or older.

The sewer extension project for the Oshtemo Township will serve all of the residents within the area. The customers are to be charged fairly and equitably according to their usage of the system. The planned improvements in association with this project will benefit all residents within the area equally. The cost of the project will be distributed across all users, through user rates. No segment of the population will be treated differently than any other, and discrimination within the Township is prohibited.

### **3.8.2 Environmental Consequences**

No environmental consequences are anticipated with regard to socio- economic/ environmental justice issues relating to this project. All residents and users of the system will be treated equally and all will share equally in the benefits and cost of the improvements proposed.

### **3.8.3 Mitigation**

No mitigation measures are necessary as no socio-economic/environmental justice impacts are anticipated in relation to this project.

## **3.9 Air Quality**

### **3.9.1 Affected Environment**

Air quality in the area of the Oshtemo Township is generally good. According to EPA's list of Current Noattainment Counties for All Criteria Pollutants, Kalamazoo County (where Oshtemo Township is located) is meeting the attainment levels. The proposed project is not anticipated to increase in any emissions in the long term.

### **3.9.2 Environmental Consequences**

During construction, there will be short term air quality impacts from fugitive dust as is common with any construction project; however, the use of best management practices during construction, such as dampening of the soil to limit dust and use of diesel powered equipment that will be fueled with low sulfur diesel oil will reduce these short term air quality impacts. Additionally, contractors will be encouraged to limit idling time during operation of heavy equipment to reduce air quality impacts from exhaust.

### **3.9.3 Mitigation**

No mitigation measures are necessary with regard to impacts to air quality as there will be no long lasting impacts to the air quality in the area resulting from this project.

## **3.10 Noise**

### **3.10.1 Affected Environment**

The Oshtemo Township is a community with a mix of commercial, residential and industrial in the area of the proposed project. The major sources of noise are traffic related, and local commercial activities.

### **3.10.2 Environmental Consequences**

No new sound generating equipment is anticipated in the proposed project. However, during construction, noise levels will increase due to the construction activities and heavy equipment use. The use of best management practices should limit the unnecessary noise from construction by limiting idling time of heavy equipment, and unnecessary noise from construction workers during construction. The proposed improvements location away from residential areas should provide a buffer which will diffuse the noise generated during construction. Construction will be limited to normal daylight hours as well, which will limit the disruption of the normal quiet nature of the community.

### **3.10.3 Mitigation**

No mitigation measures are necessary in association with noise control related to this project as no long term impacts are anticipated.

## **3.11 Transportation**

### **3.11.1 Affected Environment**

The Oshtemo Township has US-131 (Oshtemo Township Ave) running through the east portion of the Township and providing north and south passage. Michigan M-43 runs through the heart of the Township providing east and west passage. The areas of construction in this project are within a residential area and are outside of heavily trafficked areas. Local transportation may be temporarily be affected by construction, employee, and equipment traffic.

### **3.11.2 Environmental Consequences**

The project will have a temporary effect on local transportation due to construction in the road rights-of-ways and construction equipment using these roads to gain access to the constructions sites, which is expected to disrupt normal traffic flow. This project is not anticipated to have any lasting impacts on

transportation patterns. If street closures or detours are necessary, these will be coordinated with the Michigan Department of Transportation, the local street department and/or the County Road Commission. These should be highly publicized and well-marked during construction.

### **3.11.3 Mitigation**

No mitigation measures are necessary in relation to the proposed project with regard to transportation, as no long term impacts are anticipated.

## **3.12 Aesthetics**

### **3.12.1 Affected Environment**

The proposed project will be constructed within publicly owned property, easements and road rights-of-way. There are no visually sensitive areas or landscape features within the area of the proposed project. All areas have been previously developed.

### **3.12.2 Environmental Consequences**

The construction may have a temporary impact on the aesthetics of the area; however, any excavations will be below ground and the ground returned to its original condition including restored topsoil, grass, and paving, etc.

### **3.12.3 Mitigation**

No mitigation is required with respect to aesthetics.

## **3.13 Health and Human Safety**

### **3.13.1 Electromagnetic Fields and Interference**

#### **AFFECTED ENVIRONMENT**

The project does not include will not produce any significant electromagnetic fields.

#### **ENVIRONMENTAL CONSEQUENCES**

No environmental consequences are anticipated with regard to electronic fields.

#### **MITIGATION**

No mitigation measures are necessary as no impacts are anticipated to result from the proposed project.

### **3.13.2 Environmental Risk Management**

#### **AFFECTED ENVIRONMENT**

MDEQ STD (Storage Tank Division) enforces state and federal laws regarding pollution from storage tank leaks or releases, and maintains a listing of all known releases of hazardous materials from any registered underground or above ground storage tanks. There are no known releases in the proposed construction area.

#### **ENVIRONMENTAL CONSEQUENCES**

A search of the MDEQ/STD website showed no open or closed underground storage tank locations, or sites of environmental contamination within the proposed project site. See section 7.9 for a map of known active and closed storage tanks in the vicinity of the project.

Part 213 of the Natural Resources Environmental Protection Act (NREPA) prohibits any exacerbation of any polluted areas (e.g. through excavation and/or dewatering activities). The consultants and contractors will take all necessary precautions when working in potentially contaminated areas.

If, during construction, the contractor encounters any contaminated soil which appears to be the result of an unreported release of hazardous material, the contractor will immediately cease construction and notify the municipal entity, who in turn will notify the MDEQ STD of a suspected release. According to law, a discovery of a suspected release of hazardous materials must be reported to MDEQ STD within 24 hours. This begins a series of mitigation efforts and/or enforcement actions. These measures are designed to protect the public from any environmental consequences from hazardous spills.

#### MITIGATION

No mitigation measures are necessary as no impacts are anticipated to result from the proposed project.

### **3.14 Corridor Analysis**

#### AFFECTED ENVIRONMENT

The proposed project will be constructed within publicly owned property, easements and road rights-of-way. There are no visually sensitive areas or landscape features within the area of the proposed project. All areas have been previously developed

### **4.0 Cumulative Effects**

No negative long term environmental impacts are anticipated with regard to the sewer extension project.

### **5.0 Summary of Mitigation**

No mitigation measures are necessary in relation to this project as no long term negative impacts are anticipated to result from the proposed actions.

## **6.0 Coordination, Consultation, and Correspondence**

### **6.1 Fish and Wildlife Service Review**

### **6.2 Section 7 Endangered Species Act Consultation**

**USDA**   
**United States Department of Agriculture**  
**Rural Development**  
**Michigan State Office**

May 5, 2017

Scott Hicks, Field Supervisor  
United States Dept. of the Interior  
Fish and Wildlife Service  
East Lansing Field Office  
2651 Coolidge Rd  
East Lansing, MI 48823

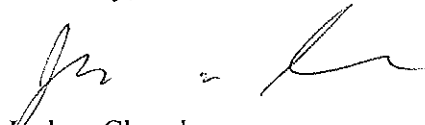
RE: Oshtemo Township Neighborhood Sewer Extension

Dear Mr. Hicks,

The above-mentioned applicant has applied to USDA Rural Development for funding assistance to construct the referenced project to serve their residents in Kalamazoo County.

USDA is making a finding of no effect for both of the above-mentioned projects with respect to the threatened and endangered species identified. Our review of the endangered species list and summary of findings are attached, as well as a map of the project locations.

Sincerely,



Joshua Church  
Assistant State Environmental Coordinator

Attachment

3001 Coolidge Rd., Suite 200, East Lansing, MI 48823  
Phone: (517) 324-5157 • Fax: (517) 324-5225  
Committed to the future of rural communities.

"USDA is an equal opportunity provider, employer and lender."  
To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD).

MEMORANDUM

TO: USDA Rural Development Environmental File

FROM: Joshua Church; RD Assistant State Environmental Coordinator

DATE: May 5, 2017

RE: Section 7 Endangered Species Act Consultation – Oshtemo Township  
Neighborhood Sewer Extension

The above applicant has applied for USDA Rural Development for funding to construct and expand the township sewer system and is completing a NEPA review for the project. The project schedule is yet to be determined. A project map is attached.

USDA Rural Development reviewed the US Fish & Wildlife technical assistance website on the above-mentioned date for federally listed threatened and endangered species. The species list is provided as a screen print attached to this memo. There are no known hibernaculum within 0.25 miles of the project. This project will take place in areas that have been previously used as well developed and mowed right-of-ways.

For these reasons, we conclude that the above-mentioned project will have “no effect” on listed species, their habitats, or proposed or designated critical habitat.

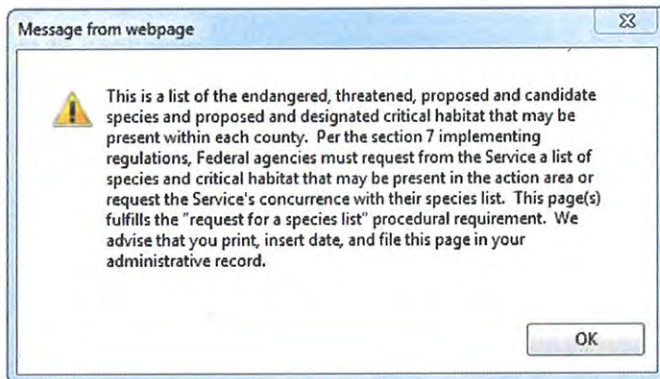
Screen prints, of the species list are attached.



Michigan Endangered Species List - By County

**Will this list be used for a Section 7 project review?**

[YES](#) [NO](#)



<b>Kalamazoo</b>	<a href="#">Indiana bat</a> ( <i>Myotis sodalis</i> )	Endangered	Summer habitat includes small to medium river and stream corridors with well developed riparian woods; woodlots within 1 to 3 miles of small to medium rivers and streams; and upland forests. Caves and mines as hibernacula.
	<a href="#">Northern long-eared bat</a> <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
	<a href="#">Eastern massasauga</a> ( <i>Sistrurus catenatus</i> )	Threatened	
	<a href="#">Mitchell's satyr butterfly</a> ( <i>Neonympha mitchellii mitchellii</i> )	Endangered	Fens; wetlands characterized by calcareous soils which are fed by carbonate-rich water from seeps and springs

**STATE HISTORIC PRESERVATION OFFICE**  
**Application for Section 106 Review**

SHPO Use Only					
<input type="checkbox"/>	IN	Received Date ____ / ____ / ____		Log In Date ____ / ____ / ____	
<input type="checkbox"/>	OUT	Response Date ____ / ____ / ____		Log Out Date ____ / ____ / ____	
		Sent Date ____ / ____ / ____			

Submit one copy for each project for which review is requested. This application is required. Please type. Applications must be complete for review to begin. Incomplete applications will be sent back to the applicant without comment. Send only the information and attachments requested on this application. Materials submitted for review cannot be returned. Due to limited resources we are unable to accept this application electronically.

**I. GENERAL INFORMATION**

THIS IS A NEW SUBMITTAL       THIS IS MORE INFORMATION RELATING TO ER#

- a. Project Name: Neighborhood Sewer Extension
- b. Project Address (if available):
- c. Municipal Unit: Charter Township of Oshtemo County: Kalamazoo
- d. Federal Agency, Contact Name and Mailing Address (If you do not know the federal agency involved in your project please contact the party requiring you to apply for Section 106 review, not the SHPO, for this information.): USDA Rural Development, Andrew Granskog P.E., 3001 Coolidge Rd, Suite 200, East Lansing, MI 48823 Phone: (517) 324-5209
- e. State Agency (if applicable), Contact Name and Mailing Address:
- f. Consultant or Applicant Contact Information (if applicable) *including mailing address*: Matt Johnson, P.E. Fleis & VandenBrink Engineering, Inc., 4798 Campus Drive, Kalamazoo MI 49008

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**II. GROUND DISTURBING ACTIVITY (INCLUDING EXCAVATION, GRADING, TREE REMOVALS, UTILITY INSTALLATION, ETC.)**

DOES THIS PROJECT INVOLVE GROUND-DISTURBING ACTIVITY?  YES     NO (If no, proceed to section III.)

Exact project location must be submitted on a USGS Quad map (portions, photocopies of portions, and electronic USGS maps are acceptable as long as the location is clearly marked).

- a. USGS Quad Map Name: Oshtemo
- b. Township: T12S Range: R12W Section: 10-36
- c. Description of width, length and depth of proposed ground disturbing activity: Sanitary sewer trenches my be up to 25' wide and 25' deep and it is estimated that there may be up to 82,350 feet of sewer gravity pipe installed. Three Sanitary sewer lift stations and 2,880 feet of sanitary sewer force main will also be constructed. .
- d. Previous land use and disturbances: The sanitary system will be constructed in areas that have been previously used as municipal street right-of-ways.
- e. Current land use and conditions: The sanitary collection system will be constructed in areas that are currently being used as municipal street right-of-ways.
- f. Does the landowner know of any archaeological resources found on the property?     YES     NO  
Please describe:

---

**III. PROJECT WORK DESCRIPTION AND AREA OF POTENTIAL EFFECTS (APE)**

**Note: Every project has an APE.**

- a. Provide a detailed written description of the project (plans, specifications, Environmental Impact Statements (EIS), Environmental Assessments (EA), etc. cannot be substituted for the written description): The project will involve the installation of a sanitary sewer system for the Township of Oshtemo. The sanitary collection system will involve the installation of approximately 85,320 feet of sewer pipe, 460 sanitary sewer manholes,

and 26,710 feet of sanitary sewer laterals.s. Included in the sanitary sewer collection system construction will be the installation of a sanitary pump station.

- b. Provide a localized map indicating the location of the project; road names must be included and legible.
- c. On the above-mentioned map, identify the APE.
- d. Provide a written description of the APE (physical, visual, auditory, and sociocultural), the steps taken to identify the APE, and the justification for the boundaries chosen. The APE consists of the areas where the sanitary sewer system will be installed. The sanitary sewer system will have very few visible facilities which may consist of the pump station control panels, and pump station and manholes that will not extend higher than 1 foot above the ground surface. The APE for the sanitary sewer collection system will involve the municipal street right-of-ways where the sewer pipe, manholes and valve chambers will be buried.

#### IV. IDENTIFICATION OF HISTORIC PROPERTIES

- a. List and date **all** properties 50 years of age or older located in the APE. If the property is located within a National Register eligible, listed or local district it is only necessary to identify the district: A review of the National Register of historic Places was conducted for the project area and no historic properties within the project area were found. There are no other properties known to be 50 years old or older.
  - b. Describe the steps taken to identify whether or not any **historic** properties exist in the APE and include the level of effort made to carry out such steps: This project engineer examined the entire length of the proposed project and observed no historic properties that will be affected. The Michigan Historic Sites Online was consulted and no historic properties were found within the APE.
  - c. Based on the information contained in "b", please choose one:  
 Historic Properties Present in the APE  
 No Historic Properties Present in the APE
  - d. Describe the condition, previous disturbance to, and history of any historic properties located in the APE:
- 

#### V. PHOTOGRAPHS

**Note: All photographs must be keyed to a localized map.**

- a. Provide photographs of the site itself.
  - b. Provide photographs of all properties 50 years of age or older located in the APE (faxed or photocopied photographs are not acceptable).
- 




#### VI. DETERMINATION OF EFFECT

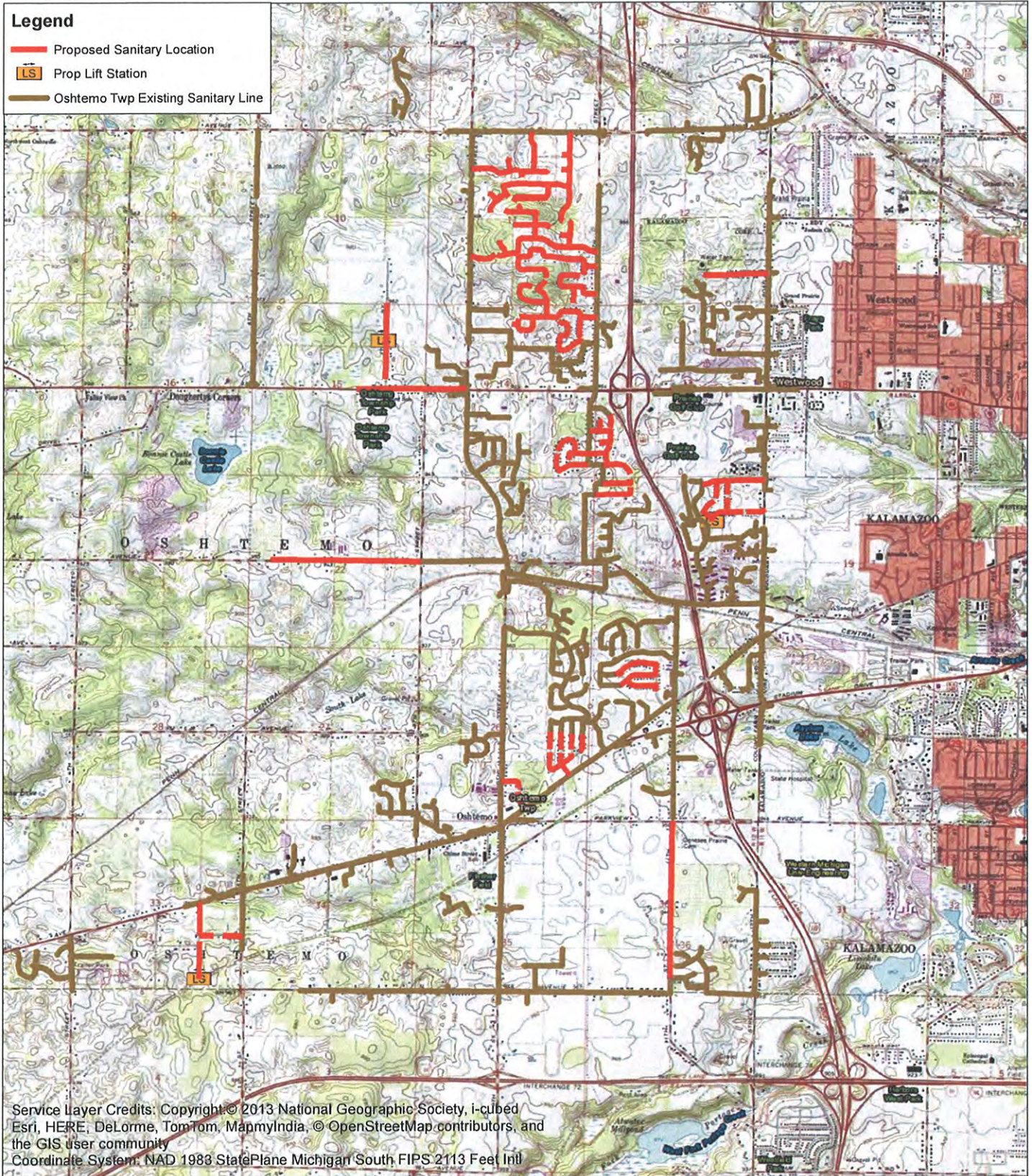
- No historic properties affected based on [36 CFR § 800.4(d)(1)], please provide the basis for this determination.
- No Adverse Effect [36 CFR § 800.5(b)] on historic properties, explain why the criteria of adverse effect, 36 CFR Part 800.5(a)(1), were found not applicable.
- Adverse Effect [36 CFR § 800.5(d)(2)] on historic properties, explain why the criteria of adverse effect, [36 CFR Part 800.5(a)(1)], were found applicable.

***Please print and mail completed form and required information to:***

*State Historic Preservation Office, Environmental Review Office, Michigan Historical Center, 702  
W. Kalamazoo Street, P.O. Box 30740, Lansing, MI 48909-8240*

**Legend**

-  Proposed Sanitary Location
-  Prop Lift Station
-  Oshtemo Twp Existing Sanitary Line



Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community  
 Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl



**OSHTEMO TOWNSHIP**  
 KALAMAZOO COUNTY, MICHIGAN  
**OSHTEMO FULL RD APPLICATION**

---

**QUAD MAP**

828340

F&V PROJECT NO.





**Legend**

- Prop Sanitary
- Ex Sanitary
- Prop Lift Station

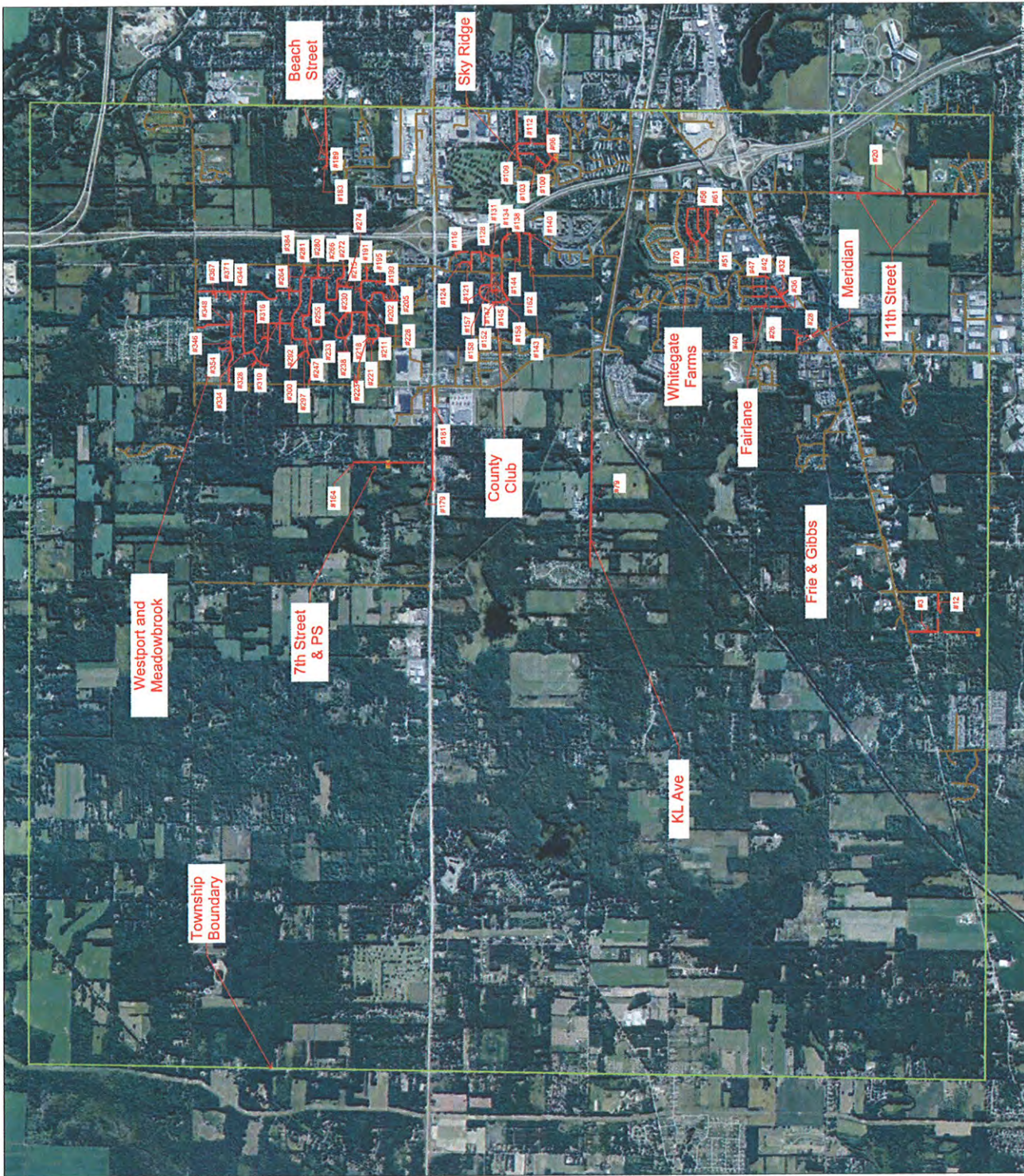
**SEWER EXTENSION  
PHASE #1**

OSHTEMO TOWNSHIP

DATE	10/14/2016
DRAWN BY	MCS
PROJECT NO.	626340
SCALE	1" = 17.838'
FILE LOCATION	
SOURCES	



MAP #1



Typical of Frie & Gibbs area



3. O Park St. facing south



12. Frie Ave half way to S. 6<sup>th</sup> St facing west

Typical of 11<sup>th</sup> St. area



20. S. 11<sup>th</sup> St at driveway to Kal. Christian facing south

Typical of Meridian area



26. Meridian Ave at Sunset Rd. facing west.

Typical of Fairlane area



28. Sunset Rd at bend facing north



32. Fairgrove St. at Mansfield St. facing south





61. 1991 Whitegate Ln. facing north



70. 5759 Castleton Dr. facing west

Typical for W. KL Ave area



79. 7536-7820 W. KL Ave facing west

Typical for Sky Ridge area



96. Driftwood Ave at Crimson Ln. facing curve



100. Crimson Ln. and Mandalay Dr. facing Driftwood Ave.



103. 243 Mandalay Ave facing north

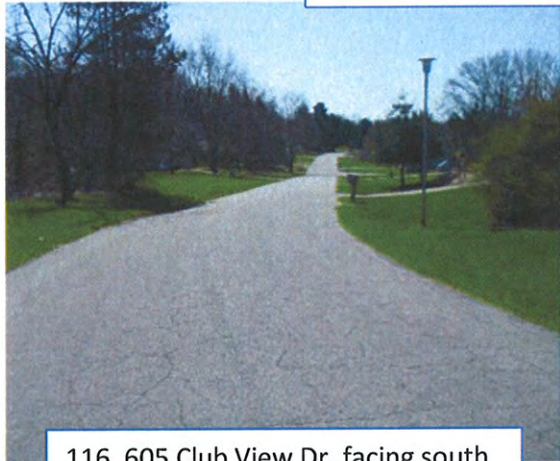


109. Skyridge Ave at Westview St. facing east



112. 185 Westview St. facing south

Typical for Country Club area



116. 605 Club View Dr. facing south



121. Shadywood Dr. at Sunrise Cir. Facing west



124. Sunrise Cir. cul de sac facing south



128. Fairway Cir. cul de sac facing east

## **6.3 State Historic Preservation Office**

### **6.3.1 Application for Section 106 Review**

**STATE HISTORIC PRESERVATION OFFICE**  
**Application for Section 106 Review**

SHPO Use Only					
<input type="checkbox"/>	IN	Received Date	___ / ___ / ___	Log In Date	___ / ___ / ___
<input type="checkbox"/>	OUT	Response Date	___ / ___ / ___	Log Out Date	___ / ___ / ___
		Sent Date	___ / ___ / ___		

Submit one copy for each project for which review is requested. This application is required. Please type. Applications must be complete for review to begin. Incomplete applications will be sent back to the applicant without comment. Send only the information and attachments requested on this application. Materials submitted for review cannot be returned. Due to limited resources we are unable to accept this application electronically.

**I. GENERAL INFORMATION**

THIS IS A NEW SUBMITTAL     THIS IS MORE INFORMATION RELATING TO ER#

- a. Project Name: Neighborhood Sewer Extension
- b. Project Address (if available):
- c. Municipal Unit: Charter Township of Oshtemo County: Kalamazoo
- d. Federal Agency, Contact Name and Mailing Address (*If you do not know the federal agency involved in your project please contact the party requiring you to apply for Section 106 review, not the SHPO, for this information.*): USDA Rural Development, Andrew Granskog P.E., 3001 Coolidge Rd, Suite 200, East Lansing, MI 48823 Phone: (517) 324-5209
- e. State Agency (if applicable), Contact Name and Mailing Address:
- f. Consultant or Applicant Contact Information (if applicable) *including mailing address*: Matt Johnson, P.E. Fleis & VandenBrink Engineering, Inc., 4798 Campus Drive, Kalamazoo MI 49008

---

**II. GROUND DISTURBING ACTIVITY (INCLUDING EXCAVATION, GRADING, TREE REMOVALS, UTILITY INSTALLATION, ETC.)**

DOES THIS PROJECT INVOLVE GROUND-DISTURBING ACTIVITY?  YES     NO (If no, proceed to section III.)

Exact project location must be submitted on a USGS Quad map (portions, photocopies of portions, and electronic USGS maps are acceptable as long as the location is clearly marked).

- a. USGS Quad Map Name: Oshtemo
- b. Township: T12S Range: R12W Section: 10-36
- c. Description of width, length and depth of proposed ground disturbing activity: Sanitary sewer trenches may be up to 25' wide and 25' deep and it is estimated that there may be up to 82,350 feet of sewer gravity pipe installed. Three Sanitary sewer lift stations and 2,880 feet of sanitary sewer force main will also be constructed.
- d. Previous land use and disturbances: The sanitary system will be constructed in areas that have been previously used as municipal street right-of-ways.
- e. Current land use and conditions: The sanitary collection system will be constructed in areas that are currently being used as municipal street right-of-ways.
- f. Does the landowner know of any archaeological resources found on the property?  YES     NO  
Please describe:

---

**III. PROJECT WORK DESCRIPTION AND AREA OF POTENTIAL EFFECTS (APE)**

**Note: Every project has an APE.**

- a. Provide a detailed written description of the project (plans, specifications, Environmental Impact Statements (EIS), Environmental Assessments (EA), etc. **cannot** be substituted for the written description): The project will involve the installation of a sanitary sewer system for the Township of Oshtemo. The sanitary collection system will involve the installation of approximately 85,320 feet of sewer pipe, 460 sanitary sewer manholes,

and 26,710 feet of sanitary sewer laterals. Included in the sanitary sewer collection system construction will be the installation of a sanitary pump station.

- b. Provide a localized map indicating the location of the project; road names must be included and legible.
- c. On the above-mentioned map, identify the APE.
- d. Provide a written description of the APE (physical, visual, auditory, and sociocultural), the steps taken to identify the APE, and the justification for the boundaries chosen. The APE consists of the areas where the sanitary sewer system will be installed. The sanitary sewer system will have very few visible facilities which may consist of the pump station control panels, and pump station and manholes that will not extend higher than 1 foot above the ground surface. The APE for the sanitary sewer collection system will involve the municipal street right-of-ways where the sewer pipe, manholes and valve chambers will be buried.

#### IV. IDENTIFICATION OF HISTORIC PROPERTIES

- a. List and date **all** properties 50 years of age or older located in the APE. If the property is located within a National Register eligible, listed or local district it is only necessary to identify the district: A review of the National Register of historic Places was conducted for the project area and no historic properties within the project area were found. There are no other properties known to be 50 years old or older.
  - b. Describe the steps taken to identify whether or not any **historic** properties exist in the APE and include the level of effort made to carry out such steps: This project engineer examined the entire length of the proposed project and observed no historic properties that will be affected. The Michigan Historic Sites Online was consulted and no historic properties were found within the APE.
  - c. Based on the information contained in "b", please choose one:  
 Historic Properties Present in the APE  
 No Historic Properties Present in the APE
  - d. Describe the condition, previous disturbance to, and history of any historic properties located in the APE:
- 

#### V. PHOTOGRAPHS

**Note: All photographs must be keyed to a localized map.**




- a. Provide photographs of the site itself.
  - b. Provide photographs of all properties 50 years of age or older located in the APE (faxed or photocopied photographs are not acceptable).
- 

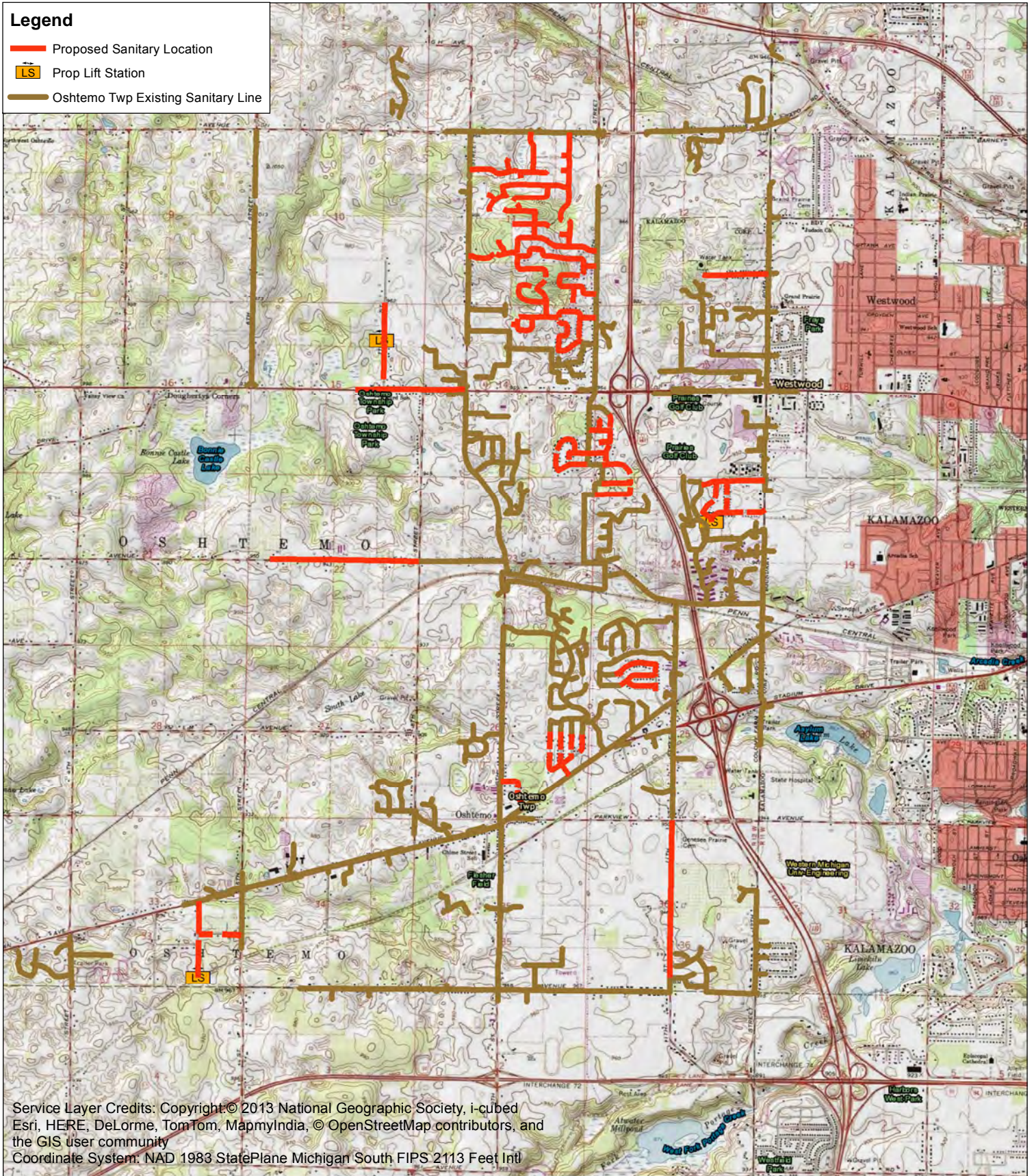
#### VI. DETERMINATION OF EFFECT

- No historic properties affected based on [36 CFR § 800.4(d)(1)], please provide the basis for this determination.
- No Adverse Effect [36 CFR § 800.5(b)] on historic properties, explain why the criteria of adverse effect, 36 CFR Part 800.5(a)(1), were found not applicable.
- Adverse Effect [36 CFR § 800.5(d)(2)] on historic properties, explain why the criteria of adverse effect, [36 CFR Part 800.5(a)(1)], were found applicable.

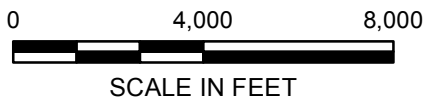
***Please print and mail completed form and required information to:  
State Historic Preservation Office, Environmental Review Office, Michigan Historical Center, 702  
W. Kalamazoo Street, P.O. Box 30740, Lansing, MI 48909-8240***

**Legend**

-  Proposed Sanitary Location
-  Prop Lift Station
-  Oshtemo Twp Existing Sanitary Line



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 Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and  
 the GIS user community  
 Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl



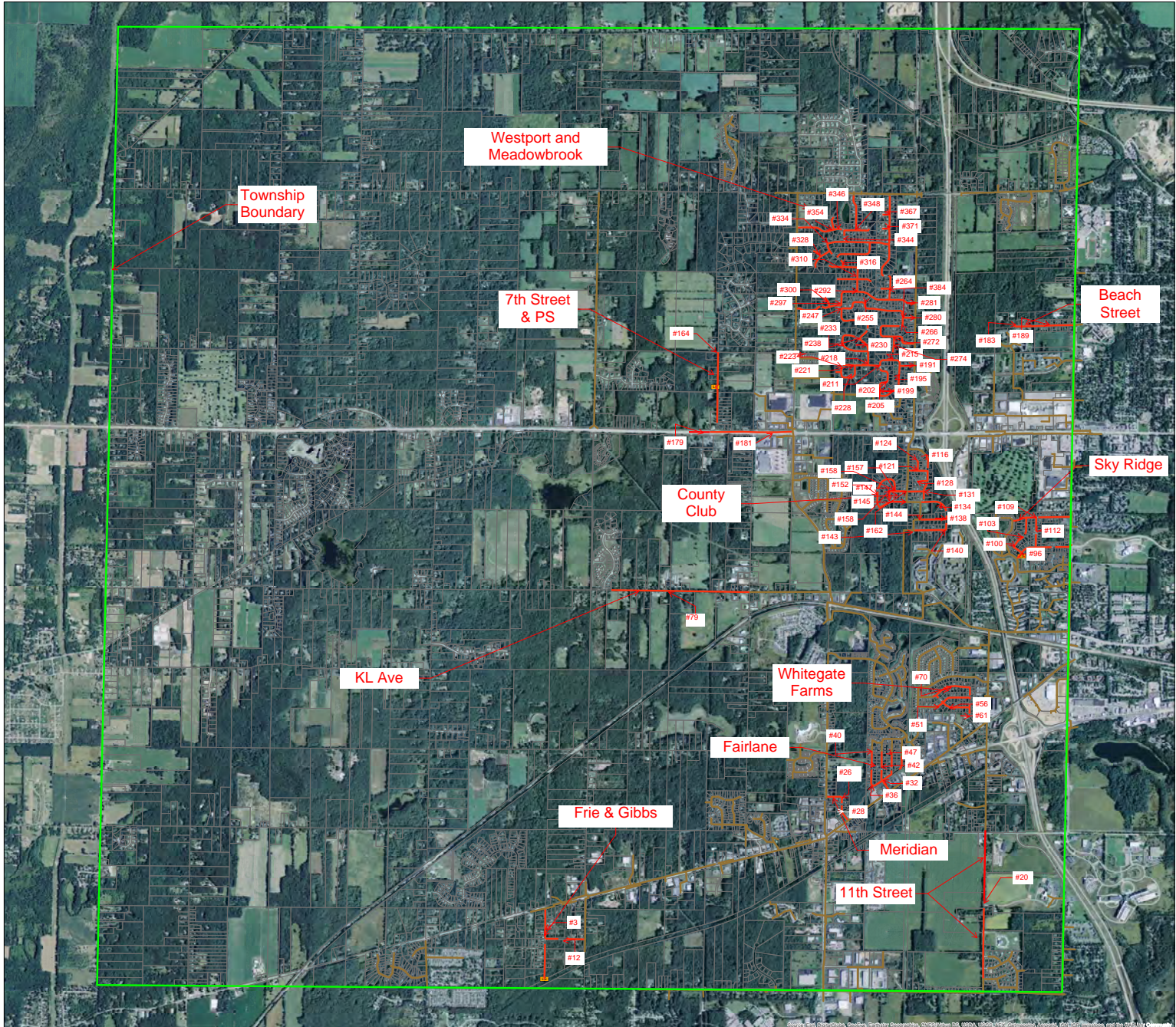
**OSHTEMO TOWNSHIP**  
 KALAMAZOO COUNTY, MICHIGAN  
**OSHTEMO FULL RD APPLICATION**

**QUAD MAP**

828340

F&V PROJECT NO.





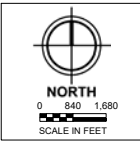
**Legend**

	Prop Sanitary
	Prop Lift Station
	Ex Sanitary

**SEWER EXTENSION  
 PHASE #1**

OSHTEMO TOWNSHIP

DRAWN BY MGJ	DATE 10/14/2016
PROJECT NO. 828340	SCALE 1:17,838
FILE LOCATION	
SOURCES	





Typical of Frie & Gibbs area



3. O Park St. facing south



12. Frie Ave half way to S. 6<sup>th</sup> St facing west

Typical of 11<sup>th</sup> St. area



20. S. 11<sup>th</sup> St at driveway to Kal. Christian facing south

Typical of Meridian area



26. Meridian Ave at Sunset Rd. facing west.

28. Sunset Rd at bend facing north



Typical of Fairlane area



32. Fairgrove St. at Mansfield St. facing south



36. Mansfield St. turns into Windermere St. facing east



40. Windermere cul de sac facing south



42. Fairgrove St. 2490-2698 facing north.



47. Strathmore St. cul de sac facing south

Typical of Whitegate area



51. 5799 Lamplighter Ln. facing east



56. 5739 Powderhorn Dr. facing west

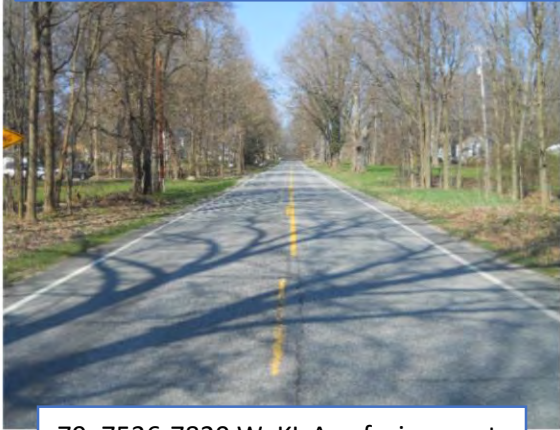


61. 1991 Whitegate Ln. facing north



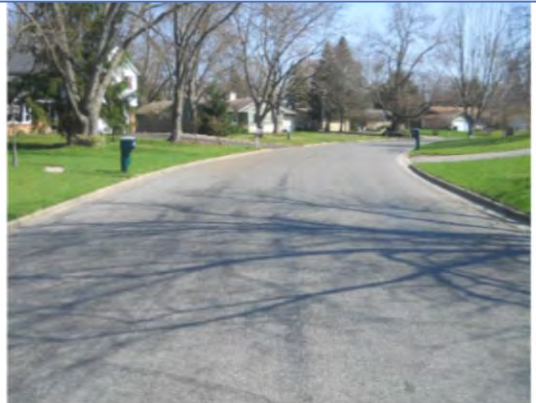
70. 5759 Castleton Dr. facing west

Typical for W. KL Ave area

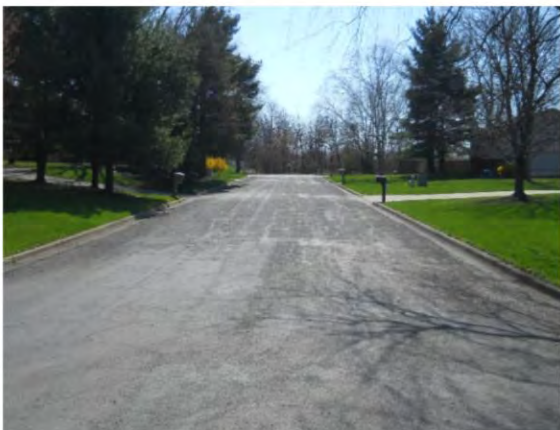


79. 7536-7820 W. KL Ave facing west

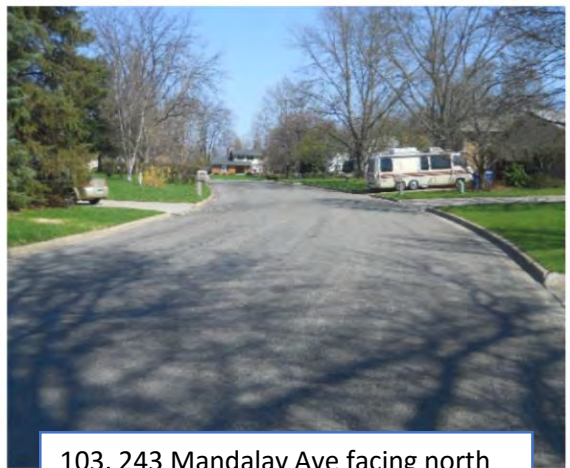
Typical for Sky Ridge area



96. Driftwood Ave at Crimson Ln. facing curve



100. Crimson Ln. and Mandalay Dr. facing Driftwood Ave.



103. 243 Mandalay Ave facing north



109. Skyridge Ave at Westview St. facing east



112. 185 Westview St. facing south

Typical for Country Club area



116. 605 Club View Dr. facing south



121. Shadywood Dr. at Sunrise Cir. Facing west



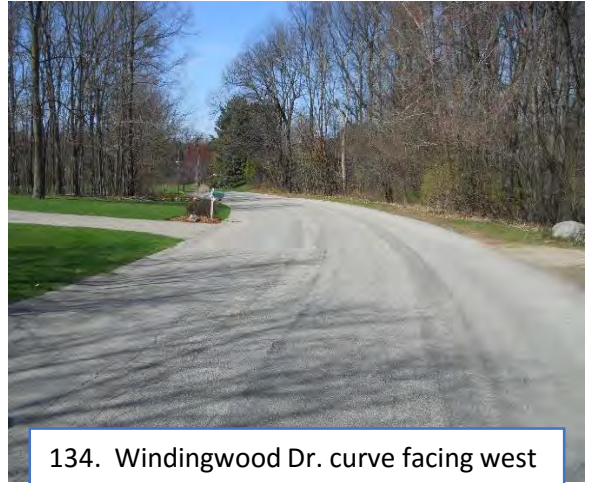
124. Sunrise Cir. cul de sac facing south



128. Fairway Cir. cul de sac facing east



131. Valley View Dr. at Club View Dr. facing west



134. Windingwood Dr. curve facing west



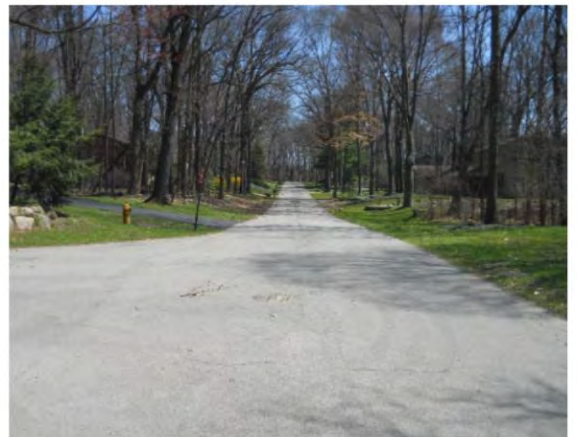
138. S. Manorwood Dr. at Windingwood Dr. facing west



140. Scenic Way Dr. at Windingway Dr. facing west



143. Scenic Way Dr. at Echo Hills Dr. facing east



144. S. Manorwood Dr. at Woodlane Dr. facing east



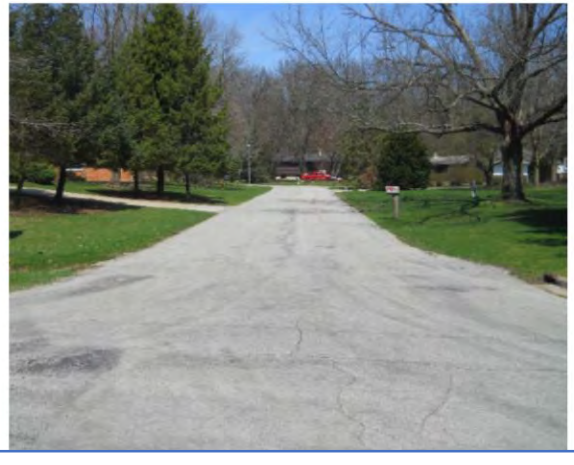
145. Horizon Hts. Dr. at Lodge Ln. facing west



147. Horizon Hts. Dr. at Highcrest Dr. facing west



152. 229 W. Ridge Cir. facing north



157. E. Ridge Cir. at Valley View Dr. facing north



158. Valley View Dr. at E. Ridge Cir. facing east

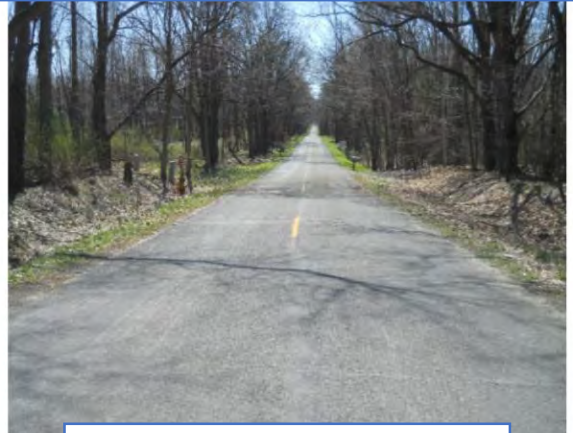


161. Valley View Dr. at Highcrest Dr. facing south

Typical of 7<sup>th</sup> Street



162. Valley View Dr. at Lodge Ln facing west



164. N. 7<sup>th</sup> St. at end facing south

Typical of W. Main



179. 6883 W. Main St. facing west

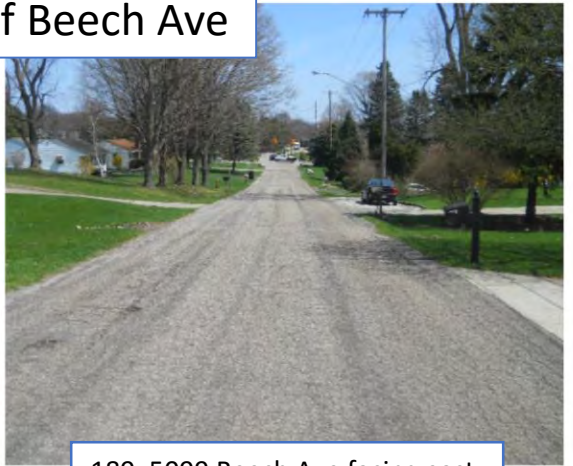


181. 6775 W. Main St. facing west

Typical of Beech Ave

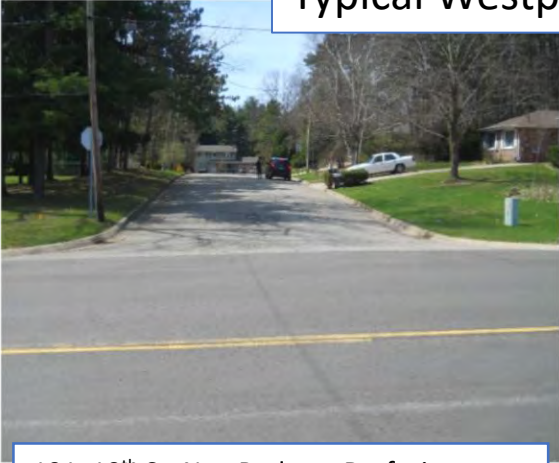


183. Beech Ave cul de sac facing west

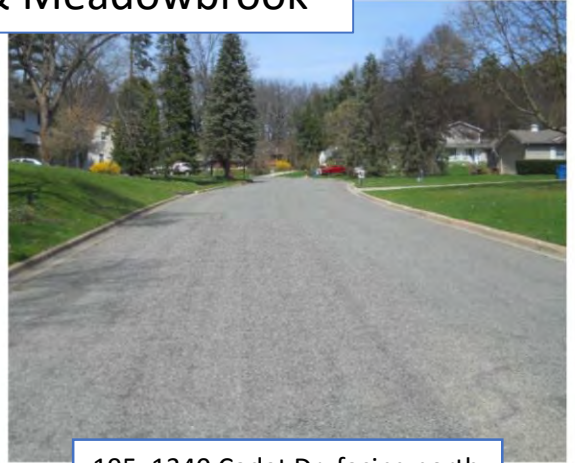


189. 5099 Beech Ave facing east

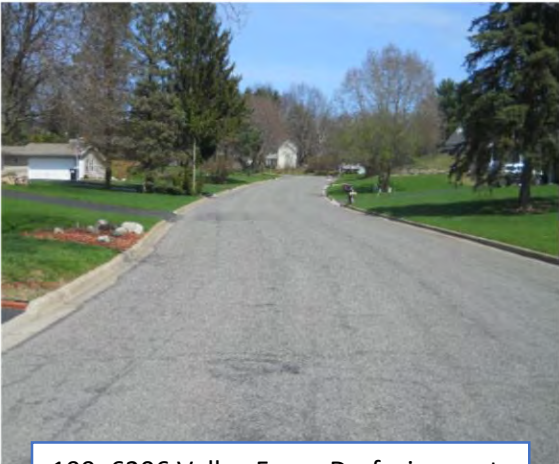
## Typical Westport & Meadowbrook



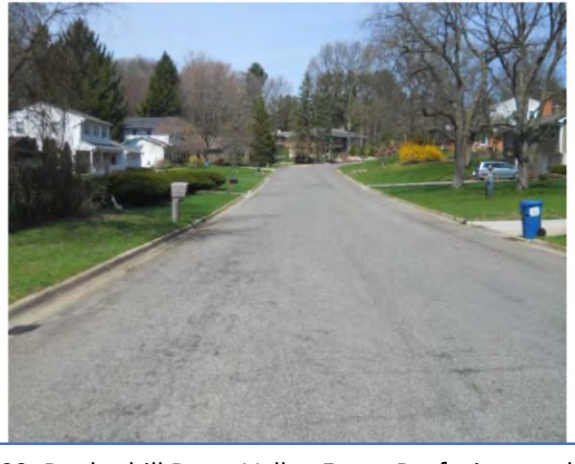
191. 10<sup>th</sup> St. N at Rudgate Dr. facing west



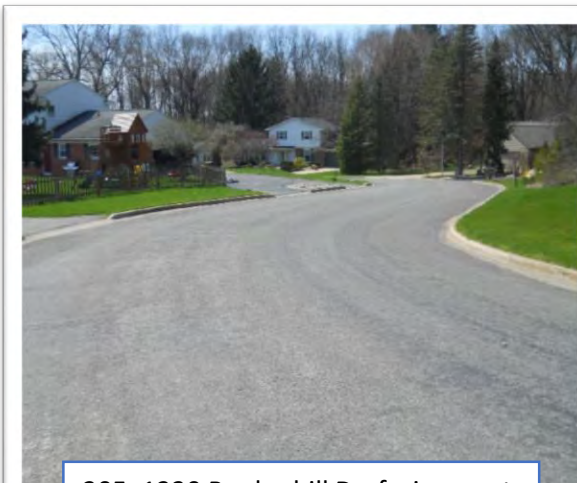
195. 1340 Cadet Dr. facing north



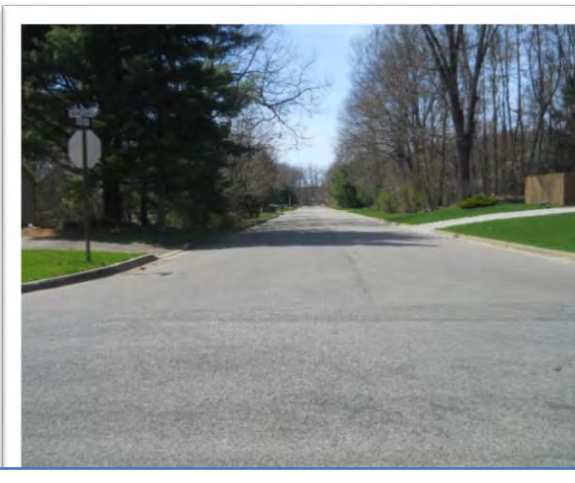
199. 6206 Valley Forge Dr. facing east



202. Bunkerhill Dr. at Valley Forge Dr. facing north



205. 1230 Bunkerhill Dr. facing west



211. Bunkerhill Dr. at Shugarbush Tr. Facing west





215. Nantucket Ln. at Old Deer Run facing east



218. Shugarbush Tr. At Breezy Pt. Ln. facing north



221. Shugarbush Tr. At Sanfield Ln. facing south



223. Shugarbush Tr. At Tundel Ln. facing south



228. Brogan Hill at Sanfield Ln. facing north



230. 1720 Breezy Pt. Ln. facing south



233. Breezy Pt. Ln. at Killington Dr. facing west



238. 6435 Breckenridge Dr. facing east



247. Wild Cherry Ln. at Old Log Tr. Facing south



255. Northeast curve in Old Log Tr. Facing south



264. Wingate Rd. at Twilingate Ln. facing east



266. Wingate Rd. at Thunder Bluff Rd. facing east



272. Litchfield Ln. at Old Deer Run facing east



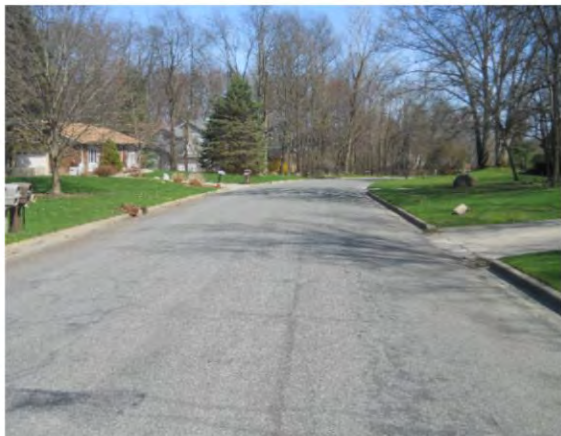
274. 1660 Old Deer Run facing north



280. 10<sup>th</sup> St. N at Twilingate Ln. facing west



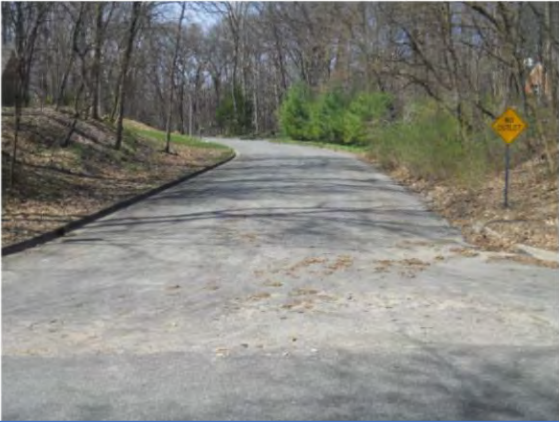
281. 10<sup>th</sup> St. N at Torrington Rd. facing west



292. Torrington Rd. at Signal Hill Dr. facing east



297. Wild Cherry Ln. at Wyndham Dr. facing west



300. Wyndham Dr. at Walker Tr. Facing north



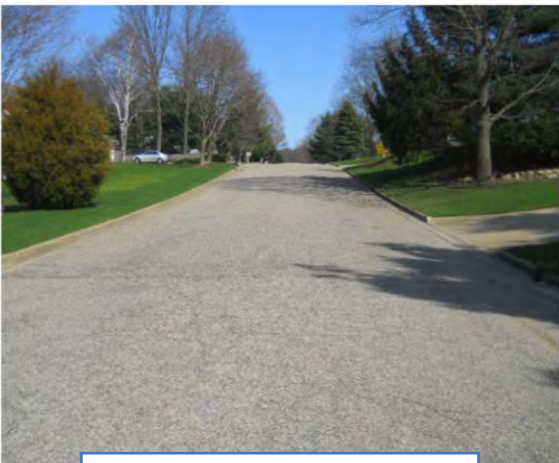
310. Signal Hill Dr. at Saybrook Dr. facing east



316. Nightingale Ave at Cutty Sark Dr. facing west



328. Morning Star Way at Chippendale facing north



334. Windrift Ave facing east



344. Chesapeake Dr. facing north



346. Rose Arbour Ave facing east



348. Bramble Dr. at Rose Arbour facing north



354. Redbud Tr. At Rose Arbour Facing north



367. Ashwood Ct at Ramblewood Dr. facing west



371. Karabrook Ct. at Ramblewood Dr. facing west



384. Countrywood Ct. at Ramblewood Dr. facing west



May 16, 2017

SUBJECT: SHPO ER17-264 Oshtemo Township Neighborhood Sewer Extension; Kalamazoo County Section 106 Historic Review & Tribal Consultation

TO: David B. Jones, Huron Potawatomi, Inc.  
Kelli Mosteller, Citizen Potawatomi Nation  
Rhonda Hayworth, Ottawa Tribe of Oklahoma  
Earl Meshigaud & Kenneth Meshigaud, Hannahville Indian Community  
Giiwegiizhigookway Martin, Lac Vieux Desert Band of  
the Lake Superior Chippewa Indians  
Kade Ferris, Red Lake Band of Chippewa Indians  
Jonnie Sam, Little River Band of Ottawa Indians  
William Johnson & Steven Pego, Saginaw Chippewa Indian Tribe  
Paula Carrick, Bay Mills Indian Community  
Gary F. Loonsfoot, Keweenaw Bay Indian Community  
Aaron Payment, Sault Ste. Marie Tribe of Chippewa Indians  
Alvin Pedwaydon & Derek Bailey, Grand Traverse Band of Ottawa/Chippewa Indians  
Wesley L. Andrews, Little Traverse Bay Bands of Ottawa Indians  
Sharon Detz, Grand River Band of Ottawa Indians  
Dan Green & Homer Mandoka, Nottawaseppi Huron Band of Potawatomi  
Marcus Winchester & Jason Wesaw, Pokagon Band of Potawatomi Indians  
Jill Hoppe, Fond du Lac Band Reservation  
Amy Burnette, Leech Lake Band of Chippewa  
Edith Leoso, Bad River Band of Lake Superior Chippewa  
Rosemary Berens, Bois Forte Band of Chippewa  
Harold Frank, Forest County Potawatomi  
Norman DesChamps & Maryann Gagnon, Grant Portage Band of the Minnesota Chippewa Tribe  
William Quackerbush, Ho-Chunk Nation of Wisconsin  
Louis Taylor, Lac Courte Oreilles Band of Lak Superior Chippewa Indians of Wisconsin  
Melinda Young, Lac Du Flambeau Band of Lake Superior Chippewa  
Edmond Pigeon, Match-e-be-nash-she-wish Band of Potawatomi Indians  
Dan Shepherd, Little River Band of Ottawa Indians  
Hattie Mitchell, Prairie Band of Potawatomi Nation  
Ronald Johnson, Prairie Island Indian Community  
Paul Barton, Seneca-Cayuga Nation  
Larry Balber, Red Cliff Band  
Chris McGeshick, Sokaogon Chippewa (Mole Lake) Community of Wisconsin  
Wanda McFaggen, St. Croix Chippewa Indians of Wisconsin  
Cayla Olson, White Earth Band of the Minnesota Chippewa Tribe  
Diane Hunter, Miami Tribe of Oklahoma  
Natalie Weyaus, Mille Lacs Band of Ojibwe  
David Grignon, Menominee Indian Tribe of Wisconsin

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, the State Historic Preservation Office (SHPO) has reviewed the above-mentioned project and concluded that:

- No historic properties are affected by the project (36 CFR § 800.4 (d) (1)), or  
 The project will have no adverse effect on historic properties (36 CFR § 800.5).

Part of the SHPO review of this project included a review by the Office of the State Archaeologist (OSA). The OSA review process includes looking at the presence and/or proximity of known archaeological sites near to and within the project area. To do this, they consider a variety of information, including the distribution of archaeological sites in the surrounding region, the amount of previous archaeological surveys in the vicinity and the results of that survey work, topography, surface water, soil



**United States Department of Agriculture**

types, the presence of old transportation features such as railroad grades and road beds, as well as other factors which may inform on the potential presence or absence of archaeological sites.

As a standard requirement of all USDA Rural Development contracts, in the event that historic or archaeological resources are uncovered during excavation, the project engineer and USDA Rural Development will be immediately notified. Construction shall be temporarily halted pending the notification process and further directions issued by USDA Rural Development after consultation with the SHPO and interested tribes.

Based on the SHPO review and opinion, USDA Rural Development is issuing a finding as noted above for the above-mentioned project. If you have site specific information that causes your tribe to disagree with this opinion, please contact our office at (517) 324-5209 within thirty days.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Church", followed by a large, stylized flourish.

Joshua Church  
Assistant State Environmental Coordinator

cc: USDA-RD Area Office; Martha MacFarlane-Faes--SHPO Environmental Review Coordinator

## **6.4 State Historic Preservation Officer Response**





RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY  
STATE HISTORIC PRESERVATION OFFICE

EARL J. POLESKI  
EXECUTIVE DIRECTOR

May 8, 2017

ANDREW GRANSKOG  
ENVIRONMENTAL COORDINATOR  
USDA RURAL DEVELOPMENT OFFICE  
3001 COOLIDGE ROAD SUITE 200  
EAST LANSING MI 48823

RE: ER17-264 Oshtemo Township Neighborhood Sewer Extension, Sec. 10-36, T2S, R12W,  
Oshtemo Township, Kalamazoo County (USDA/RD)

Dear Mr. Granskog:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited undertaking at the location noted above. Based on the information provided for our review, the State Historic Preservation Officer (SHPO) concurs with the determination of the USDA/RD that **no historic properties are affected** within the area of potential effects of this undertaking.

This letter evidences the USDA/RD's compliance with 36 CFR § 800.4 "Identification of historic properties," and the fulfillment of the USDA/RD's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected." **If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.**

We remind you that federal agency officials or their delegated authorities are required to involve the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties per 36 CFR § 800.2(d). The National Historic Preservation Act also requires that federal agencies consult with any Indian tribe and/or Tribal Historic Preservation Officer (THPO) that attach religious and cultural significance to historic properties that may be affected by the agency's undertakings per 36 CFR § 800.2(c)(2)(ii).

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking.

If you have any questions, please contact Brian Grennell, Cultural Resource Management Specialist, at 517-335-2721 or by email at GrennellB@michigan.gov. **Please reference our project number in all communication with this office regarding this undertaking.** Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

Brian G. Grennell  
Cultural Resource Management Specialist

for Brian D. Conway  
State Historic Preservation Officer

DLA:BGG



Equal  
Housing  
Lender

## **7.0 References**

### **7.1 Project Narrative**

## **Project Narrative**

### **Project Description**

Oshtemo Township is planning for the installation of a sanitary sewer system to provide municipal sanitary sewer service to 11 neighborhoods currently served by individual septic systems. The proposed system will connect to the existing Township collection system. The existing collection system conveys the sanitary wastewater from Oshtemo Township service area to intercepting sewers in the City of Kalamazoo leading to the City of Kalamazoo wastewater treatment plant.

A map showing the project limits can be found in Appendix A.

### **Purpose and Need of Project**

The Township of Oshtemo has a Master Capital Plan to expand sanitary service to properties not currently serviced. A high proportion of the area is residential subdivisions located near existing service but currently using private, on-site septic systems. As these systems fail, an additional financial burden is placed on the residents to maintain them. Failed systems in highly populated areas have potential to create health hazards. The Township delayed street reconstruction and repairs hoping to secure funding for the sanitary updates to include them in the street reconstruction and repairs.

Many of the parcels in the project area are small and have already replaced the original septic system. Most of the parcels do not contain enough space to meet requirements for future septic system replacements.

**7.2 Street Map with Project Locations**

**7.3 Topographical Map**

**7.4 Aerial Map**




**7.5 Flood Insurance Rate Maps**

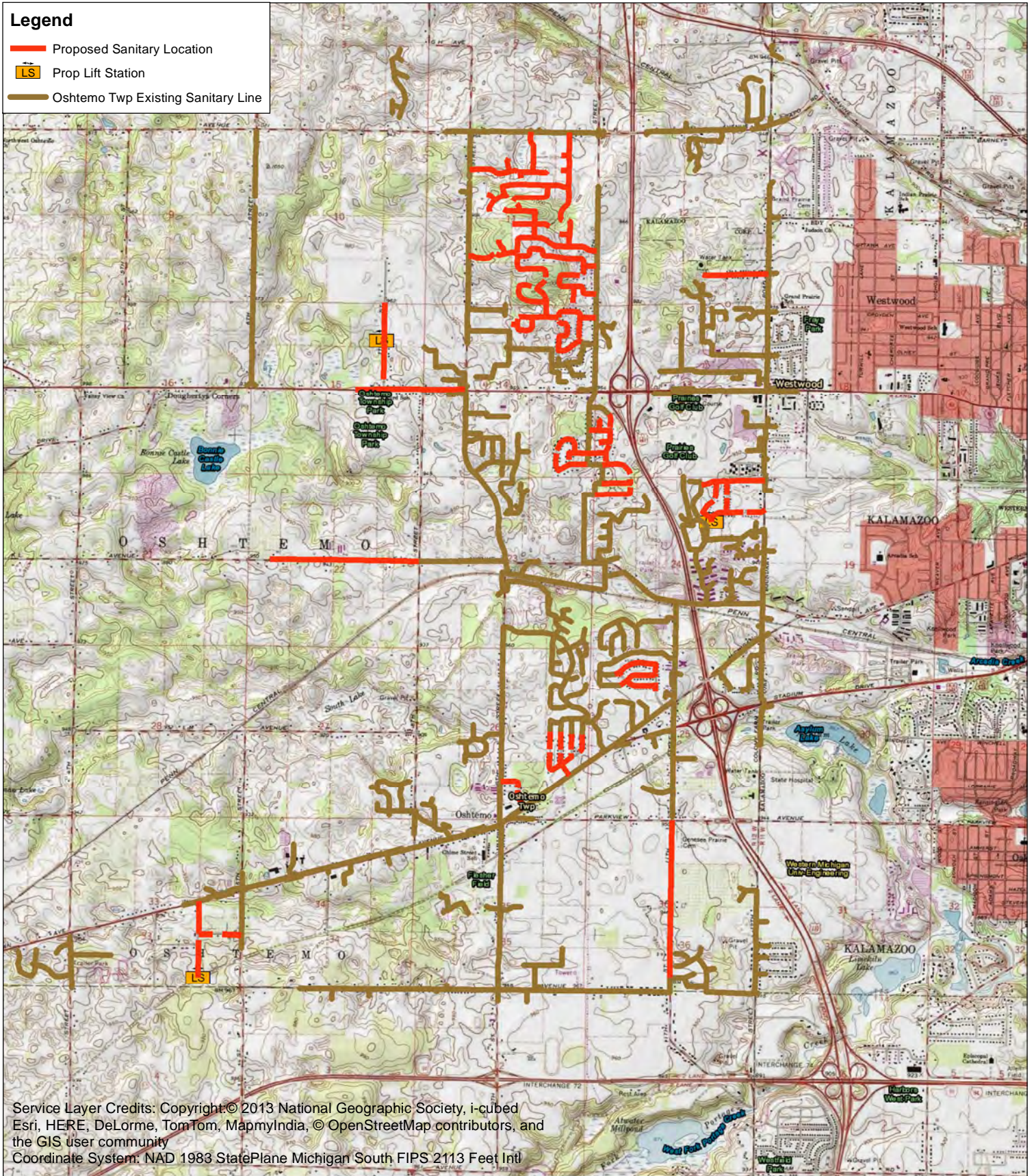
**7.6 Flood Certificates**

**7.7 Wetlands Map**



**Legend**

-  Proposed Sanitary Location
-  Prop Lift Station
-  Oshtemo Twp Existing Sanitary Line



Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed  
 Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and  
 the GIS user community  
 Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl



NORTH

0 4,000 8,000



SCALE IN FEET

**OSHTEMO TOWNSHIP**  
 KALAMAZOO COUNTY, MICHIGAN  
**OSHTEMO FULL RD APPLICATION**

**TOPOGRAPHIC MAP**






828340

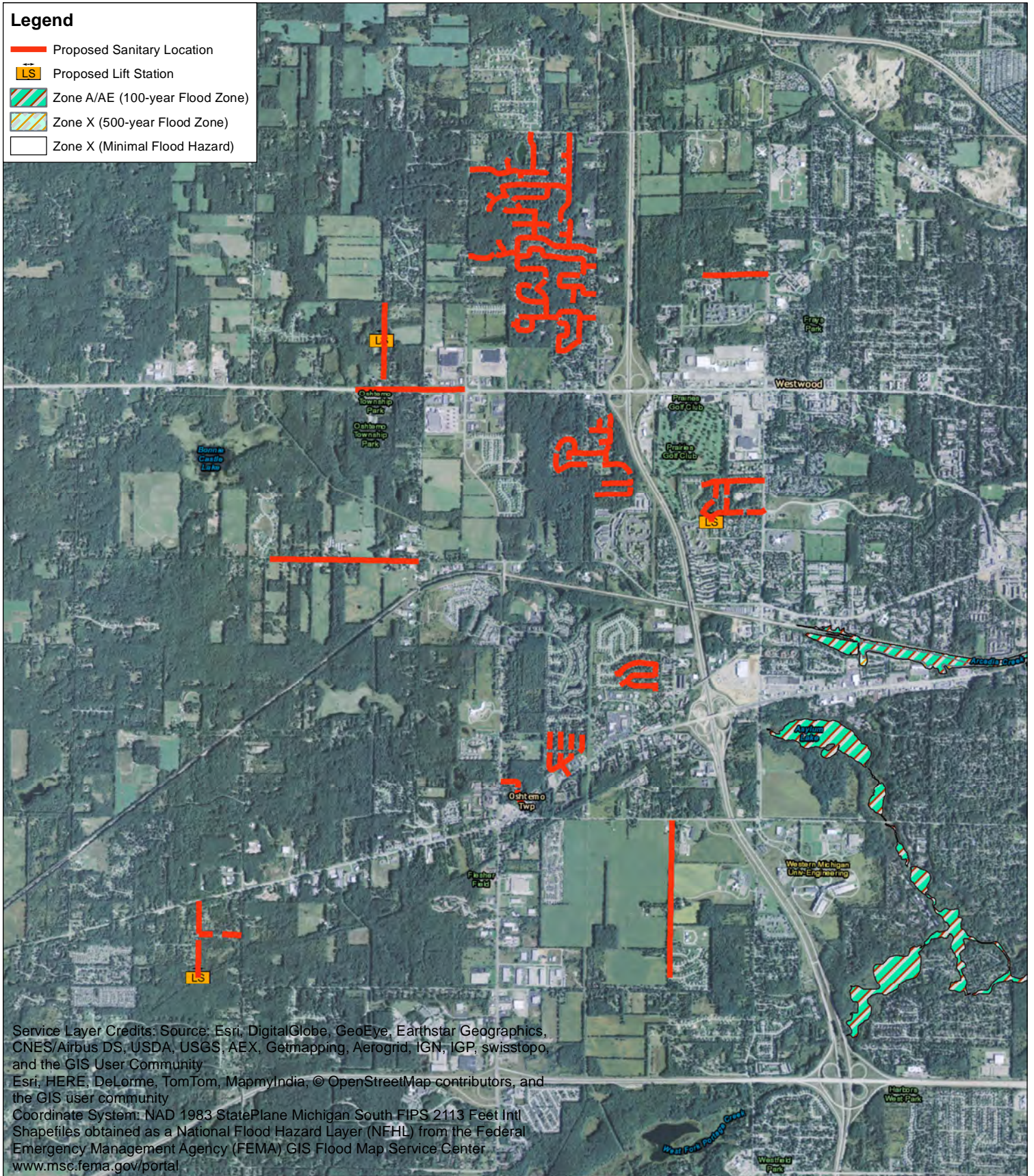
F&V PROJECT NO.





**Legend**

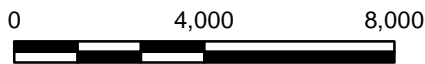
-  Proposed Sanitary Location
-  Proposed Lift Station
-  Zone A/AE (100-year Flood Zone)
-  Zone X (500-year Flood Zone)
-  Zone X (Minimal Flood Hazard)



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community  
 Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community  
 Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl  
 Shapefiles obtained as a National Flood Hazard Layer (NFHL) from the Federal Emergency Management Agency (FEMA) GIS Flood Map Service Center  
[www.msc.fema.gov/portal](http://www.msc.fema.gov/portal)



NORTH



SCALE IN FEET

**OSHTEMO TOWNSHIP**  
 KALAMAZOO COUNTY, MICHIGAN  
**OSHTEMO FULL RD APPLICATION**

**FLOODPLAINS MAP**

828340

F&V PROJECT NO.





DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

**SECTION I - LOAN INFORMATION**

1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120</b>  <b>Requested By: Josh Church</b>		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>1796 N 10TH ST KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	

**SECTION II**

**A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION**

1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
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**B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME**

1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A") <b>26077C 0175D</b>	2. NFIP Map Panel Effective/Revised Date <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).	
4. Flood Zone <b>X</b>	5. No NFIP Map	Date	Case No.

**C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)**

1.  Federal Flood Insurance is available (community participates in the NFIP).  Regular Program  Emergency Program of NFIP

2.  Federal Flood Insurance is not available (community does not participate in the NFIP).

3.  Building/Mobile Home is in a Coastal Barrier Resources Area (CBRA) or Otherwise Protected Area (OPA). Federal Flood Insurance may not be available.  
CBRA/OPA Designation Date: \_\_\_\_\_

**D. DETERMINATION**

**IS BUILDING/MOBILE HOME IN SPECIAL FLOOD HAZARD AREA (ZONES CONTAINING THE LETTERS "A" OR "V") ?**  YES  NO

If yes, flood insurance is required by the Flood Disaster Protection Act of 1973.  
If no, flood insurance is not required by the Flood Disaster Protection Act of 1973. Please note, the risk of flooding in this area is only reduced, not removed.

This determination is based on examining the NFIP map, any Federal Emergency Management Agency revisions to it, and any other information needed to locate the building/mobile home on the NFIP map.

**E. COMMENTS (Optional)**

**THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.**

**F. PREPARER'S INFORMATION**

NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender) <b>CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772</b>	DATE OF DETERMINATION <b>05/25/17 at 09:13 AM CDT</b> <b>FloodCert #: 1705B41457</b> <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>
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DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

**SECTION I - LOAN INFORMATION**

1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120</b>  <b>Requested By: Josh Church</b>		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>2401 BLUESTONE CIR KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	

**SECTION II**

**A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION**

1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
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**B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME**

1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A") <b>26077C 0175D</b>	2. NFIP Map Panel Effective/Revised Date <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).	
4. Flood Zone <b>X</b>	5. No NFIP Map	Date	Case No.

**C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)**

1.  Federal Flood Insurance is available (community participates in the NFIP).  Regular Program  Emergency Program of NFIP

2.  Federal Flood Insurance is not available (community does not participate in the NFIP).

3.  Building/Mobile Home is in a Coastal Barrier Resources Area (CBRA) or Otherwise Protected Area (OPA). Federal Flood Insurance may not be available.  
CBRA/OPA Designation Date: \_\_\_\_\_

**D. DETERMINATION**

**IS BUILDING/MOBILE HOME IN SPECIAL FLOOD HAZARD AREA (ZONES CONTAINING THE LETTERS "A" OR "V") ?**  YES  NO

If yes, flood insurance is required by the Flood Disaster Protection Act of 1973.  
If no, flood insurance is not required by the Flood Disaster Protection Act of 1973. Please note, the risk of flooding in this area is only reduced, not removed.

This determination is based on examining the NFIP map, any Federal Emergency Management Agency revisions to it, and any other information needed to locate the building/mobile home on the NFIP map.

**E. COMMENTS (Optional)**

**THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.**

**F. PREPARER'S INFORMATION**

NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender) <b>CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772</b>	DATE OF DETERMINATION <b>05/25/17 at 09:15 AM CDT</b> <b>FloodCert #: 1705B41562</b> <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>
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DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

**SECTION I - LOAN INFORMATION**

1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120</b>  <b>Requested By: Josh Church</b>		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>3700 OLD SAVANNAH DR KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	

**SECTION II**

**A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION**

1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
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**B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME**

1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A") <b>26077C 0175D</b>	2. NFIP Map Panel Effective/Revised Date <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).	
4. Flood Zone <b>X</b>	5. No NFIP Map	Date	Case No.

**C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)**

1.  Federal Flood Insurance is available (community participates in the NFIP).  Regular Program  Emergency Program of NFIP

2.  Federal Flood Insurance is not available (community does not participate in the NFIP).

3.  Building/Mobile Home is in a Coastal Barrier Resources Area (CBRA) or Otherwise Protected Area (OPA). Federal Flood Insurance may not be available.  
CBRA/OPA Designation Date: \_\_\_\_\_

**D. DETERMINATION**

**IS BUILDING/MOBILE HOME IN SPECIAL FLOOD HAZARD AREA (ZONES CONTAINING THE LETTERS "A" OR "V") ?**  YES  NO

If yes, flood insurance is required by the Flood Disaster Protection Act of 1973.  
If no, flood insurance is not required by the Flood Disaster Protection Act of 1973. Please note, the risk of flooding in this area is only reduced, not removed.

This determination is based on examining the NFIP map, any Federal Emergency Management Agency revisions to it, and any other information needed to locate the building/mobile home on the NFIP map.

**E. COMMENTS (Optional)**

**THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.**

**F. PREPARER'S INFORMATION**

NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender) <b>CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772</b>	DATE OF DETERMINATION <b>05/25/17 at 09:16 AM CDT</b> <b>FloodCert #: 1705B41659</b> <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>
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DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

**SECTION I - LOAN INFORMATION**

1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120</b>  <b>Requested By: Josh Church</b>		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>4690 OLDE FOREST DR KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	

**SECTION II**

**A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION**

1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
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**B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME**

1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A") <b>26077C 0300D</b>	2. NFIP Map Panel Effective/Revised Date <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).	
4. Flood Zone <b>X</b>	5. No NFIP Map	Date	Case No.

**C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)**

1.  Federal Flood Insurance is available (community participates in the NFIP).  Regular Program  Emergency Program of NFIP

2.  Federal Flood Insurance is not available (community does not participate in the NFIP).

3.  Building/Mobile Home is in a Coastal Barrier Resources Area (CBRA) or Otherwise Protected Area (OPA). Federal Flood Insurance may not be available.  
CBRA/OPA Designation Date: \_\_\_\_\_

**D. DETERMINATION**

**IS BUILDING/MOBILE HOME IN SPECIAL FLOOD HAZARD AREA (ZONES CONTAINING THE LETTERS "A" OR "V") ?**  YES  NO

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**E. COMMENTS (Optional)**

**THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.**

**F. PREPARER'S INFORMATION**

NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender) <b>CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772</b>	DATE OF DETERMINATION <b>05/25/17 at 09:17 AM CDT</b> <b>FloodCert #: 1705B41723</b> <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>
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DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

**SECTION I - LOAN INFORMATION**

1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120</b>  <b>Requested By: Josh Church</b>		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>5514 W H AVE KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	

**SECTION II**

**A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION**

1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
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**B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME**

1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A") <b>26077C 0175D</b>	2. NFIP Map Panel Effective/Revised Date <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).	
4. Flood Zone <b>X</b>	5. No NFIP Map	Date	Case No.

**C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)**

1.  Federal Flood Insurance is available (community participates in the NFIP).  Regular Program  Emergency Program of NFIP

2.  Federal Flood Insurance is not available (community does not participate in the NFIP).

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CBRA/OPA Designation Date: \_\_\_\_\_

**D. DETERMINATION**

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If yes, flood insurance is required by the Flood Disaster Protection Act of 1973.  
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**E. COMMENTS (Optional)**

**THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.**

**F. PREPARER'S INFORMATION**

NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender) <b>CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772</b>	DATE OF DETERMINATION <b>05/25/17 at 09:18 AM CDT</b> <b>FloodCert #: 1705B41781</b> <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>
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DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

**SECTION I - LOAN INFORMATION**

1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120</b>  <b>Requested By: Josh Church</b>		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>6352 W H AVE KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	

**SECTION II**

**A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION**

1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
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**B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME**

1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A") <b>26077C 0175D</b>	2. NFIP Map Panel Effective/Revised Date <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).	
4. Flood Zone <b>X</b>	5. No NFIP Map	Date	Case No.

**C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)**

1.  Federal Flood Insurance is available (community participates in the NFIP).  Regular Program  Emergency Program of NFIP

2.  Federal Flood Insurance is not available (community does not participate in the NFIP).

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CBRA/OPA Designation Date: \_\_\_\_\_

**D. DETERMINATION**

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**E. COMMENTS (Optional)**

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**F. PREPARER'S INFORMATION**

NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender) <b>CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772</b>	DATE OF DETERMINATION <b>05/25/17 at 09:19 AM CDT</b> <b>FloodCert #: 1705B41841</b> <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>
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DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

**SECTION I - LOAN INFORMATION**

1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120</b>  <b>Requested By: Josh Church</b>		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>6375 BUCKHAM WOOD DR KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	

**SECTION II**

**A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION**

1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
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**B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME**

1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A") <b>26077C 0175D</b>	2. NFIP Map Panel Effective/Revised Date <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).	
4. Flood Zone <b>X</b>	5. No NFIP Map	Date	Case No.

**C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)**

1.  Federal Flood Insurance is available (community participates in the NFIP).  Regular Program  Emergency Program of NFIP

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CBRA/OPA Designation Date: \_\_\_\_\_

**D. DETERMINATION**

**IS BUILDING/MOBILE HOME IN SPECIAL FLOOD HAZARD AREA (ZONES CONTAINING THE LETTERS "A" OR "V") ?**  YES  NO

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**E. COMMENTS (Optional)**

**THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.**

**F. PREPARER'S INFORMATION**

NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender) <b>CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772</b>	DATE OF DETERMINATION <b>05/25/17 at 09:20 AM CDT</b> <b>FloodCert #: 1705B41889</b> <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>
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DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

SECTION I - LOAN INFORMATION			
<b>1. LENDER/SERVICER NAME AND ADDRESS</b> USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120  <b>Requested By: Josh Church</b>		<b>2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property)</b> (See instructions for more information.) 6658 W MAIN ST KALAMAZOO, MI 49009	
<b>3. LENDER/SERVICER ID #</b> CF	<b>4. LOAN IDENTIFIER</b>	<b>5. AMOUNT OF FLOOD INSURANCE REQUIRED</b>	
SECTION II			
A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION			
<b>1. NFIP Community Name</b> OSHTEMO, CHARTER TOWNSHIP OF	<b>2. County(ies)</b> KALAMAZOO	<b>3. State</b> MI	<b>4. NFIP Community Number</b> 260736
B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME			
<b>1. NFIP Map Number or Community-Panel Number</b> (Community name, if not the same as "A")  26077C 0175D	<b>2. NFIP Map Panel Effective/Revised Date</b>  02/17/10	<b>3. Is there a Letter of Map Change (LOMC)?</b> <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).  Date _____ Case No. _____	
<b>4. Flood Zone</b>  X	<b>5. No NFIP Map</b>		
C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)			
1. <input checked="" type="checkbox"/> Federal Flood Insurance is available (community participates in the NFIP). <input checked="" type="checkbox"/> Regular Program <input type="checkbox"/> Emergency Program of NFIP 2. <input type="checkbox"/> Federal Flood Insurance is not available (community does not participate in the NFIP). 3. <input type="checkbox"/> Building/Mobile Home is in a Coastal Barrier Resources Area (CBRA) or Otherwise Protected Area (OPA). Federal Flood Insurance may not be available. CBRA/OPA Designation Date: _____			
D. DETERMINATION			
<b>IS BUILDING/MOBILE HOME IN SPECIAL FLOOD HAZARD AREA (ZONES CONTAINING THE LETTERS "A" OR "V") ?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If yes, flood insurance is required by the Flood Disaster Protection Act of 1973. If no, flood insurance is not required by the Flood Disaster Protection Act of 1973. Please note, the risk of flooding in this area is only reduced, not removed.			
This determination is based on examining the NFIP map, any Federal Emergency Management Agency revisions to it, and any other information needed to locate the building/mobile home on the NFIP map.			
E. COMMENTS (Optional)			
<b>THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.</b>			
F. PREPARER'S INFORMATION			
NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender)  CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772		DATE OF DETERMINATION 05/25/17 at 09:21 AM CDT  FloodCert #: 1705B41977  *** LIFE-OF-LOAN *** *** SPECIAL PROPERTY ***	





DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

**SECTION I - LOAN INFORMATION**

1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120</b>  <b>Requested By: Josh Church</b>		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>6744 ANDOVER DR KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	

**SECTION II**

**A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION**

1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
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**B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME**

1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A") <b>26077C 0175D</b>	2. NFIP Map Panel Effective/Revised Date <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).	
4. Flood Zone <b>X</b>	5. No NFIP Map	Date	Case No.

**C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)**

1.  Federal Flood Insurance is available (community participates in the NFIP).  Regular Program  Emergency Program of NFIP

2.  Federal Flood Insurance is not available (community does not participate in the NFIP).

3.  Building/Mobile Home is in a Coastal Barrier Resources Area (CBRA) or Otherwise Protected Area (OPA). Federal Flood Insurance may not be available.  
CBRA/OPA Designation Date: \_\_\_\_\_

**D. DETERMINATION**

**IS BUILDING/MOBILE HOME IN SPECIAL FLOOD HAZARD AREA (ZONES CONTAINING THE LETTERS "A" OR "V") ?**  YES  NO

If yes, flood insurance is required by the Flood Disaster Protection Act of 1973.  
If no, flood insurance is not required by the Flood Disaster Protection Act of 1973. Please note, the risk of flooding in this area is only reduced, not removed.

This determination is based on examining the NFIP map, any Federal Emergency Management Agency revisions to it, and any other information needed to locate the building/mobile home on the NFIP map.

**E. COMMENTS (Optional)**

**THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.**

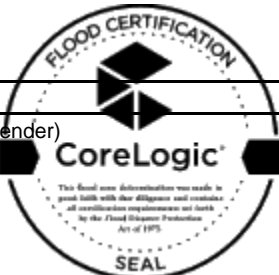
**F. PREPARER'S INFORMATION**

NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender) <b>CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772</b>	DATE OF DETERMINATION <b>05/25/17 at 09:22 AM CDT</b> <b>FloodCert #: 1705B42033</b> <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>
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DEPARTMENT OF HOMELAND SECURITY  
 Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
 Expires: 10/31/18

SECTION I - LOAN INFORMATION			
1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development</b> 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120  <u>Requested By:</u> Josh Church		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>6751 TALL OAKS DR</b> <b>KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	
SECTION II			
A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION			
1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME			
1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A")  <b>26077C 0175D</b>	2. NFIP Map Panel Effective/Revised Date  <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).  Date _____ Case No. _____	
4. Flood Zone  <b>X</b>	5. No NFIP Map		
C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)			
1. <input checked="" type="checkbox"/> Federal Flood Insurance is available (community participates in the NFIP). <input checked="" type="checkbox"/> Regular Program <input type="checkbox"/> Emergency Program of NFIP 2. <input type="checkbox"/> Federal Flood Insurance is not available (community does not participate in the NFIP). 3. <input type="checkbox"/> Building/Mobile Home is in a Coastal Barrier Resources Area (CBRA) or Otherwise Protected Area (OPA). Federal Flood Insurance may not be available. CBRA/OPA Designation Date: _____			
D. DETERMINATION			
<b>IS BUILDING/MOBILE HOME IN SPECIAL FLOOD HAZARD AREA (ZONES CONTAINING THE LETTERS "A" OR "V") ?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If yes, flood insurance is required by the Flood Disaster Protection Act of 1973. If no, flood insurance is not required by the Flood Disaster Protection Act of 1973. Please note, the risk of flooding in this area is only reduced, not removed.			
This determination is based on examining the NFIP map, any Federal Emergency Management Agency revisions to it, and any other information needed to locate the building/mobile home on the NFIP map.			
E. COMMENTS (Optional)			
<b>THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.</b>			
F. PREPARER'S INFORMATION			
NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender)  <b>CoreLogic Flood Services</b> 11902 Burnet Road Austin, TX 78758 1-800-447-1772			DATE OF DETERMINATION <b>05/25/17 at 09:23 AM CDT</b>  <b>FloodCert #: 1705B42083</b>  <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>

DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**STANDARD FLOOD HAZARD DETERMINATION FORM (SFHDF)**

OMB Control No. 1660-0040  
Expires: 10/31/18

**SECTION I - LOAN INFORMATION**

1. LENDER/SERVICER NAME AND ADDRESS <b>USDA Rural Development 4300 Goodfellow Blvd FC-231 Bldg 105 St. Louis, MO 63120</b>  <b>Requested By: Josh Church</b>		2. COLLATERAL DESCRIPTION (Building/Mobile Home/Property) (See instructions for more information.) <b>7690 STADIUM DR KALAMAZOO, MI 49009</b>	
3. LENDER/SERVICER ID # <b>CF</b>	4. LOAN IDENTIFIER	5. AMOUNT OF FLOOD INSURANCE REQUIRED	

**SECTION II**

**A. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY JURISDICTION**

1. NFIP Community Name <b>OSHTEMO, CHARTER TOWNSHIP OF</b>	2. County(ies) <b>KALAMAZOO</b>	3. State <b>MI</b>	4. NFIP Community Number <b>260736</b>
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**B. NATIONAL FLOOD INSURANCE PROGRAM (NFIP) DATA AFFECTING BUILDING/MOBILE HOME**

1. NFIP Map Number or Community-Panel Number (Community name, if not the same as "A") <b>26077C 0175D</b>	2. NFIP Map Panel Effective/Revised Date <b>02/17/10</b>	3. Is there a Letter of Map Change (LOMC)? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (if yes, and LOMC date/no. is available, enter date and case no. below).	
4. Flood Zone <b>X</b>	5. No NFIP Map	Date	Case No.

**C. FEDERAL FLOOD INSURANCE AVAILABILITY (Check all that apply.)**

1.  Federal Flood Insurance is available (community participates in the NFIP).  Regular Program  Emergency Program of NFIP

2.  Federal Flood Insurance is not available (community does not participate in the NFIP).

3.  Building/Mobile Home is in a Coastal Barrier Resources Area (CBRA) or Otherwise Protected Area (OPA). Federal Flood Insurance may not be available.  
CBRA/OPA Designation Date: \_\_\_\_\_

**D. DETERMINATION**

**IS BUILDING/MOBILE HOME IN SPECIAL FLOOD HAZARD AREA (ZONES CONTAINING THE LETTERS "A" OR "V") ?**  YES  NO

If yes, flood insurance is required by the Flood Disaster Protection Act of 1973.  
If no, flood insurance is not required by the Flood Disaster Protection Act of 1973. Please note, the risk of flooding in this area is only reduced, not removed.

This determination is based on examining the NFIP map, any Federal Emergency Management Agency revisions to it, and any other information needed to locate the building/mobile home on the NFIP map.

**E. COMMENTS (Optional)**




**THIS FLOOD DETERMINATION IS PROVIDED TO THE LENDER PURSUANT TO THE FLOOD DISASTER PROTECTION ACT. IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE.**

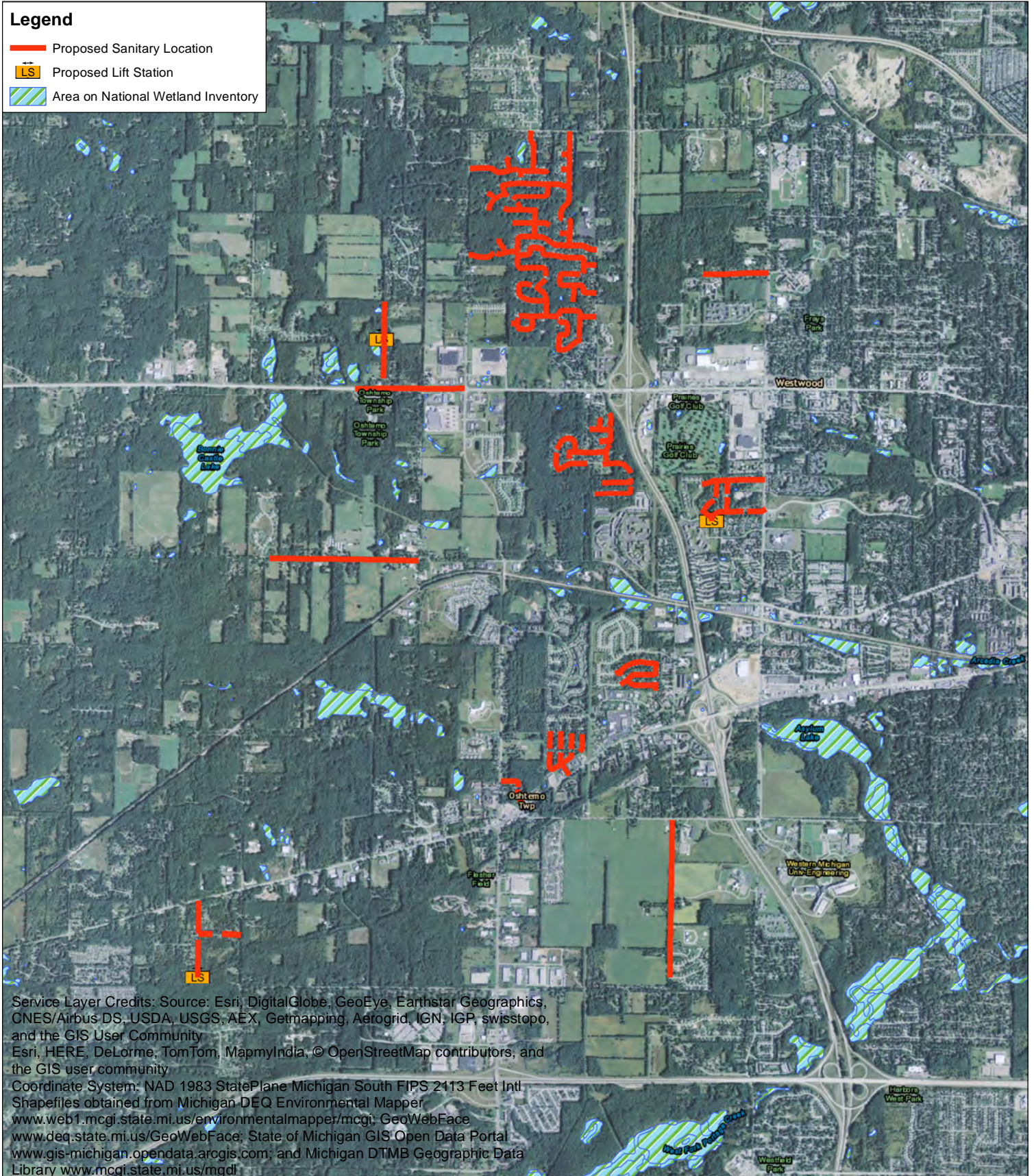
**F. PREPARER'S INFORMATION**

NAME, ADDRESS, TELEPHONE NUMBER (If other than Lender) <b>CoreLogic Flood Services 11902 Burnet Road Austin, TX 78758 1-800-447-1772</b>	DATE OF DETERMINATION <b>05/25/17 at 09:24 AM CDT</b> <b>FloodCert #: 1705B42135</b> <b>*** LIFE-OF-LOAN ***</b> <b>*** SPECIAL PROPERTY ***</b>
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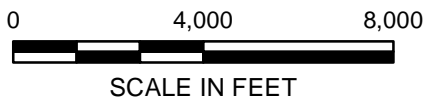


**Legend**

-  Proposed Sanitary Location
-  Proposed Lift Station
-  Area on National Wetland Inventory



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community  
 Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community  
 Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl  
 Shapefiles obtained from Michigan DEQ Environmental Mapper  
[www.web1.mcgi.state.mi.us/environmentalmapper/mcgi](http://www.web1.mcgi.state.mi.us/environmentalmapper/mcgi); GeoWebFace  
[www.deq.state.mi.us/GeoWebFace](http://www.deq.state.mi.us/GeoWebFace); State of Michigan GIS Open Data Portal  
[www.gis-michigan.opendata.arcgis.com](http://www.gis-michigan.opendata.arcgis.com); and Michigan DTMB Geographic Data Library  
[www.mcgi.state.mi.us/mgdl](http://www.mcgi.state.mi.us/mgdl)



**OSHTEMO TOWNSHIP**  
 KALAMAZOO COUNTY, MICHIGAN  
**OSHTEMO FULL RD APPLICATION**

**NATIONAL WETLANDS INVENTORY MAP**

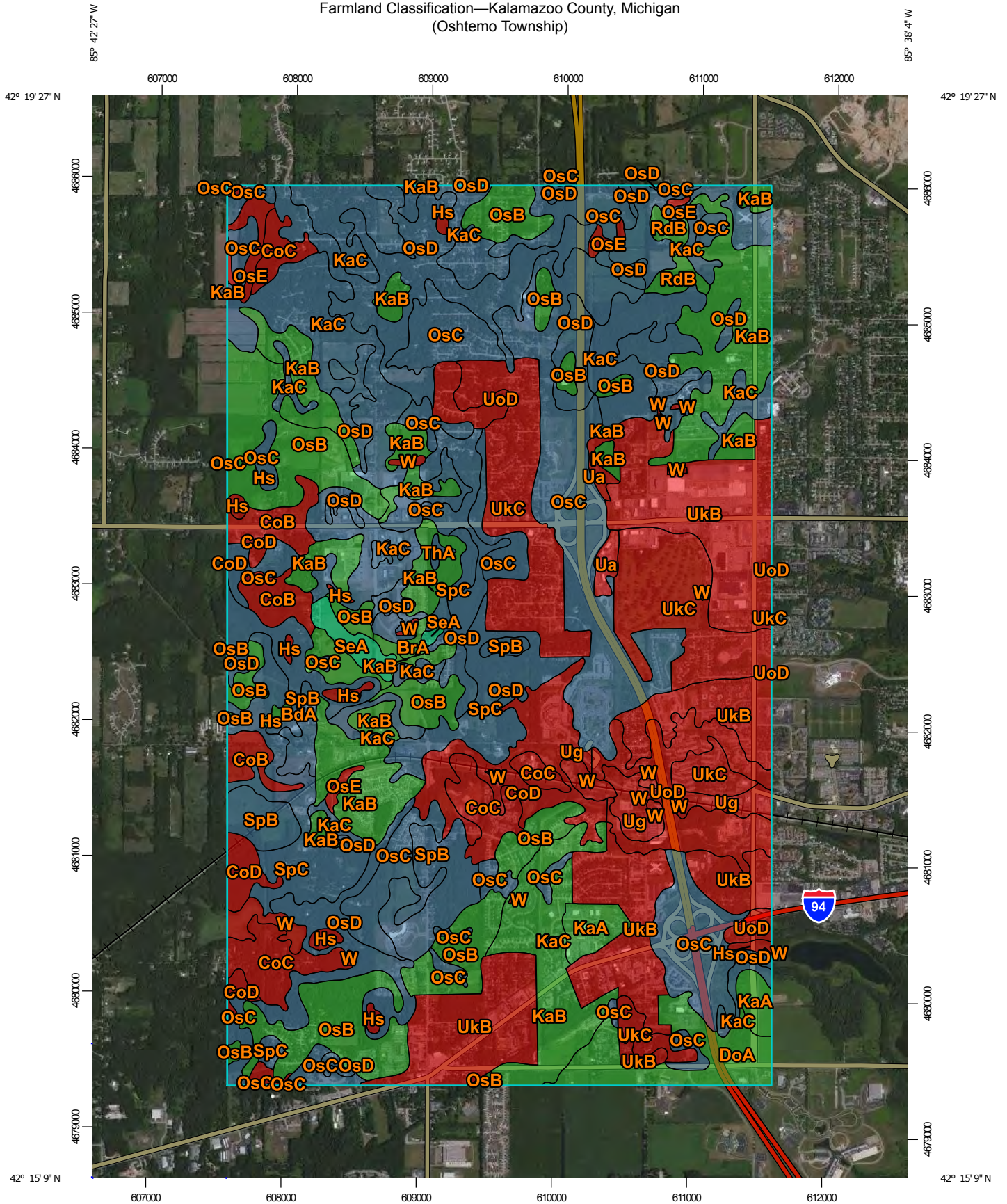
828340  
F&V PROJECT NO.



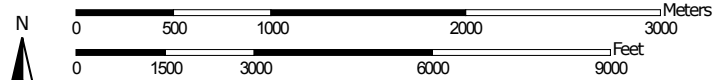
## **7.8 Soils Map**

## **7.9 Prime and Other Important Farmlands**

Farmland Classification—Kalamazoo County, Michigan  
(Oshtemo Township)



Map Scale: 1:38,800 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84



Farmland Classification—Kalamazoo County, Michigan  
(Oshtemo Township)









**MAP LEGEND**








**Area of Interest (AOI)**

 Area of Interest (AOI)




**Soils**








**Soil Rating Polygons**






-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available







**Soil Rating Lines**










-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained

-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available








**Soil Rating Points**

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of local importance
-  Farmland of unique importance
-  Not rated or not available

**Water Features**

## MAP INFORMATION

-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Kalamazoo County, Michigan  
Survey Area Data: Version 11, Sep 21, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 13, 2011—Oct 3, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Farmland Classification

Farmland Classification— Summary by Map Unit — Kalamazoo County, Michigan (MI077)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BdA	Brady sandy loam, 0 to 3 percent slopes	All areas are prime farmland	4.6	0.1%
BrA	Bronson sandy loam, 0 to 3 percent slopes	All areas are prime farmland	8.1	0.1%
CoB	Coloma loamy sand, 0 to 6 percent slopes	Not prime farmland	113.3	1.7%
CoC	Coloma loamy sand, 6 to 12 percent slopes	Not prime farmland	169.7	2.6%
CoD	Coloma loamy sand, 12 to 18 percent slopes	Not prime farmland	196.6	3.0%
DoA	Dowagiac loam, 0 to 3 percent slopes	All areas are prime farmland	128.4	1.9%
Hs	Houghton and Sebewa soils, ponded	Not prime farmland	38.9	0.6%
KaA	Kalamazoo loam, 0 to 2 percent slopes	All areas are prime farmland	62.1	0.9%
KaB	Kalamazoo loam, 2 to 6 percent slopes	All areas are prime farmland	754.7	11.4%
KaC	Kalamazoo loam, 6 to 12 percent slopes	Farmland of local importance	708.1	10.7%
OsB	Oshtemo sandy loam, 0 to 6 percent slopes	All areas are prime farmland	561.6	8.5%
OsC	Oshtemo sandy loam, 6 to 12 percent slopes	Farmland of local importance	954.7	14.4%
OsD	Oshtemo sandy loam, 12 to 18 percent slopes	Farmland of local importance	686.4	10.4%
OsE	Oshtemo sandy loam, 18 to 35 percent slopes	Not prime farmland	43.5	0.7%
RdB	Riddles loam, 2 to 6 percent slopes	All areas are prime farmland	31.1	0.5%
SeA	Sleeth loam, 0 to 3 percent slopes	Prime farmland if drained	35.2	0.5%
SpB	Spinks loamy sand, 0 to 6 percent slopes	Farmland of local importance	185.3	2.8%
SpC	Spinks loamy sand, 6 to 12 percent slopes	Farmland of local importance	310.5	4.7%
SpD	Spinks loamy sand, 12 to 18 percent slopes	Not prime farmland	1.4	0.0%
ThA	Thetford loamy sand, 0 to 2 percent slopes	Farmland of local importance	4.9	0.1%

Farmland Classification— Summary by Map Unit — Kalamazoo County, Michigan (MI077)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ua	Udipsamments, level to steep	Not prime farmland	27.0	0.4%
Ug	Urban land-Glendora complex	Not prime farmland	65.4	1.0%
UkB	Urban land-Kalamazoo complex, 0 to 6 percent slopes	Not prime farmland	776.0	11.7%
UkC	Urban land-Kalamazoo complex, 6 to 12 percent slopes	Not prime farmland	487.4	7.4%
UoD	Urban land-Oshtemo complex, 12 to 25 percent slopes	Not prime farmland	200.0	3.0%
W	Water	Not prime farmland	61.7	0.9%
<b>Totals for Area of Interest</b>			<b>6,616.3</b>	<b>100.0%</b>

## Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

## Rating Options

*Aggregation Method:* No Aggregation Necessary

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.







For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

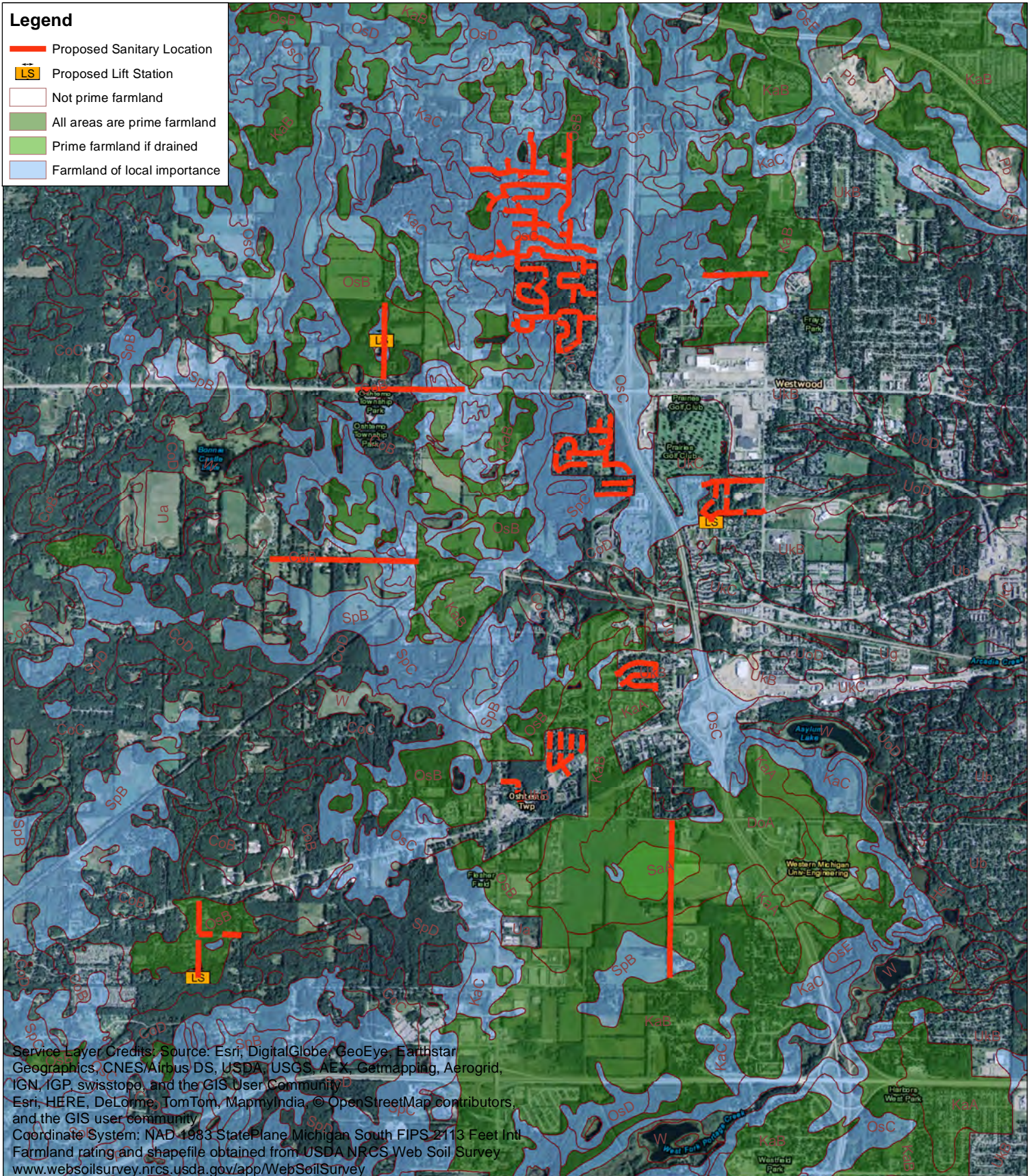
The majority of soil attributes are associated with a component of a map unit, and such an attribute has to be aggregated to the map unit level before a thematic map can be rendered. Map units, however, also have their own attributes. An attribute of a map unit does not have to be aggregated in order to render a corresponding thematic map. Therefore, the "aggregation method" for any attribute of a map unit is referred to as "No Aggregation Necessary".

*Tie-break Rule: Lower*

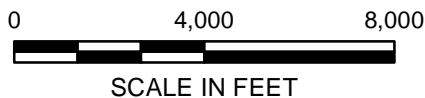
The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

**Legend**

-  Proposed Sanitary Location
-  Proposed Lift Station
-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Farmland of local importance



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community  
 Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community  
 Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl  
 Farmland rating and shapefile obtained from USDA NRCS Web Soil Survey [www.websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey](http://www.websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey)



**OSHTEMO TOWNSHIP**  
 KALAMAZOO COUNTY, MICHIGAN  
**OSHTEMO FULL RD APPLICATION**  


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**SOIL SERIES/PRIME FARMLAND MAP**

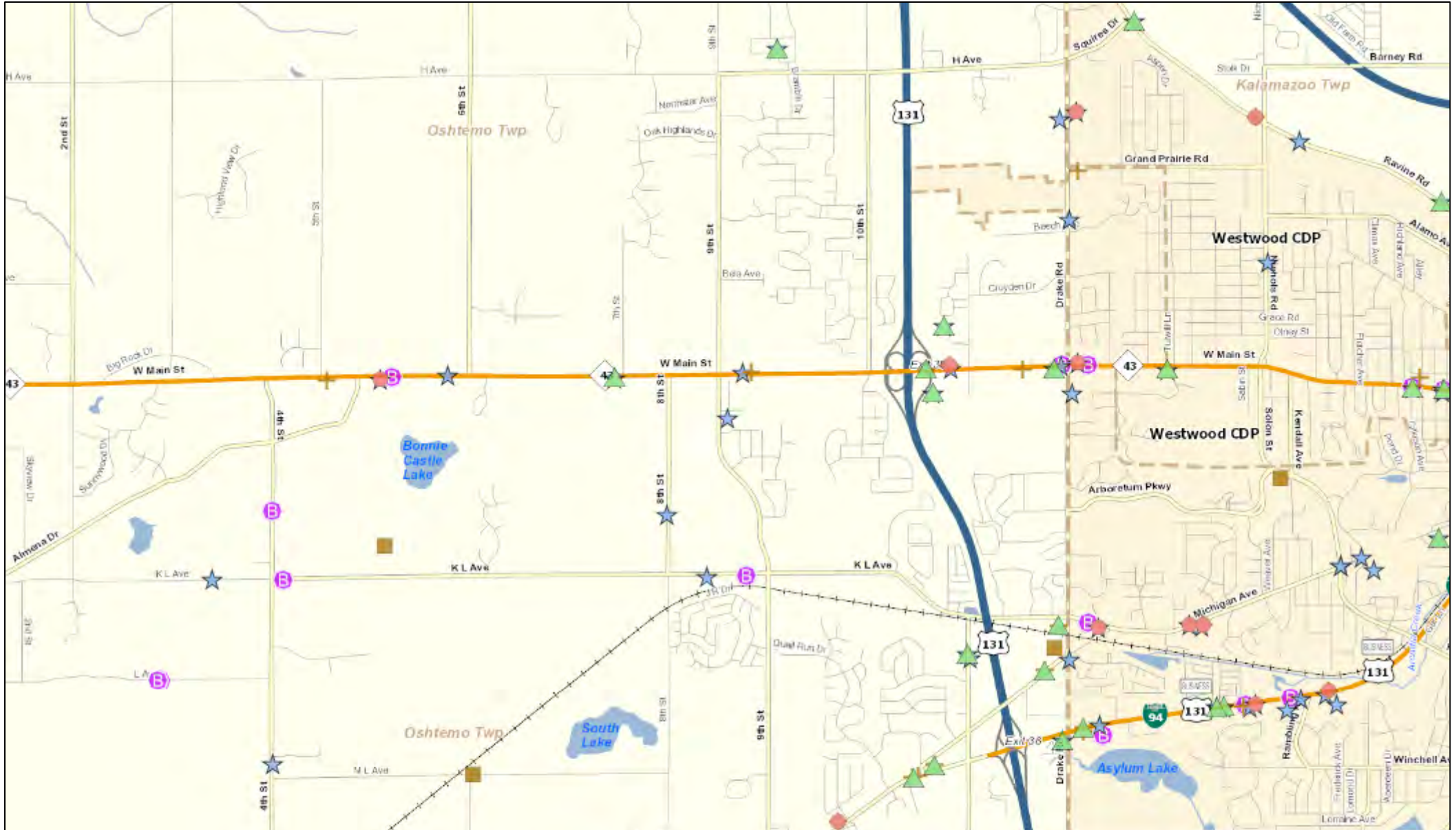
828340  
F&V PROJECT NO.



## **7.10 Storage Tanks and Sites of Environmental Contamination**

### **7.10.1 Storage Tank and Sites of Environmental Contamination Map**

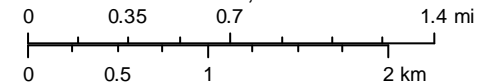
# Environmental Mapper



May 30, 2017

- |  |  |  |
|--|--|--|
| <b>Leaking Underground Storage Tanks (Part 213 Closed)</b> | Sites of Environmental Contamination (Part 201)    | <b>Underground Storage Tanks (Part 211 Closed)</b> |
| Closed   | <b>Underground Storage Tanks (Part 211 Active)</b> | Closed Tanks                                       |
| <b>Leaking Underground Storage Tanks (Part 213 Open)</b>   | Active Tanks                                       |  |
| Open   |  |  |

1:41,937



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapnyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

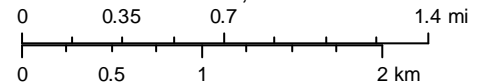
# Environmental Mapper



May 30, 2017

- Leaking Underground Storage Tanks (Part 213 Closed) ▲ Closed
- Leaking Underground Storage Tanks (Part 213 Open) ● Open
- Sites of Environmental Contamination (Part 201) ■
- Underground Storage Tanks (Part 211 Active) + Active Tanks
- Underground Storage Tanks (Part 211 Closed) ★ Closed Tanks

1:41,955



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapnyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

## **8.0 List of Preparers**

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