Appendix K - Section 106 Report
Appendices



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN MICHIGAN STRATEGIC FUND STATE HISTORIC PRESERVATION OFFICE

QUENTIN L. MESSER, JR.

April 10, 2024

STAN REINKE
FEDERAL AVIATION ADMINISTRATION
2700 PORT LANSING ROAD
LANSING MI 48906

RE: ER24-513 Oakland Southwest Airport (Y46) Runway 8/26 Improvements Project and Approach

Clearing, 57751 Pontiac Trail, New Hudson, Oakland County (FAA)

Dear Stan Reinke:

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 FAA that **no historic properties are affected** within the area of potential effects of this undertaking.

This letter evidences FAA's compliance with 36 CFR § 800.4 "Identification of historic properties," and the fulfillment of FAA'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, please notify this office immediately. In the unlikely event that human remains, or archaeological material are encountered during construction activities related to the above-cited undertaking, work must be halted, and the Michigan SHPO and other appropriate authorities must be contacted 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 Cassandra Nelson, Historian, at 517-648-4050 or by email at nelsonc32@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,

Cassandra Nelson

Historian

KF:CN

Copy: Brian Matuk, Mead & Hunt

Carsan Mulson





Submit one application for each project for which comment is requested. Consult the *Instructions for the Application for SHPO Section 106 Consultation Form* when completing this application.

Submit application materials online at www.michigan.gov/shposection106 or mail to: Michigan State Historic Preservation Office, 300 North Washington Square, Lansing, MI 48913

I. GENERAL INFORMATION	
------------------------	--

□ More information relating to SHPO ER# SHPO Project #
 □ Submitted under a Programmatic Agreement (PA)

PA Name/Date: PA name/date, if applicable

a. **Project Name:** Oakland Southwest Airport (Y47) Runway 8/26 Improvements Project and Approach Clearing

b. Project Location(s):

If there is more than one location for your project, additional rows may be added to the table below. Township, Range, Section/Private Claim refer to the public land survey sections. Each Township/Range group must have its own row in the table below and must include the corresponding county and municipal unit.

County	Municipality	Street Address	Township (N/S)	Range (E/W)	Section(s) or Private Claim
Oakland	Lyon Township	57751 Pontiac Trail, New Hudson, MI 48165	1N	7E	Sec. 3, 8, 9, 10

II. FEDERAL AGENCY INVOLVEMENT AND RESPONSE CONTACT INFORMATION

a. Federal Agency: Federal Aviation Administration (FAA)

Contact Name: Stan Reinke

Contact Address: 2700 Port Lansing Road City: Lansing State: MI Zip: 48906-2160

Email: reinkes1@michigan.gov

Specify the federal agency involvement in the project: The Michigan Department of Transportation (MDOT) Office of Aeronautics (AERO) is acting on behalf of the Federal Aviation Administration (FAA) for this project as Oakland Southwest Airport (Y47) is a "State Block Grant" airport. All State Block Grant airports fall under the jurisdiction of MDOT AERO. MDOT AERO is the final authority regarding approval of environmental documentation for this project.

b. If HUD is the Federal Agency: 24 CFR Part 50 \square or Part 58 \square

Responsible Entity (RE): Name of the entity that is acting as the Responsible Entity

Contact Name: RE Contact name

Contact Address: RE mailing address City: RE city State: RE State Zip: RE zip code

1

RE Email: RE contact's email **Phone:** RE contact's phone #

c. State Agency Contact (if applicable): Name of state agency

Contact Name: Name of state agency contact

Contact Address: State agency contact's mailing address City: State contact's city Zip: State contact's zip

code

Email: State contact's email Phone: State contact's phone #

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d. Applicant (if different than federal agency): Name of Applicant's agency/firm

Contact Name: Applicant contact's name

Contact Address: Applicant contact's mailing address City: Applicant's city State: Applicant contact's state

Zip: Applicant contact's zip code

Email: Applicant contact's email Phone: Applicant contact's phone #

e. Consulting Firm (if applicable): Mead & Hunt, Inc.

Contact Name: Brian Matuk

Contact Address: 180 Promenade Cir, Suite 240 City: Sacramento State: CA Zip: 95834

Email: brian.matuk@meadhunt.com Phone: 916-993-4603

III. PROJECT INFORMATION

a. Project Work Description

Describe all work to be undertaken as part of the project:

The Oakland Southwest Airport (Airport) proposes to undertake and obstruction clearing at both approaches to the Runway 8/26 (Phase I) and improvements to said runway that include runway reconstruction and taxiway removal (Phase II). Obstruction clearing is proposed on both Airport-owned property as well as private property in the approaches of Runway 8/26, where obstructions penetrate the Runway Protection Zone (RPZ), FAR Part 77 Surface, as well as those with obstructions within 10-feet of the FAR Part 77 approach surface. Outside of the Oakland County-owned Airport parcels, 26 parcels have been identified with obstructions and will require new easements before any obstructions are removed.

b. Project Location and Area of Potential Effect (APE)

- i. Maps. Please indicate all maps that will be submitted as attachments to this form.
 - ⊠Street map, clearly displaying the direct and indirect APE boundaries See Attachment A
 - ⊠Site map
 - □USGS topographic map Name(s) of topo map(s): Name(s) of topo map(s)
 - ☐ Aerial map
 - ⊠Map of photographs
 - □Other: Identify type(s) of map(s)

ii. Site Photographs - See Attachment B

iii. Describe the APE:

The Built-Environment APE is approximately 205 acres, coterminous with the runway work proposed for Runway 8/26 and the areas where obstructions have been identified for removal at the west and east ends of Runway 8 and Runway 26—either the full parcel boundary or partial parcel, as described next. The APE includes both full and partial parcel boundaries of 24 properties where obstructions have been identified for removal. The full parcel boundaries of these 24 properties are included in the APE, along with two (2) partial parcels of the recreational trail, and areas of County-owned Airport property that includes the area of runway work activities and obstructions proposed for removal. Of the 26 non-Airport parcels within the APE, 12 include above-ground resources over 45 years of age.

The Archaeology APE is approximately 53 acres, coterminous with the runway work proposed for Runway 8/26 (17.2 acres) and the direct areas where obstructions have been identified for removal at the west and east ends of Runway 8 and Runway 26 (35.9 acres).



iv. Describe the steps taken to define the boundaries of the APE:

The Built-Environment APE was defined to include full parcel boundaries for obstructions of private property, while the APE was drawn with more focus where obstructions occur on the Airport property. This consideration takes into account localized areas of obstruction removal in the context of the much larger Airport-associated property, most of which are located in undeveloped areas at both ends of the runways.

The Archaeology APE was defined to encompass the areas of proposed ground disturbance and obstruction removal.

IV. IDENTIFICATION OF HISTORIC PROPERTIES

a. Scope of Effort Applied

i. List sources consulted for information on historic properties in the project area (including but not limited to SHPO office and/or other locations of inventory data).

Mead & Hunt, Inc. (Mead & Hunt) architectural historians requested a records search from the Michigan State Historic Preservation Office (SHPO) to confirm whether any built resources within the project area had been previously surveyed (see Attachment C). Additionally, Mead & Hunt searched locally designated resources to identify potential built-environment resources in Lyon Township and Oakland County. Then, Mead & Hunt architectural historians conducted a site visit in September 2022 to identify any potential built-environment resources within the APE.

Lawhon & Associates, Inc. completed surveys of the APE in September 2021 and November 2023 to identify potential belowground resources for Phase I of the project (obstruction clearing), and for Phase II of the project (runway improvements), respectively. No archeological resources were identified during either study, and no further work is recommended for archaeology. See the attached complete archaeology reports and reconnaissance survey results in Attachment D and archaeology sensitivity maps in Attachment E.

ii.	Provide documentation of previously identified sites as attachments.				
iii.	. Provide a map showing the relationship between the previously identified properties and sites, your project footprint and project APE.				
iv.	Have you reviewed existing site information at the SHPO: $oxtimes$ Yes \oxtimes No				
٧.	Have you reviewed information from non-SHPO sources: $\ oxtimes$ Yes $\ oxtimes$ No				
ld	entification Results				
ld i.	entification Results Above-ground Properties				

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C. Total number of properties surveyed: 26

b.



	D.	Total number of previously identified Historic Properties in your APE None (0)
	E.	Total number of newly identified properties recommended eligible for listing in the National Register of Historic Places $None\ (0)$
	F.	Summarize, briefly, your findings for above-ground resources. Of the twelve (12) above-ground resources over 45 years of age, none (0) are recommended eligible for listing in the National Register of Historic Places. See Attachment F.
	G.	Attach the appropriate Michigan SHPO Architectural Identification Form for each resource or site 50 years of age or older in the APE. Refer to the <i>Instructions for the Application for SHPO Section 106 Consultation Form</i> for guidance on this.
	H.	Provide the name and qualifications of the person who made recommendations of eligibility for the above-ground identification forms. Name Brian Matuk Agency/Consulting Firm: Mead & Hunt, Inc. Is the individual a 36CFR Part 61 Qualified Historian or Architectural Historian ⊠ Yes □ No Are their credentials currently on file with the SHPO? ☒ Yes □ No If NO attach this individual's qualifications form and resume.
ii.		chaeology omit the following information using attachments, as necessary.
	A.	Are you submitting archaeological information? ⊠ Yes □ No
	В.	If yes, please indicate: ☐ Assessment (Desktop Review) ☒ Archeological Report
	C.	Width(s), length(s), and depth(s) of proposed ground disturbance(s): The proposed area of ground disturbance is approximately 53 acres, which consists of proposed improvements to Runway 8/26, and obstruction removal. The exact area of obstruction removal will vary based on location and size of tree proposed for removal, but will cover an area of approximately 35.9 acres at a maximum depth of 2 feet.
	D.	Is a portion of the APE underwater? ☐ Yes ☒ No If the assessment did not include the underwater portions of the APE, please briefly justify: Justification for not assessing the potential for submerged historic resources:
	E.	Potential to adversely affect significant archaeological resources: ⊠ Low □ Moderate □ High
		Is fieldwork recommended? ☐ Yes ☒ No Briefly justify the recommendation: The likelihood to encounter previously unrecorded archaeological sites within the project area appears remote. Only one very limited area of the project contains well drained soils conducive to precontact occupation, with the remainder of the soils being poorly drained and/or disturbed. Furthermore, the 300-acre archaeology survey (completed in 1997) immediately to the east only identified three archaeological sites, none of which had more than five artifacts present. These two factors imply a very low archaeological potential for the project area.
	F.	Have you attached an Archaeological Sensitivity Map? ⊠ Yes □ No

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APPLICATION FOR SHPO SECTION 106 CONSULTATION

G. Summary of previously reported archaeological sites and surveys:

The literature review revealed that the project area has not been previously surveyed for cultural resources. A 300-acre tract immediately east of the project area was surveyed in 1997 for cultural resources, with three small archaeological sites identified (Perkins 1997).

H. Summarize past and present land use:

Small-scale agriculture, rural residential properties, swampy areas, and a portion of the Grand Trunk Railroad were the primary land uses in the APE until the Airport was developed with construction of the modern hangar complex c.1960.

I. If archaeological fieldwork has been conducted, please attach a copy of the report copy and provide full report reference here:

Project Phase 1: Lawhon & Associates, Inc. *Archaeological Reconnaissance: Runways 8 and 26 Approach Clearing, Oakland Southwest Airport, Oakland County, Michigan*. Prepared for Mead & Hunt, Inc. 26 October 2021.

Project Phase 2: Lawhon & Associates, Inc. *Phase I Archaeology Survey: Runway Improvements Project, Oakland Southwest Airport (Y47), Oakland County, Michigan.* Prepared for Mead & Hunt, Inc. 8 December 2023.

J. Provide the name and qualifications of the person who provided the information for the Archaeology section:

Name: Justin Zink **Agency/Firm:** Lawhon & Associates, Inc. Is the person a 36CFR Part 61 Qualified Archaeologist? \boxtimes Yes \square No Are their credentials currently on file with the SHPO? \boxtimes Yes \square No *If NO*, attach this individual's qualifications form and resume.

Archaeological site locations are legally protected.

This application may not be made public without first redacting sensitive archaeological information.

V. IDENTIFICATION OF CONSULTING PARTIES

a. Provide a list of all consulting parties, including Native American tribes, local governments, applicants for federal assistance/permits/licenses, parties with a demonstrated interest in the undertaking, and public comment:

The following are consulting parties for this project:

- Tony Duffiney, State Director, USDA APHIS Wildlife Services (2803 Jolly Rd, Ste 100, Okemos, MI 48864)
- Aaron Comrov, Environmental Protection Specialist, FAA, Infrastructure Engineering Center-Chicago,
 AJW-2C15H (2300 East Devon Avenue, Room 450, Des Plaines, IL 60018)
- Jim Watling, Supervisor, EGLE, Water Resources Division, Transportation Review Unit (P.O. Box 30458, Lansing, MI 48909-7958)
- Charlie Simon, Chief, U.S. Army Corps of Engineers, Detroit District, Regulatory & Permits (477 Michigan Ave, Room 603, Detroit, MI 48226-2550)
- Moises Dugan, Regional Administrator, Federal Emergency Management Agency, Region 5 (536 South Clark St, 6th Fl, Chicago, IL 60605)

MICHIGAN SHPO STATE HISTORIC PRESERVATION OFFICE

APPLICATION FOR SHPO SECTION 106 CONSULTATION

- Jean Gagliardo, District Conservationist, USDA, Natural Resource Conservation Service, Portage Service Center (5950 Portage Rd, Portage, MI 49002)
- Scott Hicks, Field Office Supervisor, US Fish and Wildlife Michigan Field Office (2651 Coolidge Rd, Ste 101, East Lansing, MI 48823)
- Kenneth Westlake, Chief, EPA Region 5, NEPA Implementation Section (77 W Jackson Blvd, Chicago, IL 60604)
- Shannon Lott, Natural Resources Deputy, Michigan Department of Natural Resources, Executive Division (P.O. Box 30028, Lansing, MI 48909)
- John Dolan, Supervisor, Lyon Township (58000 Grand River Ave, New Hudson, MI 48165)
- Katherine Des Rochers, Planning Department Coordinator, Lyon Township (58000 Grand River Ave, New Hudson, MI 48165)
- Leslie Zawada, Lyon Township Engineer, Civil Engineering Solutions, Inc. (1150 Corporate Office Dr, Ste 210, Milford, MI 48381)
- Jim Nash, Commissioner, Oakland County Water Resources Commissioner's Office (One Public Works Dr, Bldg 95W, Waterford, MI 48328)
- Bret Rasegan, RA, Planning Manager, Oakland County Planning Division (2100 Pontiac Lake Road, Bldg 41W, Waterford, MI 48328)
- Ingrid Tighe, Director, Oakland County Economic Development (2100 Pontiac Lake Road, Bldg 41W, Waterford, MI 48328)
- Sean Carlson, Deputy County Executive, Oakland County (2100 Pontiac Lake Road, Bldg 41W, Waterford, MI 48328)
- Bay Mills Indian Community of Michigan (12140 W Lakeshore Dr, Brimley, MI 49175)
- Grand Traverse Band of Ottawa and Chippewa Indians of Michigan (2605 NW Bayshore Dr, Suttons Bay, MI 49682)
- Hannahville Indian Community of Michigan (N14911 Hannahville B1 Rd, Wilson, MI 49896-9728)
- Huron Potawatomi, Inc. (2221 1-1/2 Mile Rd, Fulton, MI 49052)
- Keweenaw Bay Indian Community of Michigan (Keweenaw Bay Tribal Center, 107 Beartown Rd, Baraga, MI 49908)
- Lac Vieux Desert Band of Lake Superior Chippewa of Michigan (P.O. Box 249, N4598 US Hwy 45, Watersmeet, MI 49969)
- Little River Band of Ottawa Indians (2608 Government Center Dr, Manistee, MI 49660)
- Little Traverse Bay Bands of Odawa Indians (7500 Odawa Cir, Harbor Springs, MI 49740-9692)
- Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians (P.O. Box 218, 1743 142nd Ave, Dorr, MI 48323)
- Pokagon Band of Potawatomi Indians of Michigan (P.O. Box 180, 901 Spruce St, Dowagiac, MI 49047)
- Saginaw Chippewa Indian Tribe of Michigan (7070 E Broadway, Mt. Pleasant, MI 48858)
- Sault-Ste. Marie Tribe of Chippewa Indians of Michigan (523 Ashmun St, Sault St. Marie, MI 49783)
- Burt Lake Band of Ottawa and Chippewa Indians (6461 Brutus Rd, Box 206, Brutus, MI 49716)
- Fred Jacko, Jr., Culture Department Manager, Nottawaseppi Huron Band of Potawatomi (1485 Mno-Bmadzewen Way, Fulton, MI 49052)
- Grand River Band of Ottawa Indians (P.O. Box 2937, 1316 Front Ave NW, Grand Rapids, MI 49504)
- Oakland History Center (405 Cesar E Chavez, Pontiac, MI 48342)



b. Provide a summary of consultation with consultation parties:

As part of early agency coordination, the project team solicited consulting parties to identify key issues that will need to be addressed during the National Environmental Policy Act (NEPA) process. Unless otherwise noted, letters dated March 11, 2022, were sent to representatives of Native American Tribes and government agencies listed above in Section V.a asking for comments on specific areas of concern/regulatory jurisdictions, specific benefits of the project for that party or to the public, any available technical information/data for the project site, and potential mitigation/permitting requirements for project implementation. See Attachment G for correspondence documents described below.

c. **Provide summaries of public comment and the method by which that comment was sought:**Public comment was received through emails and letters to William Ballard, AICP of Mead & Hunt. A request for any historical information or input was sent by Brian Matuk of Mead & Hunt to the Oakland History Center on August 31, 2023, and there has been no response.

VI. DETERMINATION OF EFFECT

a. Basis for determination of effect:

Guidance for applying the Criteria of Adverse Effect can be found in the Instructions for the Application for SHPO Section 106 Consultation Form.

There are no historic properties within the APE.

b. Determination of effect

No historic properties will be affected

Historic properties will be affected and the project will (check one):

have No Adverse Effect on historic properties within the APE.

have an Adverse Effect on one or more historic properties in the APE and the federal agency, or federally authorized representative, will consult with the SHPO and other parties to resolve the adverse effect under 800.6.

More Information Needed: We are initiating early consultation. A determination of effect will be submitted to the SHPO at a later date, pending results of survey.

Federally Authorized Signature:

Date:

Title:

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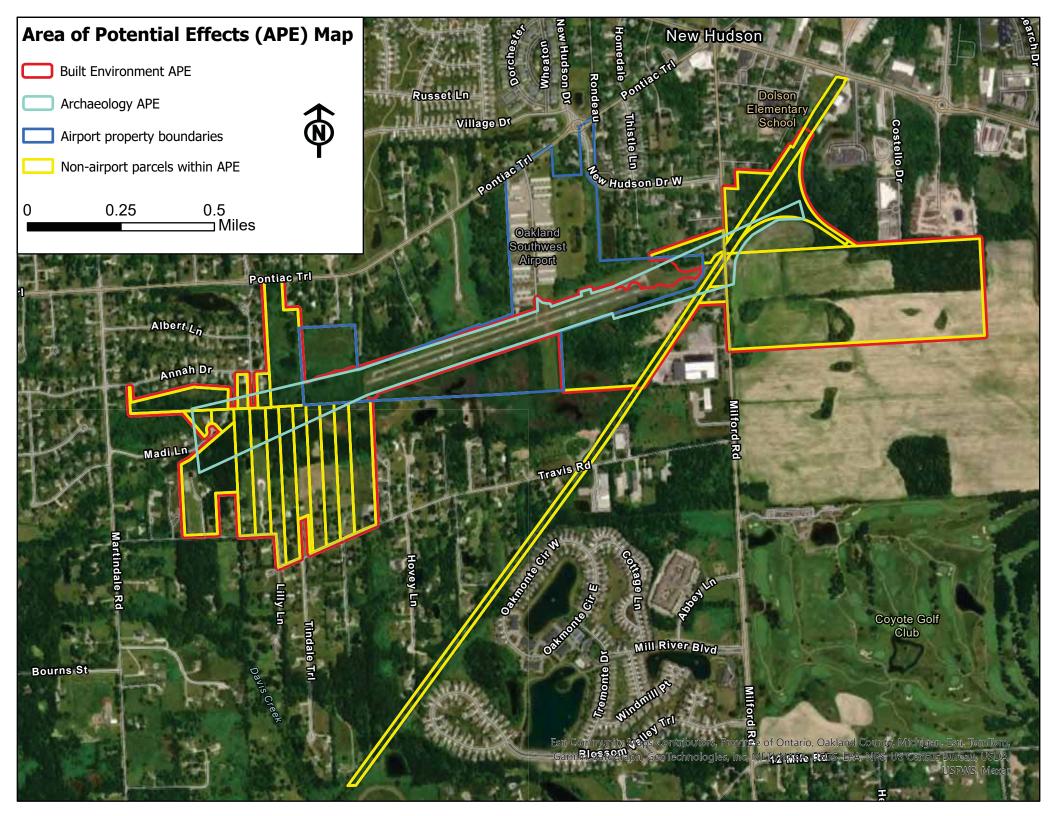
ATTACHMENT CHECKLIST

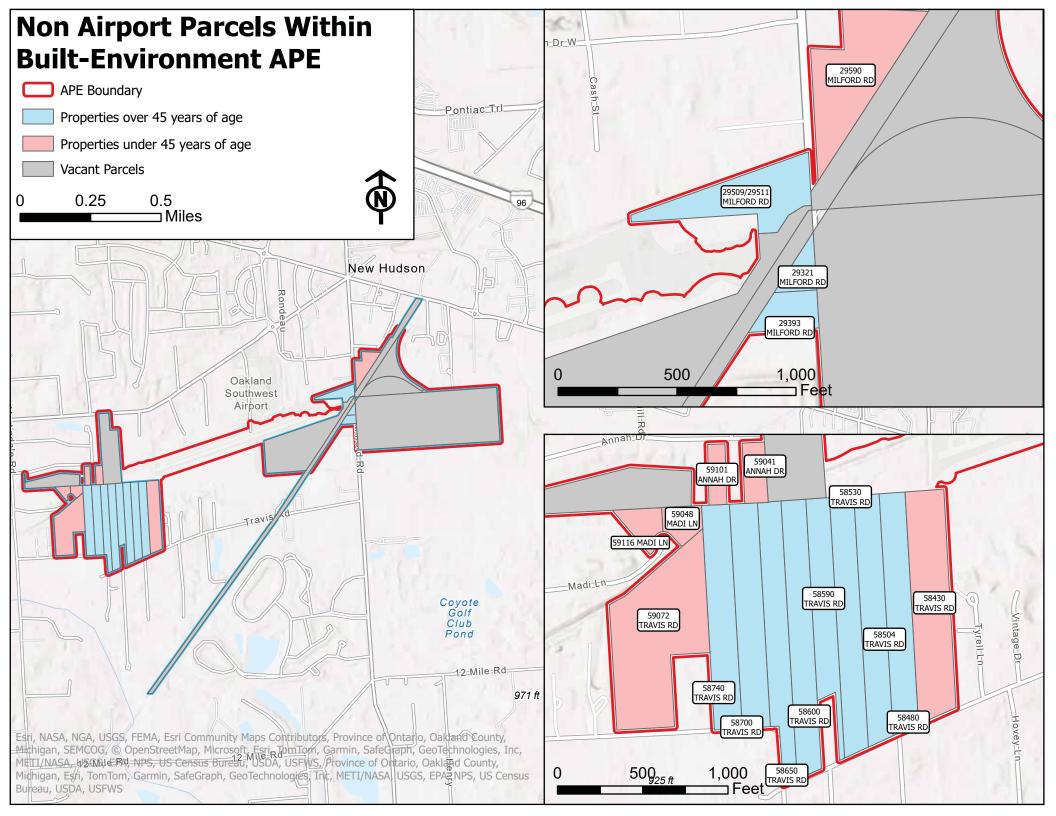
Identify any materials submitted as attachments to the form:			
⊠ Additional federal, state, local government, applicant, consultant contacts			
Number of maps attached: 2			
⊠Map of photographs			
☐ Other information pertinent to the work description: Identify the type of materials attached			
☐ Updated documentation of previously identified historic properties			
⊠ Map showing the relationship between identified historic properties, your project footprint, and project APE			
☐ Above-ground qualified person's qualification form and resume			
☐ Above-ground survey report			
⊠ Archaeological sensitivity map			
⊠ Archaeology survey report			
☐ Archaeologist and Historian qualifications and resume- if not on file already.			
☐ Other: Identify other attached materials			

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Attachment B.	Photos and Photo Key Map	

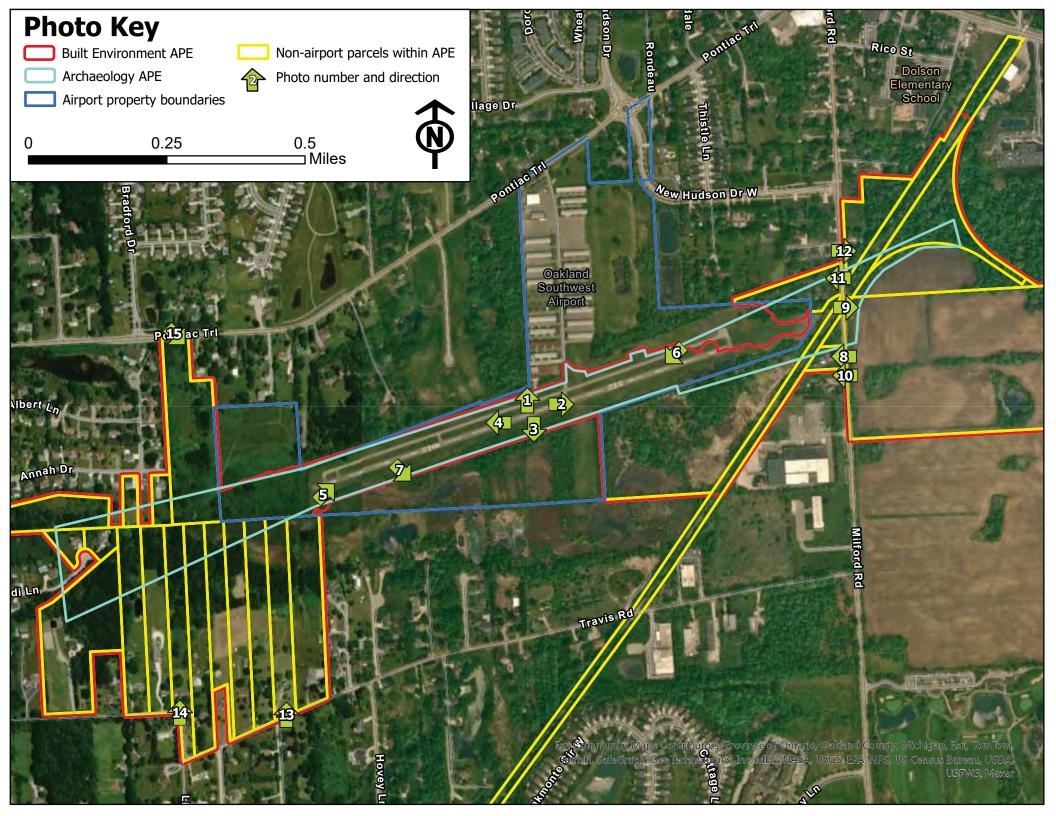




Photo 1. View from the center of the project area, facing north.



Photo 2. View from the center of the project area, facing east.



Photo 3. View from the center of the project area, facing south.



Photo 4. View from the center of the project area, facing west.



Photo 5. View from the southwestern corner of the project area, facing northeast.



Photo 6. View from the northeastern corner of the project area, facing southwest.



Photo 7. View of wetland conditions within project area, facing southeast.



Photo 8. Garage in the APE at 29393 Milford, facing west.

Oakland Southwest Airport (Y47) Runway 8/26 Improvements Project and Approach Clearing New Hudson, South Lyon Township, and Milford Charter Township



Photo 9. View of APE conditions at 29300 Milford Road, facing east.



Photo 10. House within APE at 29321 Milford Road, facing west.

Oakland Southwest Airport (Y47) Runway 8/26 Improvements Project and Approach Clearing New Hudson, South Lyon Township, and Milford Charter Township



Photo 11. House within APE at 29509 Milford Road, facing west.



Photo 12. View of APE conditions at 29590 Milford Road, facing east.



Photo 13. Conditions within APE at 58480 Travis, facing north.



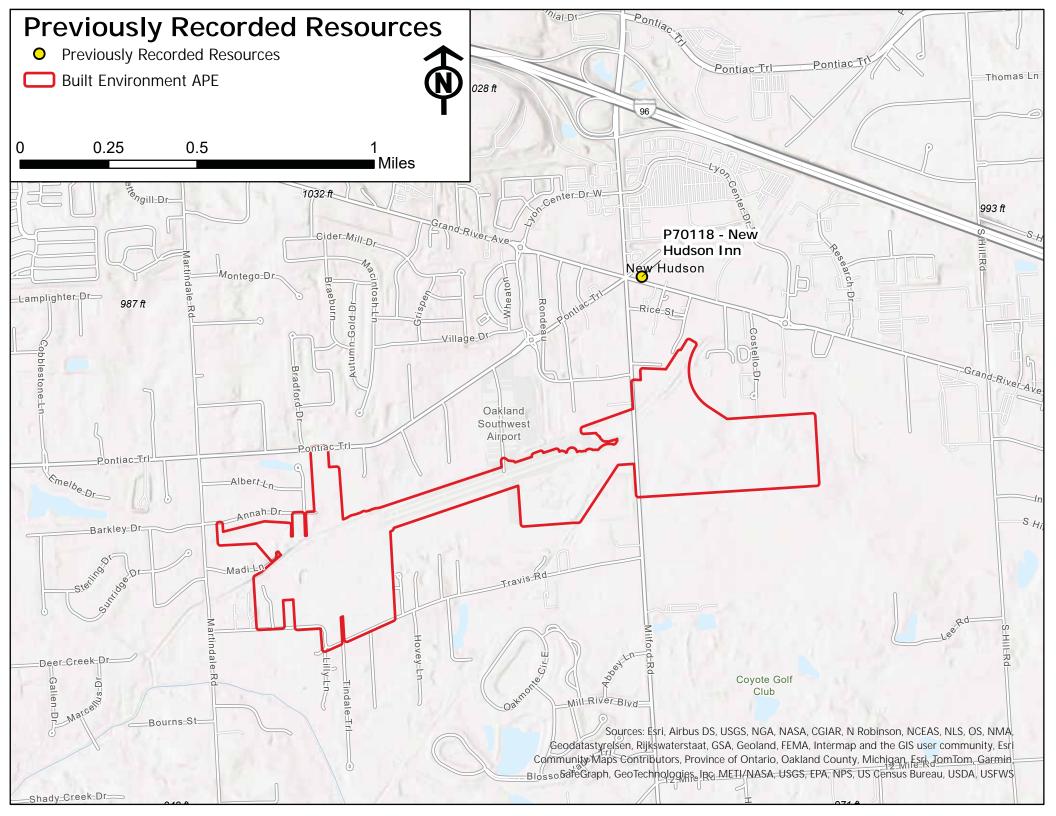
Photo 14. House within APE at 58650 Travis, facing north.



Photo 15. View of APE conditions and house at 58801 Pontiac Trail (outside of APE), facing southeast.

APE includes vacant forested parcel at right.

Attachment C.	Previously Records Resources	



ase I Archaeology Report		
	se I Archaeology Report	se I Archaeology Report

ARCHAEOLOGICAL RECONNAISSANCE Runways 8 and 26 Approach Clearing Oakland Southwest Airport Oakland County, Michigan L&A Project No: 21-0456



Prepared by: Lawhon & Associates, Inc. 1441 King Avenue Columbus, Ohio 43212 October 26, 2021



Prepared for:

Mead & Hunt, Inc. 2605 Port Lansing Road Lansing, Michigan 48906

Archaeological Reconnaissance for the Runways 8 and 26 Approach Clearing Project at the Oakland Southwest Airport in Oakland County, Michigan

by

Andrew R. Sewell, RPA Justin P. Zink, RPA Allyson Masterson

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Prepared For: Mead & Hunt, Inc. 2605 Port Lansing Road Lansing, Michigan 48906

Lead Agency:
Michigan Department of Transportation,
Office of Aeronautics

17 7

Justin P. Zink, RPA
Practice Leader, Cultural Resources

October 26, 2021

0.1 ABSTRACT

In September of 2021, Lawhon & Associates, Inc. (L&A) conducted an archaeological reconnaissance for a proposed clearing project at Runways 8 and 26 at the Oakland Southwest Airport in Lyon Township, Oakland County, Michigan. L&A conducted the reconnaissance at the request of Mead & Hunt, Inc. for inclusion in a Y47 Short Form Environmental Assessment for the project. The Michigan Department of Transportation, Office of Aeronautics is the lead undertaking. The area subjected to agency for the reconnaissance consisted of areas at the southwest end of Runway 8 and the northeast end of Runway 26 where trees must be cleared to meet updated FAA requirements for runway clearance zones. The reconnaissance involved a literature review and visual inspection of the project area. No excavations were authorized for the reconnaissance. The literature review did not indicate the presence of previously identified archaeological sites within the project area. The visual reconnaissance did not identify any surface indications of archaeological sites within the project area. The presence of archaeological sites cannot be completely ruled out for the APE without subsurface testing. However, if the individual trees can be felled without significant ground disturbance (e. g. stump removal, grubbing, etc.), archaeological survey would likely not be warranted for the undertaking.

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APPENDICES

Appendix A: Project Plans

1.0 INTRODUCTION

Lawhon & Associates, Inc. (L&A) conducted an archaeological reconnaissance for a proposed clearing project at Runways 8 and 26 of the Oakland Southwest Airport in Lyon Township, Oakland County, Michigan, just outside the City of New Hudson. L&A conducted the reconnaissance at the request of Mead & Hunt, Inc. for inclusion in a Y47 Short Form Environmental Assessment for the project. The Michigan Department of Transportation, Office of Aeronautics is the lead agency for the undertaking.

The Area of Potential Effects (APE) is different for each project. According to 36 CFR 800, the area of potential effects is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." The APE considers the effect that the proposed project will have on the project area itself (direct effect) and on the areas surrounding the project (indirect effect). Direct effects are typically equivalent with the construction footprint of the project but may also include the change of setting to the landscape that may affect resources outside the construction footprint. Indirect effects are impacts that may occur to resources outside of the construction footprint that could result in a lessening of integrity to significant resources. For example, rerouting of a stream could theoretically increase erosion elsewhere along its course, affecting a nearby archaeological site, or the improvement of a road intersection could make an area more attractive for development, irreversibly changing the character of a historical agricultural landscape. Cultural resources surveys are typically concerned with direct effects; however, any project action that may result in an indirect effect outside the construction limits would need to be considered in evaluating the effects of a project on cultural resources.

The APE for this project consists of two areas at Oakland Southwest Airport. The first area extends from the southwest end of Runway 8 for approximately 1,900 feet and covers an area of 20.4 acres. This part of the APE is largely wooded with an unnamed channelized tributary of Davis Creek running through it. This area also includes the cul-de-sac at the east end of Madi Lane, with two houses present. The second area stars about 472 feet southwest from the northeast end of Runway 26 and extends from the northeast end for approximately 1,750 feet. This area is irregularly shaped and covers 15.5 acres, most of which is a cleared grassy area within the airport. Milford Road crosses north-south through the northeast area and the Grand Trunk Railroad grade passes northeast-southwest through this area as well. The portion east of Milford Road is wooded, with small sections of trees west of Milford Road. There are two residential lots within the northeast area as well. There are several trees within this area that required removal for the approach area to meet FAA regulations.

The APE for direct effects includes the locations of these trees. At the request of Mead & Hunt, L&A performed a reconnaissance of the APE for direct effects to

identify any previously recorded archaeological sites and to visually inspect the APE for signs of unrecorded archaeological sites. Subsurface testing is not authorized at this stage of work. Mead & Hunt is responsible for a survey of the project for effects on historical resources; this report thus does not account for them except to note if any of the existing houses within the APE for direct effects are of historical age and may contain associated archaeological deposits.

L&A conducted the archaeological fieldwork on September 21, 2021. The field crew included Justin Zink and Mason Waugh. Justin Zink served as the Principal Investigator. Andrew Sewell served as the primary report author. The following report describes the research design, methods, and results of the literature review and field survey for this project. The results presented in this report are based on information collected from various literature review resources as well as photographs and field records resulting from this study.

2.0 RESEARCH DESIGN

This research design presents a framework within which the archaeological reconnaissance was conducted. The purpose of the reconnaissance is to identify any previously identified archaeological resources that will be affected by the proposed project and to determine through visual inspection the potential for previously unidentified archaeological resources to exist within the APE.

The principal investigator designed the reconnaissance to answer the following general set of questions:

- 1. Has the project been subjected to previous cultural resources investigations and are there any previously recorded sites or resources located within or immediately adjacent to the project?
- 2. What is the likelihood of identifying previously unrecorded cultural resources within the project? Where are these cultural resources most likely to occur?
- 3. Will the proposed project affect any archaeological resources?
- 4. If cultural resources will be affected, are any of those affected resources listed, eligible, or require further study for inclusion on the National Register of Historic Places?

3.0 ENVIRONMENTAL SETTING

The environmental setting contextualizes the cultural investigations within the natural environment. Since environmental factors influenced much of pre-contact activity, either directly or indirectly, the environmental setting contributes to the understanding of behaviors exhibited by the former inhabitants of an archaeological site. Environmental and geographical conditions affected the function, social status, and productivity of historical sites as well, among other factors. Understanding the environmental setting is a key element of the interpretation of archaeological sites.

3.1 CLIMATE

The climate in Oakland County is continental, having relatively cold winters and warm summers. The annual rainfall in the county is approximately 33 inches, with most falling in September. Average snowfall is about 37 inches, with most falling in January (US Climate Data 2021).

3.2 PHYSIOGRAPHY AND GEOLOGY

The project area in Oakland County is in the Southeastern Interlobate Region in southeast Michigan, where the Saginaw and Huron-Erie glacial lobes came into contact during the last Wisconsinan advance. The topography associated with this region is highly varied, tending to be hilly with numerous glacial kettle lakes and wetlands. The geology of the region consists primarily of the Coldwater Shale of the Mississippian era (Michigan State University Department of Geology 2021).

3.3 SOILS

The project area is located within the Riddles-Marlette-Houghton soil association (USDS SCS 1982). The association contains nearly level to steep, very poorly to moderately well drained soils formed in glacial drift, and mainly consists of the Riddles and Marlette soil series, with the Houghton series being a minor component. Small amounts of Brookston, Seweba, Metea, Oshtemo, Capac, Metamora, and Selfridge soils can be found within this association as well.

Four individual soil types are present within the APE (Table 1; Figure 4). Soil descriptions are from the USDA NRCS web soil survey (2021).

Soil Symbol	Soil Name	Landform	Drainage	Parent Material
18B	Fox sandy loam, till plain, 2–6% slopes	Outwash plains and terraces	Well	Loamy glaciofluvial deposits over sandy/gravelly outwash
27	Houghton and Adrian mucks	Till plains, moraines, depressions	Very poor	Herbaceous organic material
48	Gilford sand loam, till plain, 0–2% slopes	Glacial drainage channels	Poor	Coarse-loamy drift over sandy/gravelly outwash
54A	Matherton sandy loam, 0–3% slopes	Outwash plains, flats, and drainageways	Somewhat poor	Loamy over sandy/gravelly glaciofluvial deposits

Table 1. Soils encountered within the project area

3.4 HYDROLOGY

The major drainage in Oakland County is the Huron River, located 2.78 km (1.73 miles) directly northwest of the project area. An unnamed channel of Davis Creek

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drains the project area. Analysis of soil types suggests that much of the project area may formerly have been a wetland, such as a swamp forest, prior to land clearing in the early nineteenth century.

3.5 FLORA AND FAUNA

Prior to settlement in the region, natural phenomenon such as glaciations during the Pleistocene and the associated climate changes had a major effect on plant and animal communities (Anderson and King 1976). As the glaciers retreated and the climate warmed, tundra ecosystems with their characteristic plant and animal life retreated north, and forests covered much of Michigan, bringing with them an entirely different community of life.

The modern animal and plant life in the county bears little resemblance to those present prior to wide-scale nineteenth century settlement in the region. These changes are attributable to habitat loss and change, purposeful extirpation of predators, unchecked hunting, and introduction of non-native species. Early settler accounts of the region provide useful information on the original ecosystem of this part of the state, supplemented by information from the archaeological record. The earliest recorded land surveys classified the natural vegetation in this region as oak forests and barrens in the hilly portions and wet prairies and hardwood swampland in the low-lying portions (Michigan State University Department of Geology 2021).

The modern pattern of land use has altered historical animal and plant community distributions and populations. The fauna historically inhabiting the general region of the survey area included several species of mammals, birds, reptiles, amphibians, and fish. Many species are no longer present due to the drastic habitat changes in the region, competition with invasive species, and historical periods of overhunting (Anderson and King 1976).

In summary, the environmental information indicates a rich pre-contact environment with a variety of resources. A variety of plants characterized a diverse floral environment exploitable by humans and animals. Animal life provided a source of protein and raw material for clothing and tools. Soil types suggest that wetland habitat was prevalent in the project area, limiting the area available for anything more than short-duration resource exploitation. Large pre-contact occupations are thus not expected within the project area, although evidence of hunting or resource extraction activities by small pre-contact groups may be present.

4.0 LITERATURE REVIEW

The literature review study radius is 1 km (0.62 mi) from each exterior corner of the proposed project limits. This size is usually adequate to provide the necessary contextual information regarding previously identified cultural resources and historical information on the project area. The report author examined following sources from the State Historic Preservation Office and various online resources.

1. Hinsdale's 1931 Archaeological Atlas of Michigan

- 2. Michigan Archaeological Site Files
- 3. Contract Cultural Resource Management reports
- 4. National Historic Landmark listings
- 5. NRHP listings and nomination form files
- 6. USGS 7.5' and 15' series topographic maps, historical aerial photographs, and Oakland County historic atlases

The Archaeological Atlas of Michigan (Hinsdale 1931) does not indicate any precontact resources within or adjacent to the project, although one mound was present near Kent Lake and the Grand River Trail passed to the north, where I-96 runs today (Figure 5). Hinsdale tallied 15 village sites, 8 burying grounds, and 5 mounds in Oakland County. These resources will not be impacted by the proposed project; however, they indicate that this part of Michigan is archaeologically sensitive.

The Michigan Archaeological Site Files indicate that there are no previously recorded archaeological sites within to the project (Figure 6). There are additional three previously recorded archaeological sites within the 2 km study radius for the project, all located just east of the project. All three sites are artifact scatters containing less than five artifacts apiece. These resources were assessed as not eligible and regardless will not be impacted by the undertaking (Table 2).

Table 2. Previously	v recorded	archaeological	sites	within	the study	/ radius

Site #	Site Type	Temporal Affiliation	Site Size (m²)
200K461	Unknown	Unassigned Precontact	Unknown
200K462	Unknown	Unassigned Precontact/Historic	Unknown
200K463	Unknown	Early Archaic; Unassigned Historic	Unknown

A review of the SHPO contract CRM reports indicated the project area has not been previously surveyed. One previous survey was conducted within the study radius (Figure 6), a Phase I archaeology of a 300-acre tract just east of the project area that identified the sites described above (Perkins 1997).

There are no NRHP listings or nomination form files located within or adjacent to the project area, or within the literature review study radius.

Examination of available historical maps dating to the mid-nineteenth century allows for a reconstruction of landscape history and can identify the potential for historical sites within a project area. The earliest map is the Beers & Company 1872 county atlas showing Lyon Township (Figure 7). This map shows no buildings within the project area. Property owners of land containing the project area include R. C. Hunter, D. Ward, E. Townsend, Sherwood, N. Andrews, S. Lyon, A. Smith, and W. Fisher. The 1896 plat shows a similar lack of buildings in the project area, although the Grand Trunk Railroad is now depicted crossing the eastern project

area (Figure 8). Landowners associated with the project area include E. Townsend, L. R. Hunter, Mrs. A. Chatfield, D. F. Ward, Sarah A. Button, the Spellar brothers, the estate of Mrs. H. A. Weeks, F. M. Heath, and J. D. Covert. The Geo. A. Ogle & Company 1908 county atlas again documents a lack of buildings within the project area (Figure 9). The 1908 landowners included L. R. Hunter, the E. Townsend estate, H. E. Pettingill, Mrs. A. Chatfield, Cornelia Miles, M. D. Spellar, and Edwards Davis. The 1947 McAlpine plat of Lyon Township is the first map to indicate the presence of an airfield (Figure 10). This map shows Parkway Flying Services and an airplane symbol corresponding to the location of the hangers and the middle of the runway. The project area is still depicted under private ownership on both sides of this airfield, however. Frank and Francis Hostnik, Herbert Pattengill, Albert Roediger, Allen Clark, Dr. L. A. Griswold, Albert Session, and Charles Sorenson are the depicted property owners. This map does not include the depiction of individual buildings, so it is unclear if any were present within the project area at this time. The 1969 USGS topographic maps covering the airport (four in total) shows the main airstrip and a taxiway leading to four hangers south of Pontiac Trail (Figure 11). No buildings are shown in the southwest APE, while the two buildings in the northeast APE are depicted.

Aerial photographs depicting the project area (NETR 2021; Google Earth) date back to 1952. The aerial photograph from that year shows the early airfield with two crossing dirt landing strips and a single hanger, oriented north-south. By this time, the Grand Trunk Railroad had ceased to operate but its grade is still clearly visible. The clearing of the land for the airfield shows evident severe ground disturbance within the airfield because of grading and filling. The two houses in the northeast APE are shown here. The southwest APE is only partially included in this image but appears as agricultural fields and swampy areas. The 1957 aerial photograph does show the entire southwest APE section, depicting it as agricultural fields. No significant differences from the 1952 aerial photograph are visible, apart from the former rail grade becoming more difficult to distinguish because of vegetation growth. The 1964 aerial photograph shows the beginnings of the modern hanger complex at the airport, with three new hangers present, along with a small terminal building and the original hanger. Two of these hangers match the footprints of existing hangers. There is no hanger currently where the third hanger is shown in 1964, but it is possible it was moved elsewhere on the airport. The airfield has also reached its current extent in this image, although the runways still appear to be dirt surfaces. The southwest APE is still shown as agricultural fields. In the 1967 image, a trail is clearly visible running along the former rail grade that crosses the northeast APE, and this area shows growth of trees along the old railway east of Milford Road. The runways at the airport appear recently graded and possibly even paved at this time, and a fourth hanger is visible. The farm fields in the southwest APE had been abandoned and secondary regrowth is visible, but no houses are present. By 1973, the current runway configuration was completed (although the numbers on the runways are 7 and 25, not 8 and 26). Eight hangers are present in this image, while the original hanger is still present with a new building on its north end. The 1983 aerial photograph shows that the original hanger had been replaced with the current buildings at the north end of the airport complex and the building at the south end of the complex was present. No other major changes are visible. The 1999 aerial photograph shows that the airport had added several more hangers east of the original row. By 2002, the airport had achieved its current configuration of buildings and infrastructure, losing two hangers. The next major change is the construction of the house in the southwest APE in 2006. By 2010, the runway numbers had changed to 8 and 26, the last significant change visible in aerial photographs.

5.0 CULTURAL SETTING

The historic context provides a framework for evaluating the integrity and significance of any identified cultural resources. The principal investigator uses the context to assess a sites' ability to contribute to the existing historic knowledge of a region. The report authors derived the following contexts from previously reported information from throughout the region and identified in the immediate area through previous archaeological and historical research. While not all these contexts may be identified within the project area during the survey, the established contexts are presented in chronological order to understand the relationships between different temporal periods and the continuum of cultural development that occurred in this area. It should be noted that these periods are defined through cultural expressions, and that the ranges of time associated with each period will likely overlap in different parts of the region, as some pre-contact groups may not have adapted a new cultural expression at the same time as other groups, or indeed even at all.

5.1 PRE-CONTACT CONTEXT

The pre-contact cultural development of the region began with the influx of the first post-glacial populations and continued throughout prehistory until the arrival of Europeans and settlers from east of the Appalachians. Archaeologists developed temporal periods to distinguish cultural and/or technical advances over time, divided into the Paleoindian; Early, Middle, and Late Archaic; Early, Middle, and Late Woodland; Late Prehistoric and Protohistoric. The temporal ranges given here for each period may differ from other presented material. This should not be construed as either a challenge to, or perceived error on the part of earlier material, but reflects the rather fluid nature of defining temporal periods based on current dating techniques, selective regional data comparisons, and differing opinions on when and where to divide prehistory into arbitrary periods. Additionally, it is recognized that cultural expressions associated with certain periods may overlap temporally with the occurrence of material associated with different cultural expressions, particularly during eras considered to be transitional between cultural expressions (for example, the Early Woodland and Middle Woodland periods, where in some areas of Ohio Early Woodland cultural practices continue well into what is temporarily associated with the Middle Woodland).

5.1.1 PALEOINDIAN PERIOD

Archaeologists estimate that occupation of the Lower Peninsula of Michigan would have been possible by approximately 11,500 B.C. to 11,000 B.C. By this time, the glacial front that had once covered the peninsula had retreated into the Upper Peninsula/Lake Superior region. The Paleoindians, the first known prehistoric population to occupy Michigan, were highly mobile, small-band hunters moving on a seasonal basis to exploit available natural resources (Dragoo 1976) more fully, and carbon dated evidence for their presence in the Lower Great Lakes region suggests occupations as far back as far as 10,500 B.C. (Carr 2012). The Paleoindians were opportunists willing to use a broad spectrum of animal and plant resources, and with a fluctuating post-glacial environment, both in terms of climate and ecological communities, they had to adapt to exploit a variety of environments from tundra to wetlands. Analysis of pollen data and plant macrofossils suggest that tundra conditions in the late Pleistocene Midwest were constricted to the glacier margins, with differing ecological regimes advancing quickly northward as the glaciers retreated. Specifically, spruce-sedge parkland environments dominated the immediate post-glacial landscape for about 2000 years after the last glacial maximum, then rather quickly replaced by pine and then oak forests in the Lower Peninsula. Within this set of environmental conditions, a great diversity of animal species flourished, including several species that would have represented important game animals for human predation, such as mastodon, mammoth, ground-sloths, musk-ox, elk, caribou, and smaller game species.

One popular hypothesis about Paleoindian subsistence strategies is that they were primarily herd-followers, tracking caribou across the post-glacial landscape. Carr (2012) points out that such hypotheses are largely based on ethnographic analogy and not on hard data reflecting actual Paleoindian subsistence strategies. He points out that there is a general lack of such data for the lower Great Lakes and posits that this reflects Paleoindian site selection strategies that correspond to locations with poor long-term preservation characteristics. Instead, Carr lays out a hypothesis that Paleoindian hunters employed a herd-intercept strategy oriented along lake shores, moving to key locations where caribou herds would be found at certain points of a season, rather than seasonal relocation of a group to be within the summer and winter ranges of a single herd. People practicing the herdintercept strategy would rely on storage and secondary protein resources when caribou were scarce. Carr suggests Paleoindian bands were residentially mobile within large territories exceeding 20,000 km² and notes the absence in the archaeological record for definitive evidence of periodic large aggregations of individual bands, which has occurred elsewhere in the Eastern Woodlands (Bull Brook, Massachusetts, for example).

Specific Paleoindian complexes in the lower Great Lakes include Gainey (9500–9000 B.C.), Parkhill (9000–8400 B.C.), Crowfield, and Holcombe (both occurring after 8400 B.C.). Shott and Wright (1999) also note the ephemeral presence of a Mid-Atlantic Paleoindian phase contemporary with Clovis called the Enterline phase, which is known in Michigan only from one site in Saginaw County and is

quite possibly a local variant of Gainey instead of representing Enterline. The Gainey complex, taking its name from an important site in southeast Michigan, is represented by large, fluted points with parallel sides, similar to western Folsom points, and accompanied by triangular end scrapers, side scrapers, and gravers (Carr 2012; Shott and Wright 1999). The Parkhill complex was identified from a series of sites in southern Ontario and are identified through the presence of Barnes fluted points. Groups associated with the Parkhill complex are thought to have had a residential preference for the shore margins of Glacial Lake Algonquian and occupied much smaller territories than Gainey people; a large territory between Jackson and Alpena is posited to have been one such territory covering the eastern Lower Peninsula, albeit without much supporting evidence (Shott and Wright 1999). Parkhill toolkits show an increasing diversity of tool forms over preceding Gainey kits. The Crowfield and Holcombe complexes represent the end of the Paleoindian period, with many Holcombe points being either poorly fluted or in some cases, simply being basally thinned in place of fluting. Few examples of the Crowfield complex have been identified in Michigan, being more of an eastern Great Lakes phenomenon. Holcomb complex sites are mainly restricted to southeastern Michigan (Shott and Wright 1999).

Small lithic scatters and isolated finds of diagnostic fluted projectile points characterize the archaeological record of Michigan's Paleoindian period; such points including Clovis, Holcombe, Cumberland, Plainview, and Agate Basin types. Unfluted Hi-Lo points are also a diagnostic point for the period in Michigan (Justice 1987; Carr 2012); although some archaeologists prefer to assign these points to the initial Early Archaic (Shott 1999). Paleoindian groups in Michigan are noted for a heavy reliance on Onondaga, Bayport, and Fossil Hill cherts, with early Gainey phase people also using exotic Upper Mercer chert from east-central Ohio (Carr 2012; Shott and Wright 1999). Notably, Paleoindian groups appear to have focused on single sources of lithic raw material, so that lithic types may be an identifier for a band territory.

5.1.2 ARCHAIC

A period of significant environmental change ensued as the glaciers retreated northward at the end of the Pleistocene. The climate became temperate. Large-game species, such as mastodon, became extinct, and the deciduous forest common today developed, replacing the boreal-coniferous forests. The Archaic period encompasses the notable human adaptations and settlement practices developed in response to the changing environment (Ford 1974). Artifact assemblages from Archaic sites show a wider range of tool types in comparison to the preceding Paleoindian period, some of which have specialized functions for the processing of a wider variety of plant and animal resources (Griffin 1967). Although all Archaic-period human groups exhibited characteristics of classic hunter-gathering lifestyles, environmental differences led to regionally distinctive artifact assemblages by the end of the period, which might reflect the evolution of culturally distinct human social groups (Dragoo 1976).

Changes in human social organization occurred concurrently with expanding food procurement strategies. In eastern North America, organizational changes generally included restricted group mobility, larger aggregations of individuals, development of ritual behavior, development of inter-regional exchange systems, and the first attempts at plant domestication (Ford 1974). Other results included smaller group territories, sites occupied for longer periods, reuse of sites at more frequent and probably more regular intervals, and the use of a wider variety of plants and animals. Storage facilities and vessels also appeared more frequently in Archaic sites, as well as evidence for early cultivation of some plant species. Archaic developed burial ceremonialism and other ritual behavior and showed signs of becoming formalized in some regions. Ritual activity might be linked to the establishment of social group identities, the maintenance of territorial boundaries, and the regulation of intergroup alliances and trade. However, archaeologists are still trying to adequately test this proposition.

Research has shown the progression of these adaptations through the Archaic period (ca. 8000 B.C. to 1000 B.C.), resulting in the subdivision of time into three distinct temporal periods: Early, Middle, and Late Archaic. Some general traits, such as basal styles of projectile points, are common throughout all three Archaic sub-periods, so some Archaic sites cannot be classified to one of these three periods.

Early and Middle Archaic sites are somewhat rare in Michigan, which was once attributed to an actual general absence of people during that time in the region. However, recent studies suggest that fluctuations in glacial meltwater lake levels in the early Holocene may have resulted in contemporary sites being either flooded or deeply buried under alluvium, as lake levels were considerably lower than at present.

5.1.2.1 EARLY ARCHAIC

During the Early Archaic period (8000 B.C. to 6000 B.C.), small mobile groups gradually became more geographically restricted as seasonally oriented huntingand-gathering activities were focused on smaller, well-exploited territories. This reduction in territory size and mobility is a direct link to the expansion of the deciduous forests that produced a more favorable habitat for game species (Chapman 1975). Although hunting was the major subsistence activity, Early Archaic people also used a narrow spectrum of nutritious plant foods (Chapman 1975; Cleland 1966). This expansion of the subsistence base correlates with a change in material culture. Early Archaic hunters switched from lanceolate spear points, ideal for hunting larger animals, to a series of smaller, more diversified notched and stemmed projectile points, scrapers, knives, drills, and ovoid blades. Woodworking and food preparation tools first appear in the tool assemblage during the Early Archaic period. These tools included axes, adzes, mortars and pestles, awls, gouges, and grinding stones (Chapman 1975; Jennings 1968). Sites were small and scattered, largely discovered through surface collection, and usually located in uplands near secondary stream valleys (Benchley 1975).

Early on, Early Archaic bands in Michigan practiced a lifeway fairly like preceding Paleoindian groups, and sites from this part of the period are classified as the Plano tradition. Indeed, some archaeologists place Plano as a Paleoindian manifestation characterized by a loss of fluting in projectile point technology (Justice 1987). It seems likely that Plano and Dalton types of points are reflective of gradual change, rather than demarking any sharp divisions between the Paleoindian and Early Archaic periods, and thus may best be discussed as Paleoindian/Early Archaic. The Plano tradition dates to ca. 8000–7500 B.C. and is characterized by Hi-Lo projectile points (Shott 1999).

The succeeding Kirk tradition dates to ca. 7500–6000 B.C. and is notable for the first occurrence of notched and stemmed bifaces, variously attributable to Palmer, Kirk Corner-notched, Kirk-stemmed, St Albans, Kanawha, and LeCroy types (Shott 1999). This change represents an abrupt change in lithic technology from preceding lanceolate forms, with a concurrent increase in use of exotic Ohio lithic materials. This change may be correlated with movement of new groups into Michigan from Ohio, although such interpretations do not suggest what happened with the Plano people already present. Shott (1999) posits a viewpoint that suggests bands belonging to the Plano and Kirk traditions overlapped in territory and interacted with each other. Indeed, he notes that while there is a relative explosion in biface form diversity, the overall toolkit for Early Archaic peoples shares many characteristics with late Paleoindian and subsequent Archaic groups.

5.1.2.2 MIDDLE ARCHAIC

During the Middle Archaic period (6000 B.C. to 3000 B.C.), floral communities diversified as the overall climate warmed and stabilized, allowing for a broader selection of food and material for use. However, Middle Archaic people still appear to have emphasized hunting within an increasingly sedentary lifestyle (Cleland 1966). In lower Michigan, there is a debate as to whether the local environment could support a large population of hunter-gatherers. Boreal forests may not have developed sufficient mast-bearing species to support a new regime of large mammals, and stream flows may have been too rapid to support large fish populations. Nonetheless, extensive, productive marshes along the relict margins of Lake Algonquin in southeastern Michigan may have been well-exploited by Middle Archaic bands, and many of Michigan's Middle Archaic sites are found in the that region (Lovis 1999). As well, pollen studies indicate that oak, maple, and elm had begun to establish themselves in southern Michigan by 5000 B.C. It may simply be that Michigan Middle Archaic populations were largely focused on shoreline habitats that are now underwater, thus introducing a significant bias in typical survey results. In addition, Middle Archaic groups are suggested to have practiced a long-distance logistic mobility strategy that would spread evidence of Middle Archaic people thinly over a landscape, moving between shoreline residential camps and upland logistical sites (Lovis et al. 2005); such a strategy, where people are normally occupying sites on a very short-term basis, would also help to explain the low density of Middle Archaic sites.

Middle Archaic material cultural reflects the change in economy as well, adapted to intensive exploitation of forest and riverine environments. Some researchers divide the Middle Archaic in the Great Lakes into two horizons based on projectile point morphology (Stothers et al. 2001). The first horizon is the Weak-Stemmed Point Horizon (6000–3800 B.C.), with points such as Morrow Mountain and Stanly Stemmed; the second horizon is the Side-notched Point Horizon (3800-2000) B.C.), associated with points like the Raddatz, Matanzas, Otter Creek, and Brewerton styles (Lovis 1999). Of note is the overlap of Brewerton points between the Middle and Late Archaic periods. Plant-processing tools included a variety of ground stone implements, grooved axes, metates, and nutting stones. Bone tools such as awls and fishhooks also appear in Middle Archaic assemblages. Atlatl weights and bone tools first appear in the archaeological record elsewhere in the Midwest and Northeast (Broyles 1971; Lewis and Lewis 1961). These types of groundstone tools are curiously absent from Michigan Middle Archaic sites, but this may be a bias resulting from the overall scarcity of Middle Archaic sites formally excavated in the state (Lovis 1999; Stothers et al. 2001).

Although Middle Archaic sites tend to be rare, one important site in Michigan is the Weber I Site (20SA581) in the Saginaw River Valley (Lovis 1999). This site exhibited stratified Middle Archaic and Late Archaic deposits and provided evidence for Middle Archaic subsistence strategies, specifically focusing on hunting elk and deer while gathering nuts and berries (Smith and Egan 1990).

5.1.2.3 LATE ARCHAIC

In contrast to the preceding Middle Archaic period, the Late Archaic (3000 B.C. to 500 B.C.) is a highly visible manifestation in Michigan's archaeological record. Group ceremonialism increased in importance, as demonstrated by more elaborate, formalized burial practices and the presence of exotic materials obtained from emerging trade networks. Scheduled harvesting of seasonal, available plant and animal resources climaxed in the Late Archaic (Caldwell 1964). Coinciding with an increase in territorial permanence was the first appearance of regionally distinct human culture groups in Michigan (Cleland 1966). Late Archaic lifeways in the northern parts of the state (the Upper Peninsula and northern Lower Peninsula) persisted well into what would be considered the Early Woodland period in more southerly regions, with pottery only appearing around A.D. 0. Late Archaic people were organized into seasonally mobile bands, likely in the range of 25-30 people. There likely were population aggregations in the winter months with dispersal in the warmer seasons, perhaps down to single-family groups. There is limited evidence for Late Archaic houses available in the archaeological record of Michigan.

In Michigan, the levels of the Great Lakes were much higher than today, but also fluctuated considerably over the course of the period. In the Late Archaic period, the expansion of deciduous forests reached its northernmost limit (Cleland 1966). The vegetation communities present in the state had become modern (Roberston et al. 1999). Late Archaic people responding to the diverse and evolving ecosystems adapted varying ways of exploiting natural resources. Fishing was an

important component of faunal exploitation. The Late Archaic period marks the first appearance of cultigens in the archaeological record. Archaeologists recovered chenopodium, sunflower, and gourd seeds dated to approximately 1500 B.C. from the Salts Cave site in Kentucky (Yarnell 1974), while other researchers have dated squash seed as early as 2300 B.C. in Missouri and Kentucky (Yarnell 1963). However, these Eastern Agricultural Complex (EAC) cultigens are not often found in Late Archaic contexts in Michigan (Robertson et al. 1999). Exploitation of local plant and animal resources, including aquatic species, became more efficient and broad-based in the Late Archaic period. The success of this subsistence strategy is shown by the recovery of charred botanical remains of a variety of nuts, including acorn, hazel, hickory, and black walnut. Fruit also was an important food resource, as demonstrated by the diversity of fruit seeds in archaeobotanical assemblages, such as wild grape, blueberry, raspberry, and strawberry (Dye 1977; Yarnell 1974). Late Archaic people exploited these resources as a seasonal round, with either longer, more extensive occupations or higher seasonal site fidelity only occurring in the Terminal Late Archaic. Specifically, spring occupations may have focused on fish runs, followed by summer camps for berry exploitation, fall camps for mast resources, and winter camps with a broad-based hunting focus. A general lack of sedentism may be attributable to the largely unreliable nature of the fluctuating environmental conditions that typify most of this period (Robertson et al. 1999). It should be noted that caution must be taken with applying general statements about Late Archaic lifeways in Michigan, as the database of Late Archaic site information is heavily skewed towards the well-scrutinized Saginaw Valley region of southeastern Michigan.

Late Archaic people developed a wide array of specialized objects, including steatite and sandstone bowls, stone tubes and beads, polished plummets, net sinkers, whistles and rattles, birdstones, and boatstones, as well as awls, needles, and perforators made of bone (Chapman 1975). Brewerton series points are characteristic of this period (Ritchie 1961; Witthoft 1953; Robertson et al. 1999). In Michigan, broad-bladed stemmed points, such as Susquehanna, Adder Orchard, Perkiomen, and Genesee types, also are associated with the Late Archaic (Robertson et al. 1999). Interestingly, narrow projectile point styles that occur at Late Archaic sites in the eastern Great Lakes (Lamoka, Normanskill) are not associated with Michigan Late Archaic assemblages. By the end of the Late Archaic, projectile point style diversity increased, with the introduction of small, broad-bladed point types. These points are associated with types including Berrien Corner-notched, Oronoko Side-notched, Sodus Expanding Stemmed (Roberston et al. 1999). Turkey-tail points also occur in ceremonial contexts and in buried caches. By the very end of the period, Meadowood points begin to occur in Terminal Late Archaic contexts. Meadowood points do not occur with pottery on Michigan sites, although sites with Meadowood points are contemporary with Early Woodland sites in Ontario and elsewhere, suggesting that Meadowood points are associated with the end of the Late Archaic here. In southern Michigan, the transition to the Early Woodland is typified by Terminal Late Archaic point types showing up in association with Early Woodland deposits (Robertson et al. 1999).

Trade is demonstrated through the appearance of exotic materials in Late Archaic assemblages, and through the dating of certain prehistoric Lake Superior copper mining pits to this period. In addition, foreign cherts such as Wyandotte/Indiana Hornstone and Onondaga appear in Lower Peninsula assemblages, and ritual objects made from marine shell appear for the first time. However, the occurrence of such exotic materials is rare on Late Archaic sites, suggesting that trade was not intensive. Trade was likely a key component of maintaining social ties among related but widely dispersed groups. Trade may also have been one response to uncertain availability of resources related to subsistence, including food and animal hides for clothing. Notably, exotic trade items often are found in mortuary contexts. There are three distinct burial complexes associated with the Michigan Late Archaic: Old Copper, Glacial Kame, and Red Ochre (previously thought to represent entire cultures, but now more properly classified as distinct subcomponents of larger Late Archaic cultural practices). Old Copper Complex burials are largely found in the western Great Lakes, primarily Wisconsin, although there are documented occurrences in Ontario and Quebec to the east. The complex is eponymously named for the occurrence of copper artifacts with burials. Old Copper Complex burials are not documented from the Lower Peninsula. Glacial Kame burials are associated with exotic shell beads and gorgets, copper beads, stone pipes, and birdstones, among other items. As the name indicates, Glacial Kame burials have commonly been found interred in kame landforms. Largely a southern Midwest expression, Glacial Kame burials are documented as far north as Cheboygan County. Evidence from Wisconsin documents interactions between people practicing Old Copper and Glacial Kame burial traditions. Finally, the Red Ochre burial complex is associated with the Terminal Archaic Meadowood cultural expression, which elsewhere is associated with the initial stages of the Early Woodland period (there are very few Early Woodland mounds in Michigan, obscuring the boundary even further between the Terminal Archaic and Early Woodland periods). Red Ochre burials take their name from the use of red ochre to cover the grave. Interments are flexed, accompanied by Turkey-tail blades, small ovate cache blades, copper artifacts, and tubular marine shell beads. As with Glacial Kame, Red Ochre burials have been documented in association with Old Copper culture burials at cemetery sites. It should be noted that not all Late Archaic burials conform to one of the three complexes, which are regional and may be sequentialized cultural expressions (Robertson et al. 1999). Of considerable interest is the observation that the increase in mortuary ceremonialism appears to halt with the commencement of the subsequent Early Woodland period.

5.1.3 WOODLAND PERIOD

W. C. McKern first described the Woodland period as an archaeological manifestation within the McKern Taxonomic System (McKern 1939), initially distinguishing it from the preceding Archaic period by pottery and ceremonial construction of earthworks and mounds. Griffin's work (1952) on the Woodland period defined three sub-periods: Early Woodland (1000 B.C.–100 B.C.), Middle Woodland (100 B.C.–A.D. 500), and Late Woodland (A.D. 500–1200). Archaeologists still use the same basic system today, although current research

suggests that adaptations and cultural traits assigned to each period are actually quite variable in both time and location. For example, in some regions of the Midwest, the cultural expressions associated with the Middle Woodland are not present, with Early Woodland practices persisting through time. Some Woodland period sites are identified solely through the presence of pottery or burial mounds; these sites are typically not assigned to one of the three sub-periods. Specific to Michigan, the Woodland period spans 800 B.C. to A.D. 1650 (Chivis 2003). Late Prehistoric cultural manifestations, such as Mississippian cultures, did not occur widely in Michigan; instead, Late Woodland cultural practices persisted to the Contact Period in large portions of the state, and Late Prehistoric groups appear confined to the southwestern Lower Peninsula, contemporary with Late Woodland people elsewhere in the state.

5.1.3.1 EARLY WOODLAND

The Early Woodland period in Michigan begins at different times in different regions in Michigan. In the southern Lower Peninsula, it extends from approximately 800 B.C. to A.D. 1, overlapping somewhat with the Middle Woodland period. Research in the Midwest demonstrates a general continuum from the end of the Archaic through the Middle Woodland for the intensification of horticulture and the formalization and elaboration of mortuary practices (Dragoo 1976). However, Woodland people did not uniformly adapt these traits at the same general time, and some practices associated with Woodland people (such as mound building) are largely absent in Michigan. There are few Early Woodland mound sites in Michigan, Croton Carrigan Mounds in Newaygo County being one (Garland and Beld 1999). In general, Early Woodland peoples maintained a largely foraging-focused economy with gradual incorporation of plant cultivation, specifically sunflower and squash. Early Woodland sites are somewhat rare in Michigan, and often occur as part of multicomponent sites, with subsequent Woodland-period occupations.

To the south, archaeologists most closely associate the Early Woodland period with the Adena Culture. The Adena culture dominated much of the northern Eastern Woodlands from upstate New York into the Ohio and Mississippi Valleys, characterized by conical earthen mounds and elaborate burials with ornamental grave goods. The Adena culture may have developed as early as 500 B.C., based on the dating of burial mounds in the central Ohio River Valley region (Seeman 1992:25). Notably, the Adena culture did not expand into Michigan. However, there is one Early Woodland earthworks in central Michigan, 20IA37, which bear similarities to Adena earthworks to the south (Garland and Beld 1999). 20IA37 represents a unique occurrence of a ceremonial aggregation site associated with the Early Woodland period in the state. Mortuary processing at the site is suggested through the recovery of fragmentary human bones, but no actual burials are known to be present.

In southern Michigan, research indicates a strong continuity between Late Archaic and Early Woodland cultural practices. Horticulture likely became more important in the subsistence strategy of Early Woodland people, but how important this

adaptation was to different groups varies across time and space within this period. Some areas do not show much evidence of domesticated plants until near the end of the Early Woodland period, coinciding with the beginning of the Middle Woodland period (Fritz 1990:403). Sunflower cultivation is demonstrated at the Eidson Site, being a continuous tradition with the preceding Late Archaic occupation (Garland and Beld 1999). Seasonal mast crops continued to be an important resource, and Early Woodland groups still depended on wild versions of plants that would become cultivars, such as squash, sumpweed, gourd and goosefoot.

Although there may have been some tendency for limiting residential mobility in the Early Woodland period, settlement patterns generally resemble those of the preceding Late Archaic period, with large summer base camps in the flood plains and upland resource extraction camps occupied in the fall and winter (Garland and Beld 1999; Yerkes 1988:319). Clay (1992:80) suggests that Early Woodland groups were likely practicing a semi-sedentary, hunter-gatherer lifestyle organized into egalitarian groups, rather than having a more hierarchical tribal system. This certainly seems to be the case in Michigan.

Projectile point/knife forms diagnostic of the Early Woodland period include Kramer, Cresap, Meadowood and Adena Stemmed types (Chivis 2003; Justice 1987). As noted previously, Meadowood points are also associated with the Terminal Archaic in Michigan. Early Woodland pottery first appears around 500 B.C. and tends to exhibit coil construction with cordmarked surfaces. Pottery types associated with the Early Woodland period includes Marion Thick (also known as Schultz Thick), Shiawassee Ware (found in the Saginaw Valley), and Mushroom Cordmarked, a late Early Woodland type (Garland and Beld 1999; Chivis 2003). Marion Thick is considered similar to types in other regions of the Midwest, such as Vinette in Ontario and Fayette and Leimbach Thick in Ohio. The production of Marion Thick appears to have persisted into the Middle Woodland period. Exotic materials are indicative of long-distance trade networks, including copper and high-quality cherts from Ohio and Illinois.

5.1.3.2 MIDDLE WOODLAND

The Middle Woodland period (ca. 100 B.C. – A.D.400) saw a gradual expansion in the general patterns of the Early Woodland. Elaborate burials and distinct ceremonialism increased, and mound construction became increasingly complex, with huge, precisely arranged geometric earthworks being the hallmark of the Hopewell cultural manifestation that flourished to the south in Ohio, with its influence spreading throughout the Midwest. Like the Adena, the Hopewell manifestation likely does not represent a single monolithic culture, but rather a shared worldview among many different groups of people across the midcontinent. Elaborate mound construction and an increased reliance on fishing are hallmarks of the Middle Woodland in Michigan.

In southwest Michigan, the Norton Tradition is the main regional expression of the Hopewell cultural manifestation, although Havana Hopewell is present in sites along the Michigan-Indiana border. Chivis (2003) notes that current research

suggests many of the Middle Woodland vessels recovered archaeologically from western Michigan show influence from Illinois populations, with several probably representing imported or trade items. Pottery types associated with Middle Woodland groups in southwest Michigan include Norton Ware, Havana Ware, Western Basin Ware, Crockery Ware, and Hacklander Ware (Chivis 2003). In southeast Michigan, near Saginaw Bay, the local Hopewell expression is the Saginaw Tradition. Hopewell cultural expressions were not adopted by Woodland groups occupying the area beginning roughly at the Muskegon River and northwards, and additionally do not seem to be present in the southeastern corner of the state south of Saginaw Bay (Kingsley et al. 1999). It appears that while migration of Hopewell people into southwestern Michigan may be the best explanation for the cultural development observed there, the Saginaw Bay tradition may have developed in situ. Middle Woodland period sites have been identified along the northwest coast of the Lower Peninsula, some with Hopewellian materials. However, it is not clear that these sites represent a Hopewell population: instead, they may be a contemporary Middle Woodland population that traded with Hopewell groups to the south but did not adopt their practices.

The Norton Tradition is thought to have evolved from the Havana Hopewell tradition to the southwest and is contemporaneous with the later expressions of Havana Hopewell. The Norton Tradition is divided into the Norton Phase, ca. 10 B.C.-A.D. 200, and the Converse Phase, ca. A.D. 200-400. However, due to a lack of datable material from sites and phase-sensitive artifacts, the Converse Phase is considered problematic at best, as the dual Norton/Converse phases were actually created to serve as an analogue to Illinois phases and may not be actually warranted as an accurate interpretation of the cultural manifestation of Hopewell in southwest Michigan (Kingsley et al. 1999). The earliest expressions of the Norton Phase appear to be highly correlated to Havana Hopewell groups to the southwest, albeit on a smaller scale. Norton people buried their dead in mounds, with practices like the Havana Hopewell, the parent group. Norton groups appear to have focused their territory on the Muskegon, Grand and St. Joseph River valleys, with several mound groups present. Domestic sites associated with the mounds are rare, however, and the settlement system for Norton Tradition Hopewell is poorly understood. The constriction of Hopewell to these three river valleys in southwest Michigan is somewhat of a puzzle, and may indicate that the Hopewell people, possibly being an immigrant group, settled in areas sparsely occupied by other Woodland people practicing a different cultural system. Supporting this view of long-term sedentism without expansion is the fact that each of the three river systems have major mound group sites composed of numerous mounds, suggesting a long period of settlement adding to the ceremonial mound centers over time.

The Saginaw Tradition is composed of three separate phases, which overlap somewhat. The earliest is the Shiawassee Phase (100 B.C.–A.D. 0), a rarely-occurring cultural expression largely associated with an eponymous ceramic type. The Tittabawasee Phase (100 B.C.– A.D.300) is characterized by Tittabawasee Ware, which is like Havana Hopewell wares. Finally, the Green Point Phase is

known through Green Point pottery, and spans A.D. 300–500, representing the terminal Middle Woodland (Kingsley et al. 1999). The Saginaw Tradition is thought to represent a resident Woodland population adopting some Hopewell traits through acculturation. Notably, however, the Saginaw Tradition is not associated with earthen architecture, and its ceramic vessel forms that are correlated of Havana Ware (Tittabawassee Ware) and Hopewell Ware (Green Point) appear consecutively, not contemporaneously. It appears that Saginaw Tradition people adopted certain Hopewell behaviors through diffusion, likely in contact with Norton Tradition people to the west. Saginaw Tradition burial practices are not well understood. Saginaw Tradition burials have been documented at only a few sites, with no sizable mortuary populations that would lend themselves to analysis of populations and burial traditions.

An important component of understanding the Middle Woodland period in Michigan is the presence of cultural systems unrelated to the Hopewell phenomenon. Some of these societies may simply be groups continuing cultural practices first developed in the Late Archaic and Early Woodland periods. In southeast Michigan, the Western Basin Tradition is recognized as a non-Hopewell Middle Woodland-Late Woodland cultural expression. Several researchers interpret Western Basin material as representing an in situ cultural evolution of Woodland traits culminating in Late Woodland cultural expressions, such as the Younge Phase in northwest Ohio and the Wayne Tradition in southeast Michigan. Another resident, non-Hopewell Middle Woodland population is posited in southwest Michigan, in between the Havana Hopewell and the Norton Hopewell areas. These people are known from locally derived ceramic forms, some of which are similar to Point Peninsula cultures to the east. Some Hopewellian material also occurs at sites thought to be Non-Hopewell Middle Woodland, interpreted as the result of contact with Hopewell groups to the north and south (Kingsley et al. 1999). In northern Michigan and the Upper Peninsula, groups are classified as belonging to the Lake Forest Middle Woodland, a cultural expression that is contemporary and interacted with other Middle Woodland cultures, such as people associated with Laurel, Hopewell, Point Peninsula, and North Bay cultural traditions.

The current understanding of settlement and subsistence behaviors of the Hopewell and other Middle Woodland populations is unclear at best, with a variety of opinion to explain the data collected to date. Using information from non-mound excavations (e.g., Prufer 1964), Ford (1979) suggested a basic hunting-and-gathering economy with limited horticulture. Subsistence data from Michigan sites is scarce, unfortunately, complicating the development of a robust theory on Middle Woodland subsistence and settlement, like that developed for Ohio, Indiana, and Illinois Hopewell societies. A settlement pattern has been developed for the Norton Tradition, based upon a system known as Intensive Harvest Collecting associated with Havana Hopewell groups. The Norton settlement pattern consists of villages located on terraces or levees along the main river associated with the group's territory, and always are near large floodplains with backwater and mudflat habitats. Villages were also located near reliable sources of mast. Interestingly, the environmental requirements of this system match well with known Norton site

distribution. In particular, the Kalamazoo River Valley lacks such requirements, and correspondingly also lacks any major Hopewell settlements. In contrast, the Saginaw Tradition settlement pattern includes warm-weather base camps with a heavy reliance on fishing for subsistence, likely also serving as population aggregation centers. In the winter months, Saginaw Tradition people dispersed into smaller winter hunting camps. This system is more in line with northern Lake Forest Middle Woodland cultures, and indeed, even with historic-period Ojibwa practices (Kingsley et al. 1999).

Mortuary Traditions

Most information about Middle Woodland burial practices is from Norton Tradition internments. Norton Tradition people interred individuals in tombs covered by burial mounds, like Illinois Hopewell traditions. Norton Tradition mound sites include the Norton Mounds, Schumaker Mound, Converse Mounds, Mallon Mound, Hardy Dam Mound, Grattan Mounds, Parsons Mound, Marantette Mounds, McNeal Mound, Paggeot Mound, Spoonville Mound, Scott Mounds, Palmiteer Mounds, and Summerville Mounds. Norton burials tend to occur within the subfloor tomb of a mound, and consist of secondary bundle burials and more rarely, rearticulation of formerly bundled individuals. Burials are accompanied by exotic Hopewell Interaction Sphere artifacts; in fact, these artifacts rarely occur outside of mortuary contexts on Norton sites. Finely made pottery vessels specifically made for mortuary use, either imported Hopewell Ware from Illinois or the local Sumnerville Ware varient of that type, accompany most burials. These vessels are often accompanied by turtle shell dishes and mussel shell spoons. Individual burials are also found with clusters of artifacts that appear to represent toolkits for use in the afterlife. Exotic, non-local goods include conch shells from the Gulf of Mexico, copper tools from the Lake Superior copper region, native silver (also probably from the upper Great Lakes), and mica. Of special note are copper and silver panpipes, which mainly occur with Norton burials, although one specimen is associated with a Saginaw Tradition internment. Curiously, one type of Hopewellian artifact that is common in mortuary contexts elsewhere in the Midwest but largely absent in Michigan is the copper earspool. Only one burial with earspools is documented in the state. Another way that Michigan Hopewell burials differ from other regions is the inclusion of slate gorgets, an apparent continuation of a Late Archaic artifact type that does not occur elsewhere in the Hopewell region. It is uncertain if the gorgets were manufactured by Norton Hopewell people or were a trade item originating with groups in the region that were still practicing Late Archaic cultural traditions (Kingsley et al. 1999).

Social Structure

The social structure of Hopewell groups is one that numerous archaeologists across the continent have studied and argued over for years, with little consensus. Information from mortuary contexts holds up tantalizing evidence for the existence of complex societal structures, yet this data can be interpreted in varying ways and widely different hypotheses can be generated from the same data set. One way of approaching the problem of teasing out social structures from limited mortuary data

is to examine variation in burial types. If there seems to be differing treatment of individual burials, with some receiving more lavish ministration than others, then some form of equivalent social ranking was probably practiced by that society. Ranking can be teased out in the form of analysis of how different age groups and genders are treated in burials. If there is a difference in burial types, but the difference does not apply to age groups or gender, then a social hierarchy is present in the living population. Such conditions do not appear present in Norton Tradition burials. Rather, status seems to be associated with age, and to some degree gender. Older male Norton internments tend to have higher quantities of exotic grave goods, and often display a treatment where a section of the skull is removed. Most of these male burials are also rearticulated in the submound tomb. In contrast, few female or subadult burials show such lavish treatment, although they do exist. These burial characteristics suggest Norton Tradition groups were egalitarian in structure, with status assigned mainly through the male gender, age, and personal achievement, although some form of basic ranking system cannot be ruled out (Kingsley et al. 1999).

Late Woodland Transition

The transition from Middle Woodland to Late Woodland cultural practices in Michigan appears to reflect an in-situ development, rather than a population displacement. One possible population movement in Michigan involves the development of the Wayne Mortuary Complex of eastern Michigan, which does not have any clear precedents in the local archaeological record, but has some defining features (Jack's Reef points, use of exotic Upper Mercer chert) that have been documented in late Hopewell burials in the Grand River valley. A tentative hypothesis is that this Late Woodland mortuary complex evolved out of Hopewell antecedents in western Michigan and moved east with a band of people at the end of the Middle Woodland period (Kingsley et al. 1999).

5.1.3.3 LATE WOODLAND

The Late Woodland period (ca. A.D. 400-1650) can be defined as a period of complex social change, and there are competing theories about the various cultural sequences associated with the period in the southern Lower Peninsula. The early part of the Late Woodland period is characterized by a subsistence economy almost wholly devoted to wild food sources (ca. A.D. 600-1000), while the latter part of the period sees the increasing importance of horticulture and domesticates (ca. A.D. 1000-1650). However, Muhammad (2010) characterizes certain Late Woodland groups as practicing a "middle ground" subsistence system, with mingled aspects of hunter-gatherer and agriculturalist strategies. She further posits a fluid network of resource exchange between groups practicing different subsistence strategies as a form of societal risk management for dealing with periodic episodes of regional resource scarcity. During this later part as well, southwestern Michigan saw the influx of Upper Mississippian peoples, an event that surely was important in the cultural development of resident Late Woodland groups. Defensive earthworks appear for the first time, a reflection of the rate of change and the reactions of Michigan Late Woodland people to this change

(Holman and Brashler 1999:213). Late Woodland people appear to have rather abruptly stopped the practice of mound construction and elaborate mortuary traditions of the preceding Hopewell culture. In the early Late Woodland period, there is evidence of regional adaptations, development of formal kinship systems tied to exchange of different kinds of chert, food storage intensification, and seasonal migrations. Ceramic types were similar between disparate groups, suggesting close relationships between them. After about A.D. 1000, group territories were more strictly observed, and chert gift-giving ceased to occur. Rock art and earthwork construction began to appear. The Late Woodland sites in the Upper Peninsula show a general continuity with Middle Woodland cultural behaviors, with small bands of people relying on wild rice, mammal hunting, and fishing for their economic base. Lake Phase sites are found in the western Upper Peninsula, while Mackinac Phase, Bois Blanc Phase, and Juntunen Phase sites are associated with the eastern Upper Peninsula. One notable characteristic that differentiates Upper Peninsula Late Woodland from the preceding period is an increase in site fidelity (Martin 1999).

In southeast Michigan, the Late Woodland has been associated with the Wayne Cultural Tradition. Some archaeologists define this as a Wayne Tradition with associated Wayne Burial Complex, marked by diagnostic Wayne Ware pottery showing plain cordmarking and minimal decoration, extending from Saginaw Bay to Lake Erie, interacting and co-existing with Western Basin Tradition (Younge) groups to the south. An alternate view that has gained much support in recent years is that the Wayne Tradition is merely the northern extension of the Western Basin Tradition (Stothers 1999).

The Western Basin Tradition is one of two Late Woodland cultural traditions that developed in southeastern Michigan, northeast Indiana, northwest Ohio, and southwest Ontario; the other being the Sandusky Tradition. The Western Basin Tradition contains four sequential phases: Gibraltar (ca. A.D. 500-750), Riviere au Vase (ca. A.D. 750-1000), Younge (ca. A.D. 1000-1200), and Springwells (ca. 1200-1300). People exhibiting traits of the Gibraltar Phase are thought to have radiated out from the St. Clair-Detroit River drainage, around Lake Erie to Sandusky Bay and up the coast of Lake Huron to Saginaw Bay. Stothers (1999) suggests these population clusters developed into coeval local branches of the larger Western Basin Tradition. The Western Basin Tradition people may represent an Iroquoian population that descended from Princess Point Complex societies in eastern Ontario. Stothers suggests that mortuary sites, which included both mounds and cemeteries, also functioned as social aggregation sites for nonmortuary purposes, such as trade. One such trade item may have been maize, which shows up in Western Basin assemblages but not to the degree that it indicates sustained local agriculture. Ethnographic analogues to such gatherings from Iroquoian peoples include the display of the remains of revered ancestors through suspension and reassembly; evidence for similar mortuary behavior has been documented on remains from Western Basin contexts (Stothers 1999; Stothers and Bechtel 2000). Indeed, Stothers and Bechtel (2000:2) suggest that the Western Basin Tradition represents an "unrecognized branch of the Ontario Iroquois Tradition which did not survive into history, but was instead 'militarily' defeated and dispersed in the late 13th/early 14th century A.D. by Central Algonquian-speaking Wolf phase populations from north-central Ohio."

Krakker (1983) proposes two settlement patterns for the Late Woodland in southeast Michigan: agricultural settlements along major rivers and streams to take advantage of fish runs, and specialized interior resource extraction camps occupied on a seasonal basis. Holloway's senior honors thesis on Late Woodland settlement organization calls into question the assumption that areas with arable land suited for agriculture would have correlating agriculture-based settlements. Her interpretations of excavations at 20WN14 suggests that sites previously interpreted as semi-permanent agricultural settlements may instead represent serially-occupied short-term resource extraction camps instead (Holloway 2012). Stothers and Bechtel ascribe a similar seasonal mobility system as Krakker, with roots in the Late Archaic, with the further interpretation that Western Basin Tradition people never developed formal villages but instead lived in clusters of hamlets (2000:24).

Around A.D. 1200, Western Basin people began to disperse away from their traditional core areas, a process Stothers calls the Western Basin Tradition Retreat. It appears that partly in response to a northward push of Wolf Phase Sandusky Tradition people from Ohio, Western Basin people of the Springwells Phase moved to the north, northeast, and west from Lake Erie and the Detroit River valley. A type of Late Woodland pottery classified as Juntunen Ware is interpreted by some archaeologists as representing material associated with northerly-dispersed Western Basin Tradition groups (Stothers 1999).

The successors to the Western Basin Tradition people were groups affiliated with the Wolf Phase of the Sandusky Tradition. The diagnostic pottery type for these groups is Parker Festooned, along with wares that appear to be regional expressions of Fort Meigs and Indian Hills types. Stothers classifies these people as belonging to an Upper Mississippian culture. He further notes that the Wolf Phase people who lived at Saginaw Bay, Lake St. Clair, and Sandusky Bay correlate to the early historical Kouattoehronon (Sauk), Skenchioronon (Fox), and Totontaratonhronon (Mascouten) tribes. Stothers places these tribes, along with the antecedents of the Kickapoo (Ontarraronon) and Wea (Berrien Phase) people, as part of a intertribal league called the Assistaeronon (Fire Nation) Confederacy. The Fire Nation groups occupied southern Michigan until conflicts with the Neutral Indian Confederacy drove them out of the state in the mid 1600s (Stothers 1999).

The appearance of high-quality Bayport and Norwood cherts across the southern Lower Peninsula suggests the exchange of this material as part of social relationship maintenance in the early Late Woodland. Distribution of ceramic wares suggests that groups from different traditions could rely on the use of each other's territories in times of scarcity. A maintenance of the social network affiliated with the Middle Woodland is suggested through the appearance of exotic cherts from Illinois and Ohio (specifically Upper Mercer chert), and there is a continuity of projectile point styles from the Middle Woodland into the Late Woodland as well.

There is evidence as well for a small population movement into Michigan from the east. A non-locally derived ceramic type called Hacklander Ware appears in southwest Michigan during the late Middle Woodland and early Late Woodland, bearing similarities to wares from New York and southern Ontario. Analysis of this pottery on Michigan sites suggest it does not represent a trade item (Holman and Brashler 1999).

After about A.D. 1000, southern Michigan saw a major change in Late Woodland behaviors. Ceramic types and lithic material choices indicate that inter-regional exchange and contact declined within the state. Exotic cherts become uncommon in assemblages. About this time is when Mississippian people appear to have begun interacting with Late Woodland groups in southwest Michigan, with evidence for interaction with Upper Mississippian people by 1100, and another such incursion in 1400 by makers of Huber Ware (Holman and Brashler 1999). It appears that certain indigenous Late Woodland groups began adopting Mississippian practices (including corn-bean-squash agriculture), while others continued Late Woodland lifestyles.

In the early part of the Late Woodland period, burial practices continued to be characterized by the inclusion of "rich grave goods" with high-status individuals (Halsey 1999:234). In the southern Lower Peninsula, the Wayne Mortuary Complex is predominant, and Halsey places it within a larger group of similar burial traditions extending from the Mid-Atlantic to North Dakota. Burial mound construction similar to the Middle Woodland period still occurred in the early Late Woodland period, but this burial system was soon abandoned for individual graves in cemeteries, isolated graves, and intrusive burials into pre-existing mounds. Towards the middle of the period, clay elbow pipes began to be included in graves, although most other forms of grave goods were no longer used in mortuary contexts. However, a very late cemetery excavated by pot hunters dating to the 1500s or early 1600s was very well preserved, with numerous organic artifacts that suggests grave goods were still numerous within Late Woodland internments but likely were too perishable to survive in earlier excavated graves. Some Late Woodland burial practices switched to the use of ossuaries. St

Earthworks in Michigan are a Late Woodland phenomenon, and usually consist of circles or horseshoe-shaped constructions with adjacent ditches. Zurel estimated that over 100 such earthworks probably existed in Michigan; only a handful remain intact today. The earliest carbon-dated earthwork is from southwest Michigan, the Whorley Earthwork (20BR6), dated to ca. A.D.1080±100. Other carbon dated earthworks fall in the date range of about A.D. 1275-1550, with a late date of A.D. 1700±60 for the Graham-Vogt site (20MB78). Many enclosures seem to be associated with wooden palisades. However, the exact nature of these earthworks is unclear. In southeast Michigan, the locations of earthworks all seem to be about a day's walk apart, suggesting a possible affiliation of individual bands to individual earthworks. A defensive nature is suggested by the palisades and by evidence of occupation zones within the earthworks that have been archaeologically tested (Zurel 1999).

5.1.4 UPPER MISSISSIPPIAN

The Upper Mississippian period is one of the least well-known prehistoric expressions in Michigan, partly due to a scarcity of sites and limited geographical distribution of Upper Mississippian sites. Archaeological evidence places Upper Mississippian people in southwest Michigan beginning ca. A.D. 1050, persisting until ca. 1600. The Upper Mississippian development is thought to be an in-situ development of groups adopting practices developed by Middle Mississippian groups centered on the St. Louis region. Specifically in Michigan, Upper Mississippian traits are overlain on a Late Woodland cultural base (McAllister et al. 1999). Upper Mississippian people in southwest Michigan practiced corn-beansquash agriculture, aggregating in a few summer villages, and then dispersing in smaller, family-based groups to winter hunting camps. However, some village sites may have been occupied year-round, such as Moccasin Bluff. Evidence for specialized camps in southwest Michigan includes site types focused on the spring sturgeon run and wetland resources.

The Moccasin Bluff Phase of southwest Michigan (ca. A.D. 1050-1300) corresponds to the Fisher and Huber phases located to the south and southwest in Indiana and Illinois. Ceramics diagnostic to this phase include Moccasin Bluff Impressed Exterior Lip (a grit-tempered, cordmarked ware) and shell-tempered wares that appear related to Fisher phase ceramics. Of interest is that Late Woodland vessel forms co-occur with Mississippian vessel forms in Moccasin Bluff Phase assemblages, specifically with grit-tempered ceramics. Following the Moccasin Bluff Phase is the Berrien Phase (ca. A.D. 1400–1600), which was also first described at the Moccasin Bluff site. Ceramics remain a mixture of grit- and shell-tempered wares, including Berrien (shell), Moccasin Bluff Scalloped (grit), and Moccasin Bluff Notched Applique Strip (grit) types (McAllister et al. 1999). The Berrien Phase shows strong relationships to the Huber Phase in northern Indiana. Other characteristics of southwestern Mississippian assemblages include Madison projectile points, predominant use of local cherts (but supplemented with exotics) in lithic assemblages, and occasionally trade items such as catlinite pipes (McAllister et al. 1999).

Evidence for Upper Mississippian house types is lacking in Michigan. However, early historical descriptions of Miami and Potawatomi villages, considered to be good analogues for Mississippian lifeways (if not actually representing the direct descendants of these groups), consisted of clusters of small wigwam-like buildings, constructed from bent saplings and covered with bark. Such buildings may not leave much in the way of posthole patterns at sites.

Elsewhere in Michigan, evidence of Mississippian influence and occupation is much less prevalent. The Saginaw Valley region has sites with Mississippian-style pottery present in small amounts, and a few burials are highly like those documented in Mississippian societies elsewhere. However, the evidence is too scant to conclusively state that people practicing a primarily Mississippian lifestyle occupied this region in any significant numbers. In the Upper Peninsula, the rare sites showing Mississippian influence are mainly related to Oneota cultural

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expressions found primarily to the south in Wisconsin and are identified through the presence of shell-tempered pottery. Middle Mississippian wares, such as Ramsey, have also been found in the Upper Peninsula. The Menominee River Basin has perhaps the most evidence for occupation by Upper Mississippian people, while the presence of Mississippian artifacts elsewhere is as equally explainable as trade items versus the actual presence of people practicing Mississippian lifeways. No evidence for Mississippian agriculture has been found at any Upper Peninsula sites; indeed, the environmental conditions of the peninsula may have actively discouraged such practices. Instead, Mississippian people may have been temporary visitors or seasonal occupants exploiting resources at the very northern edge of their territories (McAllister et al. 1999).

5.2 HISTORICAL PERIOD CONTEXT

There is scant evidence for the direct presence of Europeans in Michigan prior to the mid-seventeenth century. However, some protohistoric Native American sites do show indirect contact through the presence of European trade items, such as the Cloudman Site on Drummond Island, dating to ca. 1615 and including glass beads, iron, and copper artifacts made using Native methods but mimicking French knife forms. This site is interpreted as likely being an Ottawa occupation, whose residents had trade relations with other Native people to the east that had been directly in contact with early French explorers (Cleland 1999).

5.2.1 EARLY HISTORIC PERIOD, CA. 1630–1800

Early European presence in the Great Lakes is linked to French exploration and missionary activity. The first documented European explorer in the Michigan region is Jean Nicolet in 1634. Seven years later, the Raymbault Mission was established at Sault Ste. Marie by Jesuit missionaries. This mission first served Ojibwa groups moving west to get away from raiding Iroquois bands, with Ottawa people subsequently settling around it. While the French also established the fur trade, it did not become the dominant focus of activity in the region due to the conservatism of the French court, which placed greater emphasis on conversion of Native groups and exploration (Heldman et al. 1999). However, competition with other European nation-states forced a change in emphasis for the French to commerce, beginning about 1700. The French Bourbon court largely viewed its North American activities in terms of wealth extraction rather than colonial expansion and settlement. The lack of any substantial French immigration to the New World (in contrast to British policies) meant that Native alliances were highly important to the success of French activities on the continent.

The French established settlements at the Straits of Mackinac beginning in 1671, first on the north shore near St. Ignace and then at Fort Michilimackinac in 1715 (the latter of which is arguably the most important early historical archaeological site in the Great Lakes). The French traded with local Huron, Petun, and Ottawa people here, and established a Jesuit mission headed by Father Jacques Marquette, who had moved the focus of missionary activity here from Sault Ste. Marie in recognition of the primacy of the Straits as a Native transportation route. The Native tribes had settled here just prior to the French, having been forced out

of their former territories to the east and southeast during the Iroquois Wars, ca. 1640-1660 (Cleland 1999; Heldman et al. 1999). Other Native tribes that were present in the state in the seventeenth century include the Mascouten, Potawatomi, Miami, and Menominee. In particular, the Ottawa, Ojibwa, and Potawatomi formed a loose alliance called "The Three Fires" (Rubenstein and Ziewacz 2014). Native American sites of the Early Historic Period consist of villages and burials. Village sites can show reconstruction episodes for the longhouses, which can confuse interpretation. European trade goods are diagnostic, as are traditional Native technologies using European artifacts as raw material (e.g., glass projectile points, brass tinkler cones). An important corollary is that there do not appear to be any types of diagnostic Native artifacts that would allow identification of tribal identity; this situation is largely due to the disruptive effects of colonization and contact that led to rapid changes in material culture and mixing of previously separate tribal bands in single villages in some cases. One exception to this rule is the Marquette Mission Huron Village site (20MK82 and 20MK99), where artifacts do show an Iroquoian affiliation (Cleland 1999). Also of important note is that a drastic change in technology and raw material use does not indicate an equivalent change in cultural traditions. Ethnohistorical accounts support the continuation of cultural traditions with likely roots far back into the prehistoric period among Michigan tribal groups (Heldman et al. 1999).

In southwest Michigan, Rene-Robert Cavalier, Sieur de la Salle, established Fort Miami at modern St. Joseph in 1679, named after the Miami tribe that was the focus of missionary efforts in that location. In 1686, the French established Fort St. Joseph in the Port Huron area (the second fort by the name; the first was near Fort Miami). These forts protected French interests in the fur trade against the expanding British. In 1701, Antoine de la Mothe, Sieur de Cadillac, built Fort Pontchartrain between Lake Huron and Lake Erie, at a spot he called "le Detroit," meaning "the strait." Because of its strategic location, the fort and the surrounding community of Detroit became the most important French settlement in the first half of the eighteenth century (Rubenstein and Ziewacz 2014; Heldman et al. 1999). By the 1750s, numerous small French farms were present in the southeast Lower Peninsula.

The mid-1700s were a period of war between the two major colonizing powers in eastern North America, the French and British. King George's War broke out in 1744, followed by the French and Indian War of 1754–1763. The British were slowly expanding and forming new alliances with tribes, forcing the French to react with increased fortifications. British blockades during the war years severely hindered the French's ability to conduct trade. In 1760, all French forces surrendered, and in 1763, the French ceded claim to all their lands to the victorious British in the Treaty of Paris (Rubenstein and Ziewacz 2014). Soon after the surrender, British forces moved into the Great Lakes and took over important forts at the Straits of Mackinac and Detroit, although many French inhabitants of the associated settlements remained. Some stayed and lived alongside the British, while others relocated to new communities to preserve some sense of autonomy and cultural traditions, such as at River Raisin. British settlement outside of the

forts is not well documented, but there are several archaeological sites known that represent British-era settlement.

The change from French to British occupation was drastic in terms of cultural approaches to interactions with Native groups. The British lost their chance to capitalize on goodwill with their Native allies by appointing Lord Jeffery Amherst as Governor General of North America. Amherst refused to listen to other British officials who understood Native customs and his actions, including ignoring pledges made during the war and a cessation of gift-giving, led to increasing hostilities, such as Pontiac's War of 1763. French traders encouraged the division between Native Americans and their former allies. The efforts of the French were successful in helping make up the minds of Great Lakes tribes to revolt against the British (Rubenstein and Ziewacz 2014). This conflict was a major, if temporary, setback to the British, who lost control of all their western forts apart from those at Detroit, Niagara, and Pitt. However, the British soon regained control of the territory (Heldman et al. 1999). The Proclamation of 1763, drafted in response to Pontiac's Rebellion, stated that all land west of the Allegheny Mountains as permanent Native territory, with land sales only by permission of the British government.

The next major event during the British period in Michigan was the American Revolution. Being on the periphery of British territory in North America, the British military outposts in Michigan did not result in any direct response to the outbreak of hostilities until 1778 and 1779, when American actions in Illinois prompted the building of new forts and strengthening of some of the older forts. In 1780-1781, the British dismantled Fort Michilimackinac and relocated to a new fort on Mackinac Island to better defend the Straits. Britain directed Native raids against American settlements from Detroit, which served as a major source of war supplies for such raids (Rubenstein and Ziewacz 2014). An interesting bit of Revolutionary War history is the taking of Fort St. Joseph at Niles by a combined force of Spanish, French, and Native soldiers, who briefly raised a Spanish flag over the fort before looting and abandoning it. Niles thus has the distinction of the only city in Michigan that has had the flags of four nations flying over it (Rubenstein and Ziewacz 2014). The British period in Michigan ended with their signing of the Jay Treaty in 1794, and American forces took over the major British forts at Detroit and Mackinac in 1796. A British fort on Drummond Island was built in 1815 and remained until 1828, when the United States formally acquired the island.

5.2.2 AMERICAN ACQUISITION AND STATEHOOD, 1800–1837

Although American forces occupied forts in Michigan in 1796, American expansion and settlement in Michigan did not occur with any frequency until the nineteenth century, largely after the War of 1812. Landscapes within Michigan retained a frontier character until their resources became important to the economic development of the state and nation, such as the mineral ranges of the Upper Peninsula, which were not developed until later in the nineteenth century. The Michigan Territory was created by Congress in 1805 after the admittance of Ohio to the Union. However, prior to 1812, most of the white residents of the territory were French, with several British traders still operating out of the territory.

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The War of 1812 broke out when the Michigan Territory was under control of territorial governor William Hull, who proved to be completely inept in military matters. Despite a brief foray into Canada, Hull's leadership was disorganized, and British forces soon took over the primary forts in the territory, and Hull himself surrendered Detroit. Initial British success was short-lived, and American victory in 1814 marked the last active hostilities in Michigan between white and Native forces, while cementing the Michigan Territory as a part of the United States (Rubenstein and Ziewacz 2014). Native rights to land in Michigan were slowly chipped away in a series of land cessations, beginning with the Treaty of Detroit in 1807 and culminating in the Treaty of La Pointe in 1842 (Rubenstein and Ziewacz 2014). By the 1870s, most of the state's Native population were living on reservations.

By 1833, Michigan's population was over 60,000 people, more than enough to be admitted into the Union as a state. However, Congress refused to consider the matter until a boundary dispute with Ohio was resolved. Both the State of Ohio and the Michigan Territory considered a strip of land at the northwest corner of Ohio as their rightful possession. This area, called the Toledo Strip, was controversial because Ohio had a provision in its constitution that its northern boundary, delineated in the Ordinance of 1787, could be adjusted if it did not include the mouth of the Maumee River. However, when the Michigan Territory was set up in 1805, Congress either was unaware of or ignored this provision and gave this land to the new territory. While militias on both sides were formed and Michigan militiamen made incursions into Ohio, the so-called "Toledo War" mainly consisted of political bluster and was resolved without a shot being fired through a compromise bill in Congress that admitted Michigan as a state if it ceded the Toledo strip. As a consolation prize, the Upper Peninsula was included as part of the new state's territory (a transaction that subsequent generations of Michiganders now recognize as getting the best part of the deal). Still, various attempts down through the years have been made on Michigan's behalf to regain Toledo, all ending in failure. On January 26, 1837, Michigan was formally admitted to the Union (Rubenstein and Ziewacz 2014).

5.2.3 EXPANSION AND ECONOMIC GROWTH, 1837–1860

The initial settlement after statehood was achieved focused mainly on the southern tier of counties in the state, largely due to proximity to transportation routes, but also because of the presence of good farmland, especially in the southwestern prairie habitats. Settlers moved north at a slower rate, as transportation routes were nearly non-existent and there was a considerable effort required to clear land for agriculture. Too, the climate became harsher the farther north one went, with fewer growing days per year. The early settlers to the southeastern part of the state were largely from New England and New York, while people from Indiana and Ohio moved into the southwestern quarter, giving each area a distinct set of traits related to the settlers' origins. Improving transportation was the priority for the new state legislature, and an elaborate proposal to build two canals running across the state and three railroads, all extending east-west across the southern half of the Lower

Peninsula was funded by a public improvement act in 1837. Unfortunately, financial troubles ultimately meant that these projects could never actually be funded through the sale of bonds (Rubenstein and Ziewacz 2014).

A new source of profit for the state was needed. Eyes turned towards the Upper Peninsula, especially the copper country of the Keweenaw Peninsula. The copper wealth of this region was first recognized back in the era of French exploration, when massive chunks of float copper were described on the surface. The expedition of Douglass Houghton and Henry Rowe Schoolcraft in 1837 confirmed for the state the vast potential of this area. However, exploiting this resource was hampered by the fact that the state did not technically possess this part of the Upper Peninsula, which was still recognized by the United States as Ojibwa territory. The Federal Government quickly entered negotiations with Ojibwa representatives, extracting the rights to the tribe's Lake Superior territory in exchange for \$800,000 and the right to occupy portions of the area for a temporary period of time. With the signing of the Treaty of La Pointe in 1842, the Upper Peninsula mineral rush began. After problems with issuing mining permits was ironed out between the state and the Federal governments, people began flooding into the western Upper Peninsula. Numerous mining companies financed by Eastern businessmen, especially from Boston, set up mines and attendant communities across the landscape. Soon after the establishment of copper mining, large iron ore deposits were discovered along the southern Lake Superior shore in the central Upper Peninsula near present-day Negaunee. As with the Keewenaw region, several iron mining companies quickly developed to exploit this valuable resource, with new communities springing up around the mine locations. For a brief period around 1880, Michigan led the nation in both copper and iron production. Many of the towns and villages of the western and central Upper Peninsula today are directly related to the mining boom of the last half of the nineteenth century (Rubenstein and Ziewacz 2014).

In 1847, Lansing became the state capital, which previously was held at Detroit. A new state constitution was approved in 1850, which raised the question of suffrage for non-white men. Ultimately, the constitution approved extending the vote to immigrants who pledged to attain full citizenship and Native Americans who renounced tribal membership. Suffrage for Black people was placed on a separate ballot and soundly defeated. This event was typical for early civil rights in the state, which had early on addressed the issue during the territorial government days by passing a law that, while protecting free blacks from Southern slave catchers, denied them any semblance of civil rights or equality. Still, the abolitionist movement grew in Michigan, bolstered by immigrants from states with large numbers of abolitionists. The Underground Railroad had several routes leading across the state and slowly, anti-slavery sentiment grew in strength, until antebellum newspapers were bold enough to print statistics on the number of escaped enslaved people that made it to freedom in Canada through Michigan. As part of this movement, the Republican party saw a surge in electoral success in the 1850s, turning the state into one of the first strongholds for the party in the nation (Rubenstein and Ziewacz 2014).

5.2.4 THE CIVIL WAR YEARS AND POSTBELLUM DEVELOPMENTS, 1860-1900

Michigan was a vocal supporter of the Union cause in the months leading up to the Civil War and put deeds to words by sending an infantry company for the Union Army to Washington, D.C., just over a month after Confederate forces fired on Fort Sumter. The Michigan legislature recognized the key issue of the conflict in an 1862 resolution calling for the complete abolishment of slavery. As the war ground on, however, northern Democrats saw a chance to push back and rallied against abolitionism. While seeing some short-term gains, a party platform explicitly supporting white supremacy was too much for many of the so-called "War Democrats" who switched affiliation to the Republicans, and the Michigan Democratic Party was essentially neutered. Republicans swept the 1864 election, buoyed by the success of Sherman's Atlanta campaign. Outside of the state government's actions, Michigan's support for the Union cause is seen in the number of men it sent to the war. Nearly a quarter of the male population of the state served in the war, including half of all military-aged men. Over 90,000 men in total went to war, including 1,600 free Black men who served in units like the First Michigan Colored Infantry. One of the most famous Michigan citizens tied to the Civil War is George Armstrong Custer, who rose to the rank of Major General and was known as one of the most talented cavalry officers on either side of the conflict. Michigan's economy boomed during the war years, as its copper and iron were vital to the war effort. Too, the state's farmers rapidly adopted mechanization into their labor practices, due to a labor shortage of farmhands who had gone off to war. This development was supported by increasing prosperity for farmers, who were making good money off of providing food supplies for the war effort. This development was key in the change from primarily subsistence farming to largescale commercial farming in the state. Although hampered during the war years because of labor shortages, the Michigan timber industry became one of the state's predominant industries, with a yearly average of 33,000 acres of timberland cleared during this period. This period was also the golden age of rail in the state, with nearly 7,000 miles of track crisscrossing the state by 1900 (Rubenstein and Ziewacz 2014).

The post-war years showed that Michigan, while strongly anti-slavery during the war, was hesitant to grant full civil rights to Black people afterwards. An act to grant suffrage to Black men barely passed in 1870, with fear among segments of the white populace that passage would result in a mass migration to the state of former slaves. The same year, Michigan's first women's suffrage societies formed, although their goals would not be reached until the twentieth century. Politically, the Republican party dominated control of both the governor's seat and the State House during this period, although the Democrats made steady advances in eroding their control.

Ironically, while white Michiganders feared an influx of Black immigrants from the South, it was experiencing massive population growth during this period of other immigrants, primarily from Europe. Over half of the 700,000 people who moved to

the state between 1860 and 1900 were foreign nationals. Indeed, foreign immigration to the state was actively encouraged by the state legislature as early as 1845. Special focus of these efforts was on the Germanic region of Europe, whose residents were seen as ideal immigrants due to their perceived conservatism, education, work ethic, and religious values. Many towns in Michigan still boast a strong Germanic culture, such as Frankenmuth and Gaylord. Canadians, especially French Canadiens, were another significant source of newcomers. An influx of Dutch settlers to western Michigan influenced cultural development in that region, including the development of a town called Holland, an annual tulip festival, and even a few traditional Dutch windmills. In the Upper Peninsula, the mining companies actively recruited skilled Cornish miners from the United Kingdom. Large numbers of Irish also came to the mining districts, followed at the end of the nineteenth century by Italians, Swedes, Eastern Europeans, and Finns. While many of these immigrants moved further west to follow mining booms, the Finns stayed put and Finnish heritage is a key component of Upper Peninsula culture (Rubenstein and Ziewacz 2014).

5.2.5 INDUSTRIAL BOOM YEARS AND THE DEPRESSION, 1900-1940

Michigan's industrial base developed greatly in the first two decades of the twentieth century. The copper and iron mining regions were still experiencing success, even with the contraction of active copper mines to the Portage Lake region and major competition with western mines. It was the automobile industry, however, that would define Michigan industry in the twentieth century. By 1900, Ransom Olds had already established Michigan's first automobile manufacturing company, and thanks in part to a mass-market advertising campaign, became rather successful. Olds' success inspired many others to enter the automobile industry. The most famous name in the industry is that of Henry Ford, who founded the Ford Motor Company in 1903. Ford is credited with the introduction of many innovations to the industry, including the assembly line and providing a living wage for his workers, based on the idea that the people who made his products should also be able to afford them. Other Michigan-based automobile companies that sprang up at the turn of the century include General Motors, created in 1908 out of an amalgamation of 30 different car companies purchased by William Durant.

The Great Depression had a tremendous effect on Michigan. The automobile industry was hard-hit, as cars were still viewed as a luxury item. The mining districts were devastated, and the copper mines in particular never recovered. State efforts to provide relief were hampered by a Red Scare that occurred in the 1920s, lending a stigma to state welfare programs. Numerous strikes occurred during this period of labor disruption and unrest. Towards the end of the depression years, however, federal programs such as the Civilian Conservation Corps and Works Progress Administration had hired thousands of out-of-work Michigan residents, resulting in what has been described as 20 years' worth of infrastructure and societal improvements in the span of three years (Rubenstein and Ziewacz 2014).

5.2.6 WORLD WAR II AND THE POST WAR YEARS, 1941–1967

Michigan was a major player in materiel supply during World War II. Its industries were well-positioned to convert to production of vehicles, ammunition, and other supplies for the war, while its mines provided valuable copper and iron. Indeed, World War II is likely responsible for the survival of the copper industry in Michigan past the mid-century mark. Ten percent of all federal war contracts went to Michigan companies, second only to New York. After the war, numerous developments, such as middle-class families with substantial savings to spend and the development of the interstate highway system, helped grow the automobile industry even more. The copper industry essentially collapsed completely after the war, with only two major mining companies barely managing to struggle along. Many of the rural counties in Michigan, especially in the Upper Peninsula, saw drastic population declines as families moved elsewhere to take advantage of better economic opportunities.

The development of a car-centric culture is a key factor in suburban growth, with a more negative contribution coming from systematic racism, as white families fled cities like Detroit with rising Black populations. Race relations were always a simmering issue in Michigan, with a surge in the Ku Klux Klan in the 1920s and a major race riot in Detroit in 1943. Because of its large Black population, Detroit was a hotbed of civil rights activity in the postwar years. In 1963, the city was the location of a national civil rights conclave attended by key figures in the movement, including Reverend Martin Luther King, Jr. Despite efforts to improve social and economic conditions, unemployment reached 11 percent by 1967, and civil discontent reached the boiling point in July of that year, with the infamous 1967 Detroit Riot. Sparked by a police raid on a night club during a severe heat wave, riots spread uncontrollable throughout the city, with entire city blocks destroyed by fire, the deaths of 44 people, and over \$50 million in property damage. The city is still trying to recover from the effects of this event to this day (Rubenstein and Ziewacz 2014).

5.2.7 THE MODERN ERA

Beginning in the 1970s, Michigan has experienced a series of declines in its industrial base. The automobile industry in the state has been affected through enticements by southern states to relocate factories with the promise of tax abatements and an anti-union governmental stance, while increased automation in the auto plants reduced the need for large workforces. The oil embargo of the early 1970s and governmental efforts to mandate fuel efficiency and emissions reductions also challenged the industry. By the 1980s, the state had one of the highest unemployment rates in the nation. The state economy has begun to diversify in recognition that depending largely on one dominant economic sector was not sustainable. New sources of business development appeared in the form of wineries and tourism. A series of political reforms of varying strategies helped pull the state out of severe economic woes by the 1990s, although it still lags much of the rest of the nation in key areas (Rubenstein and Ziewacz 2014).

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5.2.8 OAKLAND COUNTY HISTORY

Lewis Cass, the Governor of the Territory of Michigan, established Oakland County from part of Wayne County in 1820 after the signing of the Treaty of Saginaw with the Chippewa Nation of Indians. It received its name because of the prevalence of oak trees in that region of Michigan. In 1820, Governor Lewis Cass set the county seat in Pontiac. The Pontiac Company, formed by a group of men from Detroit and Macomb County, offered to provide money and property if the county seat was established in Pontiac. Acting Governor William Woodbridge divided the county into two townships on June 28, 1820. The northern section was made into Oakland Township and the southern section was named Bloomfield Township. In 1827, the state legislature further subdivided Oakland County into a total of five townships: Farmington, Bloomfield, Troy, Oakland, and Pontiac, and by 1874 25 individual townships of equal size covered Oakland County (Durant 1877; Hagman 1970; Welch 1790-1897; The Oakland County Historical Society).

Native American tribes including the Ojibwe, Ottawa, and Potawatomi. In the 1770s, there were at least two blended villages of Ojibwe and Potawatomi people along the River Rouge in the county. These villages persisted into the nineteenth century, becoming reservations around 1800, and were part of a collection of pro-British Native American groups during the War of 1812. Three major Native American trails crossed the area containing Oakland County; the Saginaw Trail that is now Woodward Avenue, the Shiawassee Trail (Orchard Lake Road), and the Grand River Trail. By 1827, the reservations were terminated, and the villages moved northwest off the river to locations around Orchard Lake and Walled Lake, and by 1830, the inhabitants had moved out of southeast Michigan. (Durant 1877; Hagman 1970; Tanner 1987; Clarke Historical Library 2021).

The Graham, Hartsough, and Hersey families are the first recorded white settlers within Oakland County, arriving in the spring of 1817. Many of Oakland County's original settlers derived from the state of New York. The next succeeding settlements were made at Pontiac and Waterford Township in 1818; Orion, Royal Oak, Bloomfield, Oakland, and Troy Township in 1819; Southfield Township in May 1821, Farmington Township in October 1822; and Groveland and Brandon Township were settled last in 1835. The first mills in the county were constructed at Rochester and Pontiac Townships in 1818 and 1819. (Durant 1877; Welch 1790-1897; The Oakland County Historical Society). Numerous towns, villages, and eventually cities developed in Oakland County, including Pontiac, Auburn Hills, Novi, Lake Orion, Oxford, Ferndale, Royal Oak, Birmingham, Rochester, and Farmington. Pontiac is the county seat, incorporated in 1837 by the state legislature. Pontiac became a city in 1861. Other early communities include Auburn (platted 1826; modern Auburn Hills), Rochester (platted 1826), Milford (platted 1836), Orion (platted 1836; modern Lake Orion), and Royal Oak (platted 1836). Oakland County grew quickly and by 1870 had reached 40,867 people in population (Durant 1877; Hagman 1970).

The evolution of transportation has always been vital to Oakland County for its extensive development. To start, the Native American trail from Detroit to Saginaw

was the closest to a road directly to the county of Oakland. On December 7th of 1818, an act to establish a road on this route was passed by Governor Lewis Cass. Next was the construction of a canal, and the valley of the Clinton River was believed to offer a feasible water route to Lake St. Clair. This route would be thirty miles, and it would provide valuable shipping services to the agricultural community. Then the project of constructing a railway in Oakland County from Detroit to Pontiac commenced. On July 31, 1830, Governor Cass approved an act establishing the Pontiac and Detroit Railway Company and this was the first commission of a railroad granted in Michigan. By the end of the 19th century, three rail lines served Pontiac (Durant 1877; Hagman 1970; Clarke Historical Library).

Oakland County initially was an agricultural economy, producing much the state's wheat, corn, and potato crops by the late nineteenth century. Early industrial development lagged agriculture as an economic driver, primarily due to a low number of waterpower sites for mills and factories. Still, the county boasted 104 manufacturing concerns by 1874, powered by steam, water, and other sources. The development of the automobile industry transformed Oakland County, specifically Pontiac, beginning in the early 1900s. In 1907, a business consortium led by Edward Murphy, president of the Pontiac Buggy Company, founded the Oakland Motor Car Company, being the first automobile maker in the county. General Motors (GM) purchased a controlling share in 1909 of the Oakland Motor Car Company's stocks, making it a holding of GM. The Oakland brand would be discontinued in 1931 at the start of the Great Depression, being renamed Pontiac Motor Car Company after its flagship model. The county was known as "Automation Alley" because it created one of the largest employment centers for engineering in the United States. Those major employers included General Motors, Ford, and Chrysler which are collectively known as the Big Three. In the 1950s, Oakland County's population soared as more people desired to live in suburbs and the new interstate system allowed convenient access to jobs in downtown Detroit. Today, there is a clear divide between urban/suburban land use and rural land use, with the southeastern half of the county almost completely developed for residential, commercial, and industrial use, while the northwest half is dominated by farmland and recreation/conservation areas. Today, Oakland County's population is about 1,250,000 people, making it the second-most populous county in Michigan after Wayne (Hagman 1970; U.S. Census Bureau 2021).

5.2.9 LYON TOWNSHIP HISTORY

The territorial legislature established Lyon Township from Novi Township in 1834, naming it after Lucius Lyon, a member of the legislature in 1832 (Hagman 1970; Romig 1986). The first white settlers of Lyon Township were Bela Chase and her sons, who came from Wayne County in 1830. Many of the early setters immigrated from New York, particularly in the 1830s during initial settlement. In 1824, the settlers erected the first schoolhouse.

Lyon Township had at one point three villages, established around a large swamp that formerly occupied the township: South Lyon, New Hudson, and Kensington. South Lyon was originally called Thompson's Corners after the first house built in

the area in 1832 as well as a store that was added to it. The name of South Lyon was based off the location of the village within Lyon Township. A post office was established on July 13 of 1848 with Zeri C. Colvin as the first postmaster. South Lyon was incorporated in 1873 as a village and as a city in 1930. In 1871, the Detroit, Lansing and Lake Michigan Railroad came through the village, heading west from Plymouth on the way to Lansing. Today, South Lyon hosts the CSX main line from Detroit to Grand Rapids. The village of New Hudson was first settled in 1832 and platted in 1837 by Russell Alvord. In 1835, a turnpike from Detroit to Grand Rapids was built through New Hudson and Kensington. The construction also included the first bridge in Lyon Township, and it crossed the Huron River in Kensington. Interstate 96 today follows the route of the early Grand River Turnpike. Kensington was settled in 1831 and was platted in 1836 by Alfred A. Dwight. Joel Redway built the first house and the first sawmill in 1834. Kensington suffered a hit to its development when the railroad bypassed the village, and it began a steep decline. By the end of the nineteenth century, the community was reduced to a rural post office and a few scattered houses, and its location today lies under I-96 and Kensington Metropark.

Lyon Township remained largely rural throughout the twentieth century. However, the township has taken on more of a suburban character in recent years with an uptick in housing developments expanding into the area. Major developments were the establishment of Kensington Metropark in 1947 with the enlargement of Kent Lake at the former village site of Kensington and the construction of I-96 through the northern part of the township in the 1960s. The population of Lyon Township in the 2020 census was 23,271 (Durant 1877; Hagman 1970; Romig 1986).

5.2.10 HISTORY OF THE PROJECT AREA

The project area occupies portions of Sections 3, 8, 9, and 10 in Lyon Township. Up until the mid-twentieth century, the project area consisted of agricultural fields and small wetlands. The small bungalows in the northeast portion of the project area were present by 1952. The airfield itself dates to 1946. A company called Parkway Flying Services acquired the property and developed a training facility for returning war veterans to acquire pilot's licenses through the G.I. Bill. The facility was privately owned and rented airplanes for use as well as providing training (*Detroit Free Press* 1960). Oakland County purchased the airport in 2000 (McAlpine 1946; Oakland County Michigan 2021).

5.3 RESEARCH QUESTIONS 1 AND 2 DISCUSSION

The first two research questions address the relationship of previous surveys and previously recorded sites/resources to the proposed project and the likelihood of encountering previously recorded cultural resources within the proposed project. These questions can be answered using the information collected from the literature review and application of the environmental and cultural contexts to the specific ecological history of the project location.

1. Has the project been subjected to previous cultural resources investigations, and are there any previously recorded resources located within or immediately adjacent to the project?

The literature review revealed that the project area has not been previously surveyed for cultural resources. A 300-acre tract immediately east of the project area was surveyed in 1997 for cultural resources, with three small archaeological sites identified (Perkins 1997).

2. What is the likelihood of identifying previously unrecorded cultural resources within the project?

The likelihood to encounter previously unrecorded archaeological sites within the project area appears remote. Only one very limited area of the project contains well drained soils conducive to precontact occupation, with the remainder of the soils being poorly drained and/or disturbed. Furthermore, the 300-acre archaeology survey immediately to the east only identified three archaeological sites, none of which had more than five artifacts present. These two factors imply a very low archaeological potential for the project area.

6.0 METHODS

6.1 ARCHAEOLOGICAL FIELD METHODS

The field crew used visual inspection for the reconnaissance of the project area. More intensive testing was not included in the scope of work at this phase of project development.

6.1.1 VISUAL INSPECTION

The crew visually inspected the entire surveyed area to identify readily apparent archaeological resources, such as mounds, earthworks, buildings, or structural remnants of such. The crew also documented areas of disturbance, steep slope, and any inundated areas (i.e. wetlands, streams, ponds, etc.), which would preclude physical testing.

7.0 RESULTS OF THE ARCHAEOLOGICAL RECONNAISSANCE

The crew conducted fieldwork in late September of 2021. The weather during the survey was rainy and warm (75°F). The weather did not hinder the completion of the fieldwork. The crew used visual inspection to inspect the APE for above ground indications of archaeological resources (Figure 11, Photo 1–Photo 12). Most of the project was located at the end of airport runways and treelines alongside the runway as well as wooded lots due to the nature of the project (tree clearing from a runway approach). The reconnaissance did not result in the identification of any archaeological resources through visual inspection. The two houses within the eastern portion of the APE are over 50 years of age but do not appear to pre-date the era of municipal waste removal services and the widespread use of city utilities. Thus, the potential to encounter significant archaeological deposits associated with these residences is judged to be minimal.

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7.1 RESEARCH QUESTIONS 3 AND 4 DISCUSSION

After completing analysis of the results of fieldwork, the second two research questions regarding whether the proposed project will affect any cultural resources and if so, are those affected resources listed, eligible, or potentially eligible for the NRHP can be addressed.

- 3. Will the proposed project affect any cultural resources (archaeological or above ground structures)?
 - It is uncertain if the project will affect archaeological resources, as no subsurface testing was included in the reconnaissance. No surface indications of buried resources were observed, but given the lightly developed nature of the APE, visual inspection cannot rule out the potential for archaeological deposits. This reconnaissance only focused on archaeological resources and the potential effect on above ground resources will be addressed in a forthcoming report by Mead & Hunt.
- 4. If cultural resources will be affected, are any of those affected resources listed, eligible, or require further study for inclusion on the National Register of Historic Places?

It does not appear from this initial reconnaissance that there will be any significant archaeological resources present that would be National Register-eligible; however, this cannot be confirmed without further investigation of the APE.

8.0 SUMMARY AND CONCLUSIONS

Lawhon & Associates, Inc. (L&A) conducted an archaeological reconnaissance for a proposed clearing project at Runways 8 and 26 of the Oakland Southwest Airport in Lyon Township, Oakland County, Michigan, just outside the City of New Hudson. The APE for the project consists of the individual locations where trees will be removed to provide a clear approach to the runways at the airport. The reconnaissance involved a literature review and visual inspection to give a preliminary assessment of the probability for archaeological resources within the APE.

The literature review revealed that the project area has not been previously surveyed for archaeological resources. The visual inspection of the APE did not result in the identification of any surface indicators for archaeological sites. The presence of archaeological sites cannot be completely ruled out for the APE without subsurface testing. However, if the individual trees can be felled without significant ground disturbance (e. g., stump removal, grubbing, access roads, etc.), archaeological survey would likely not be warranted for the undertaking.

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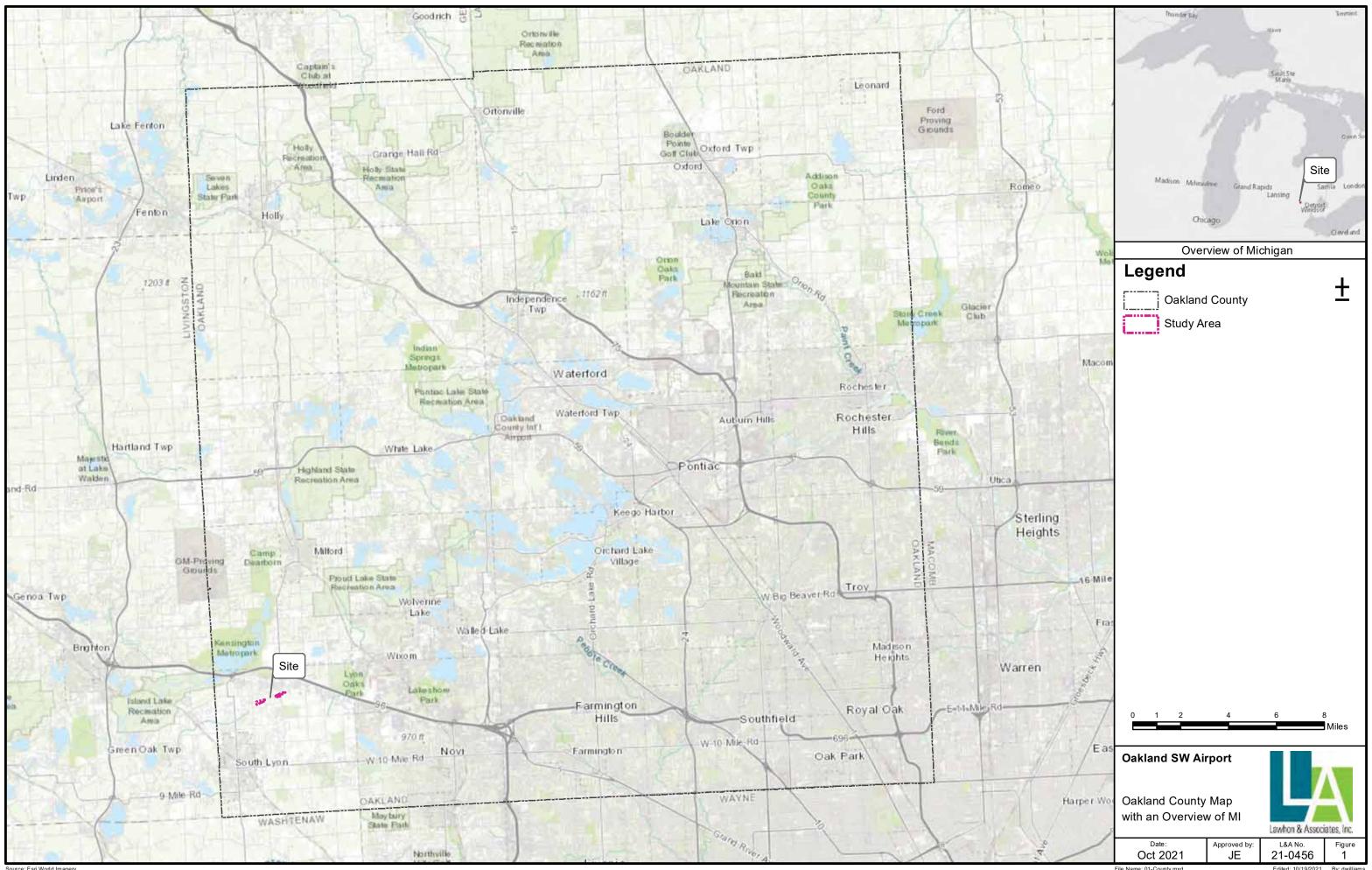
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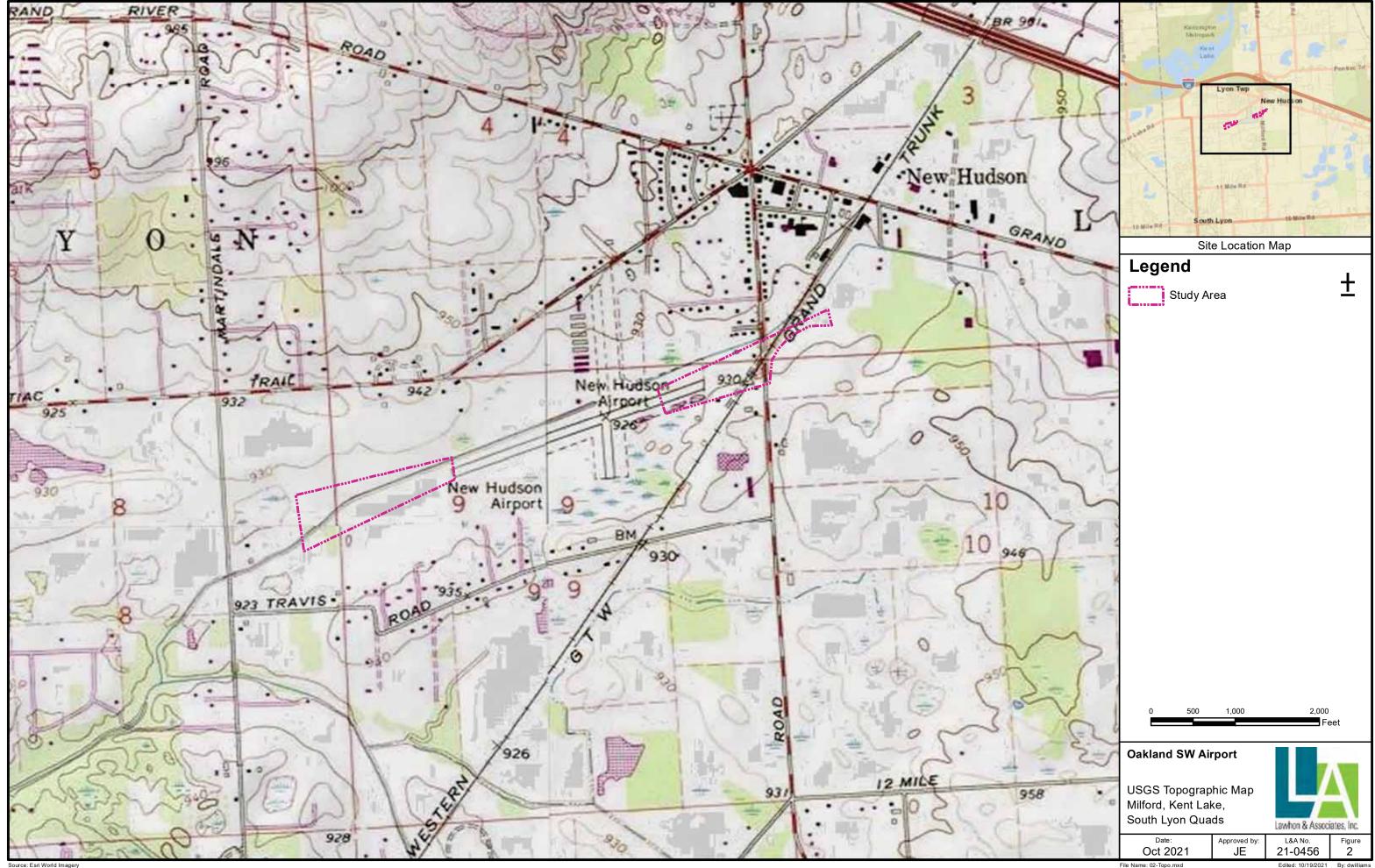
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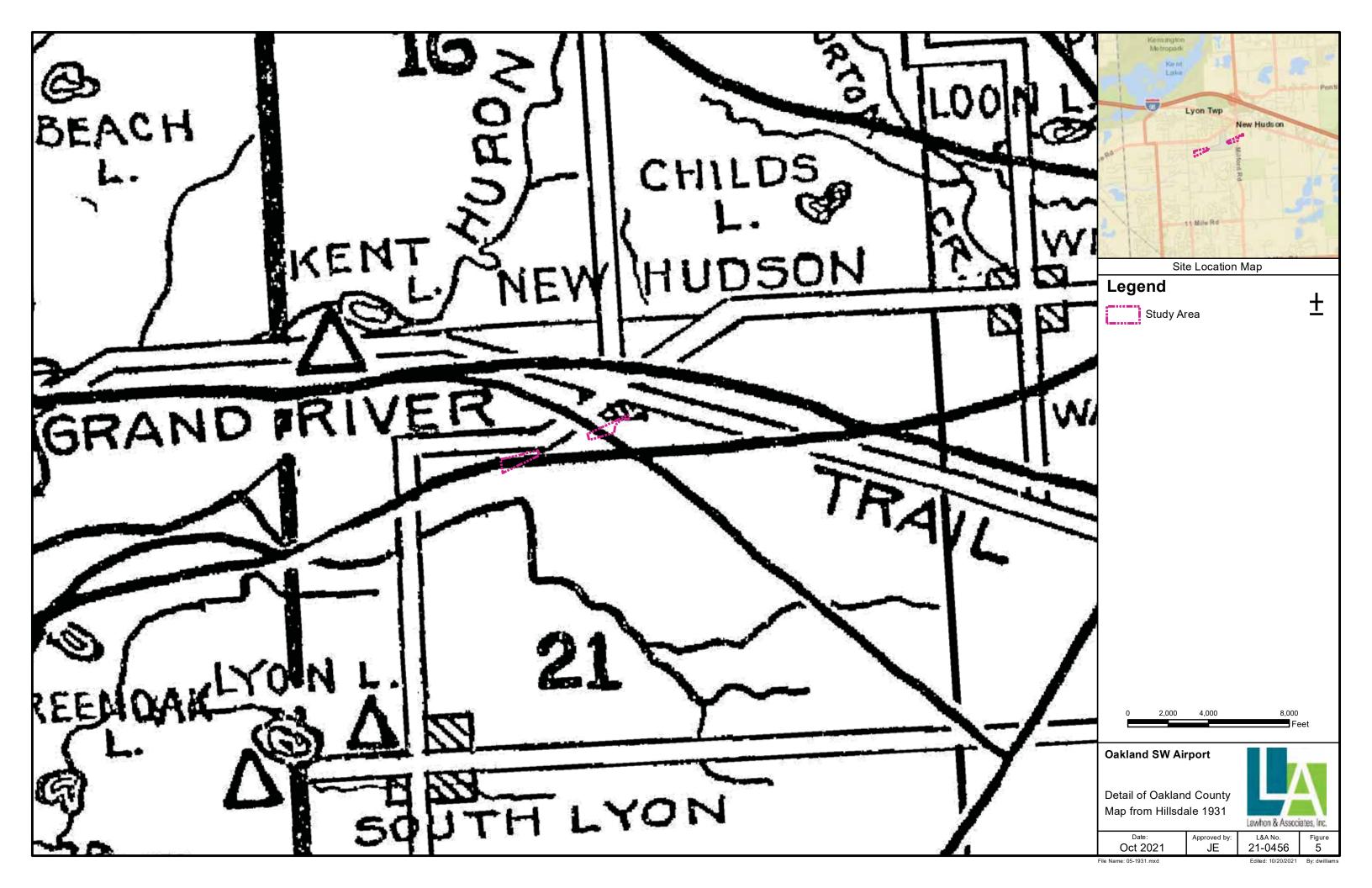
10.0 FIGURES

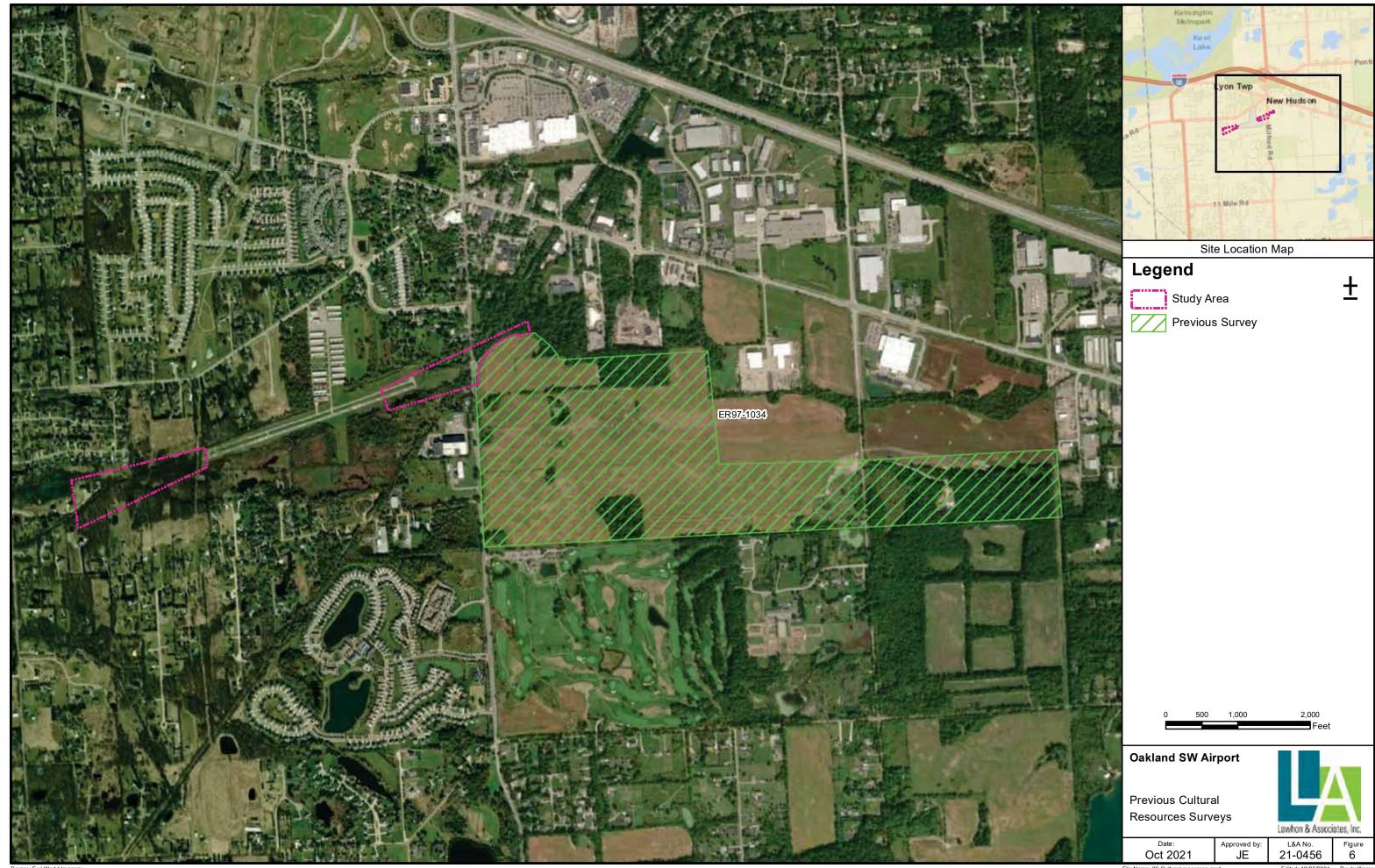


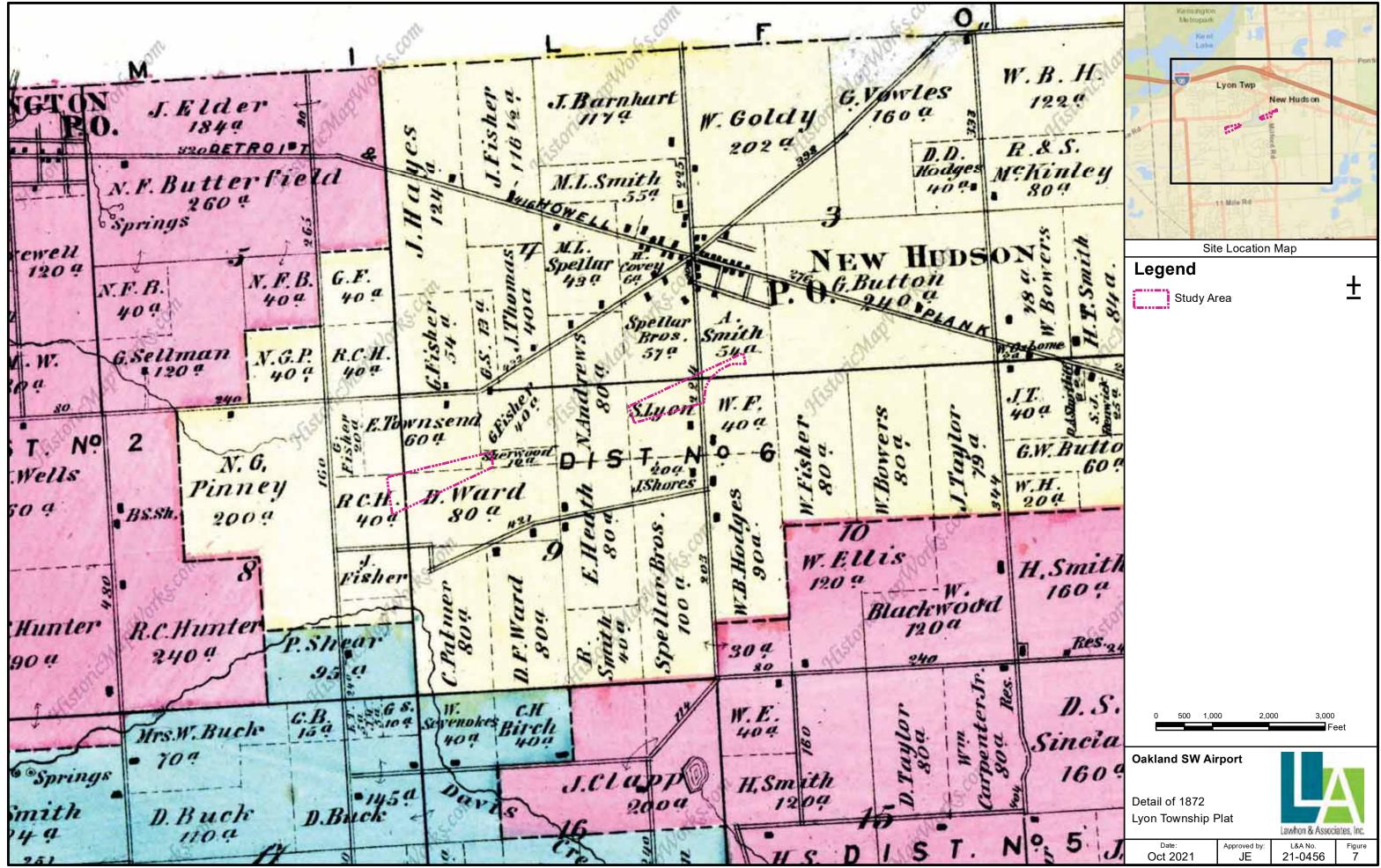


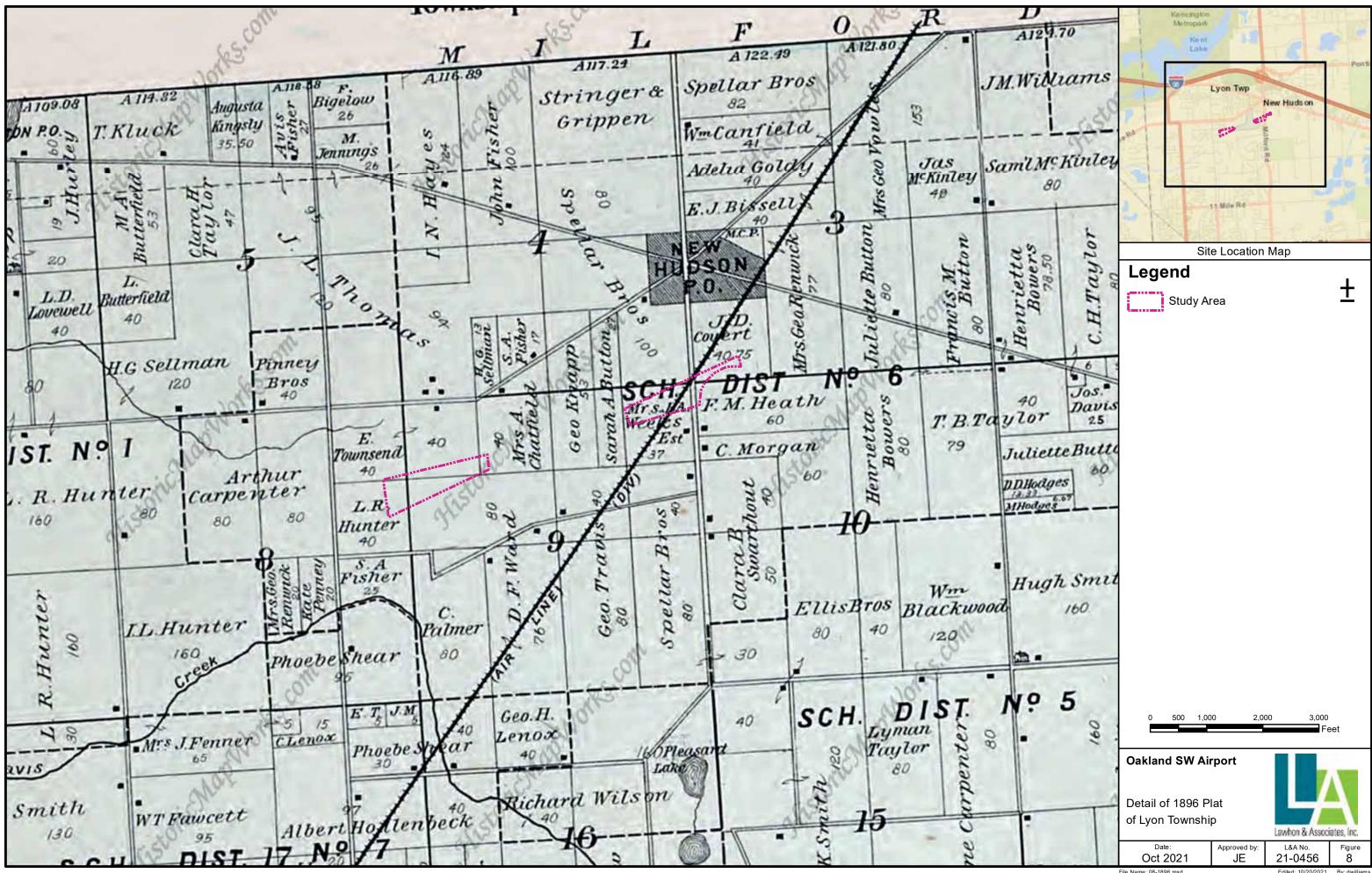


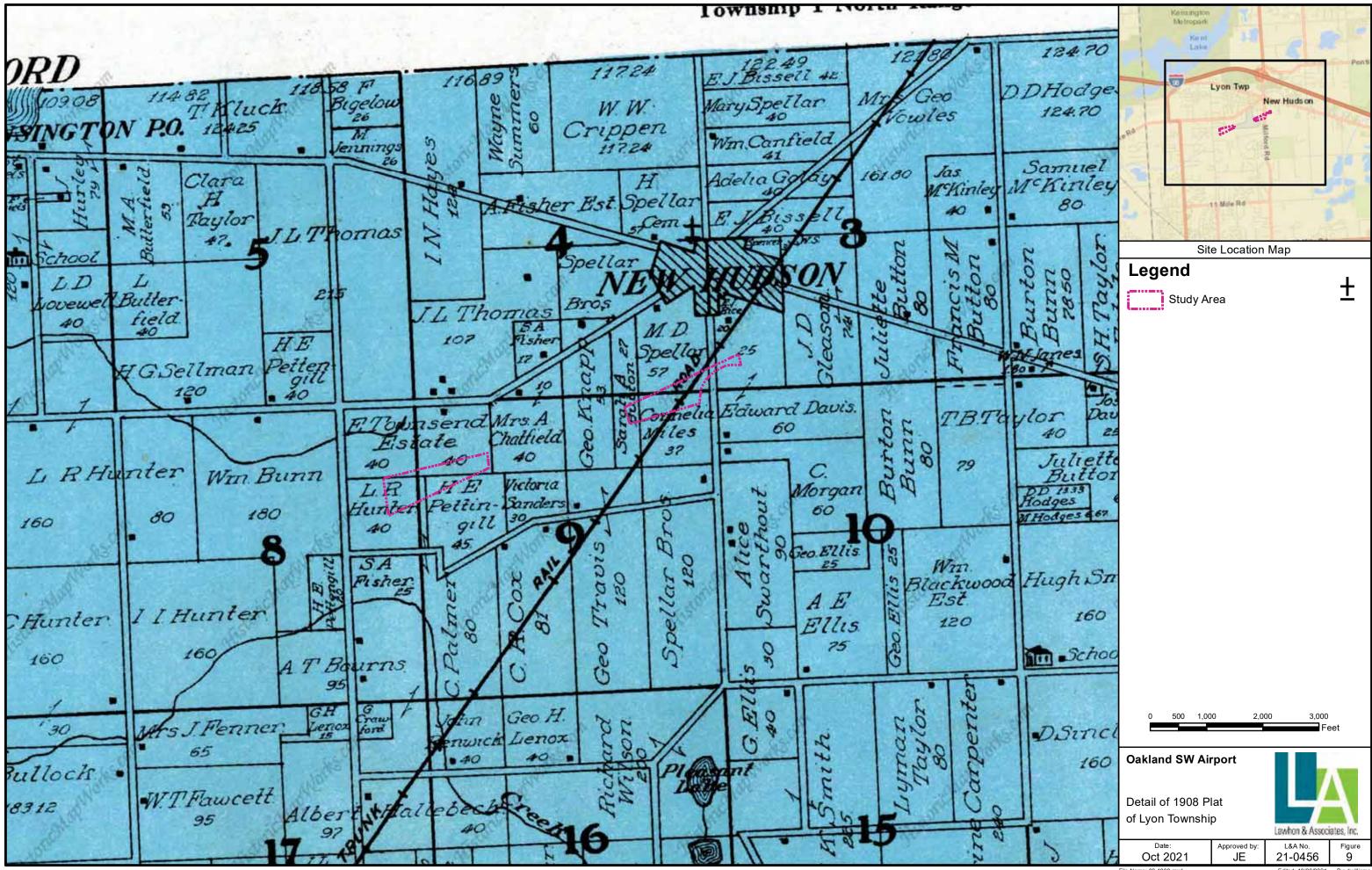


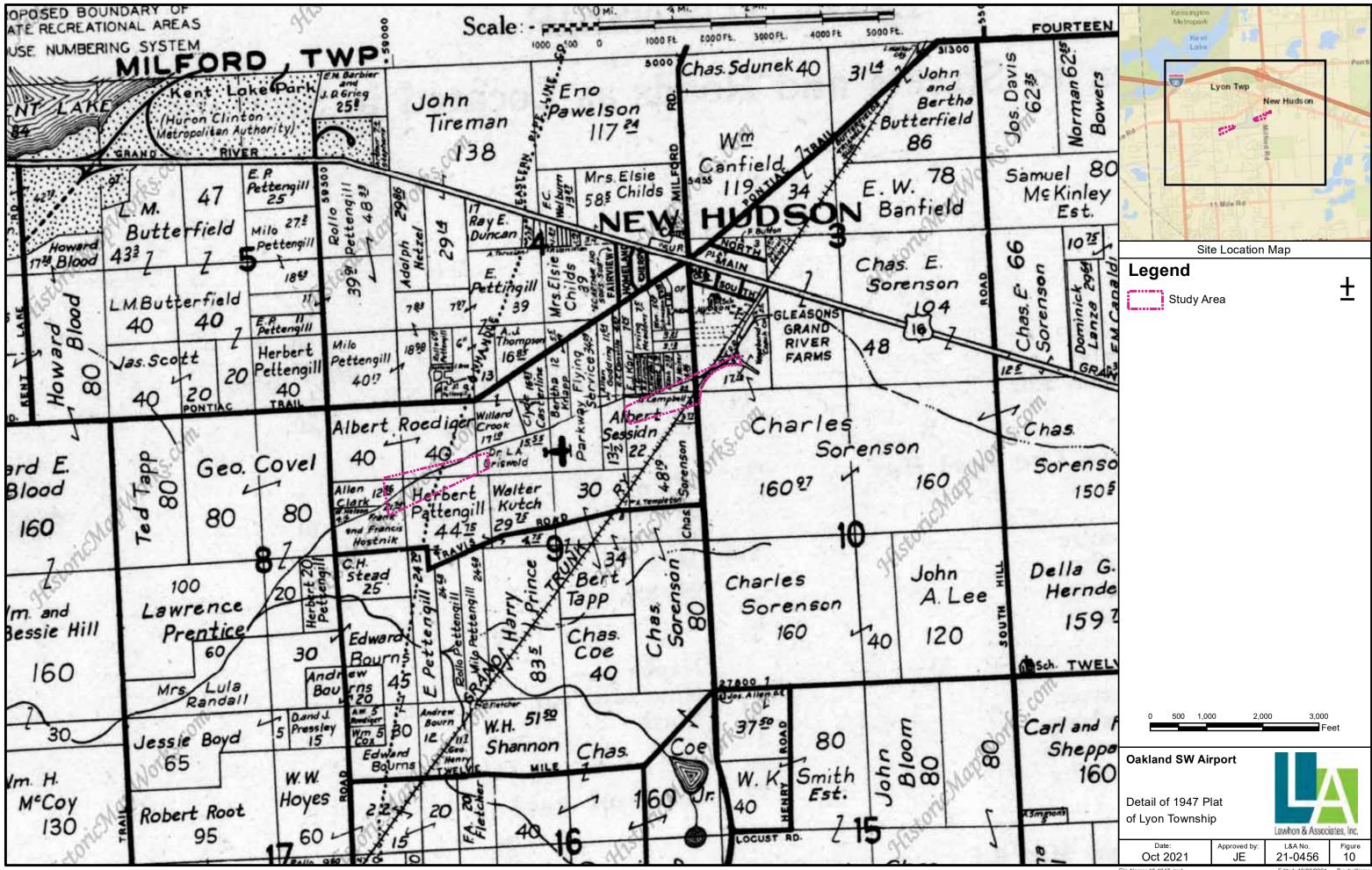


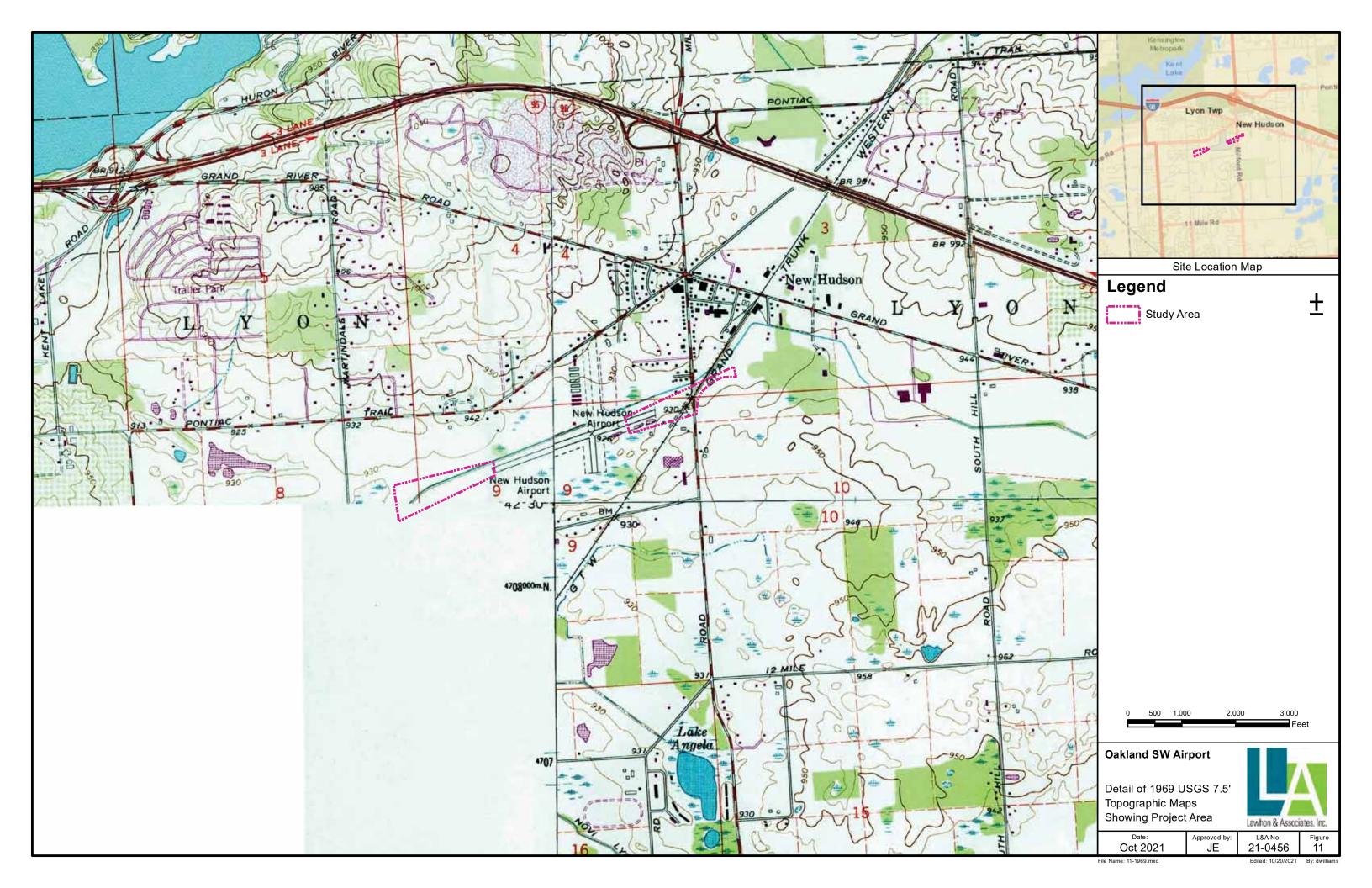


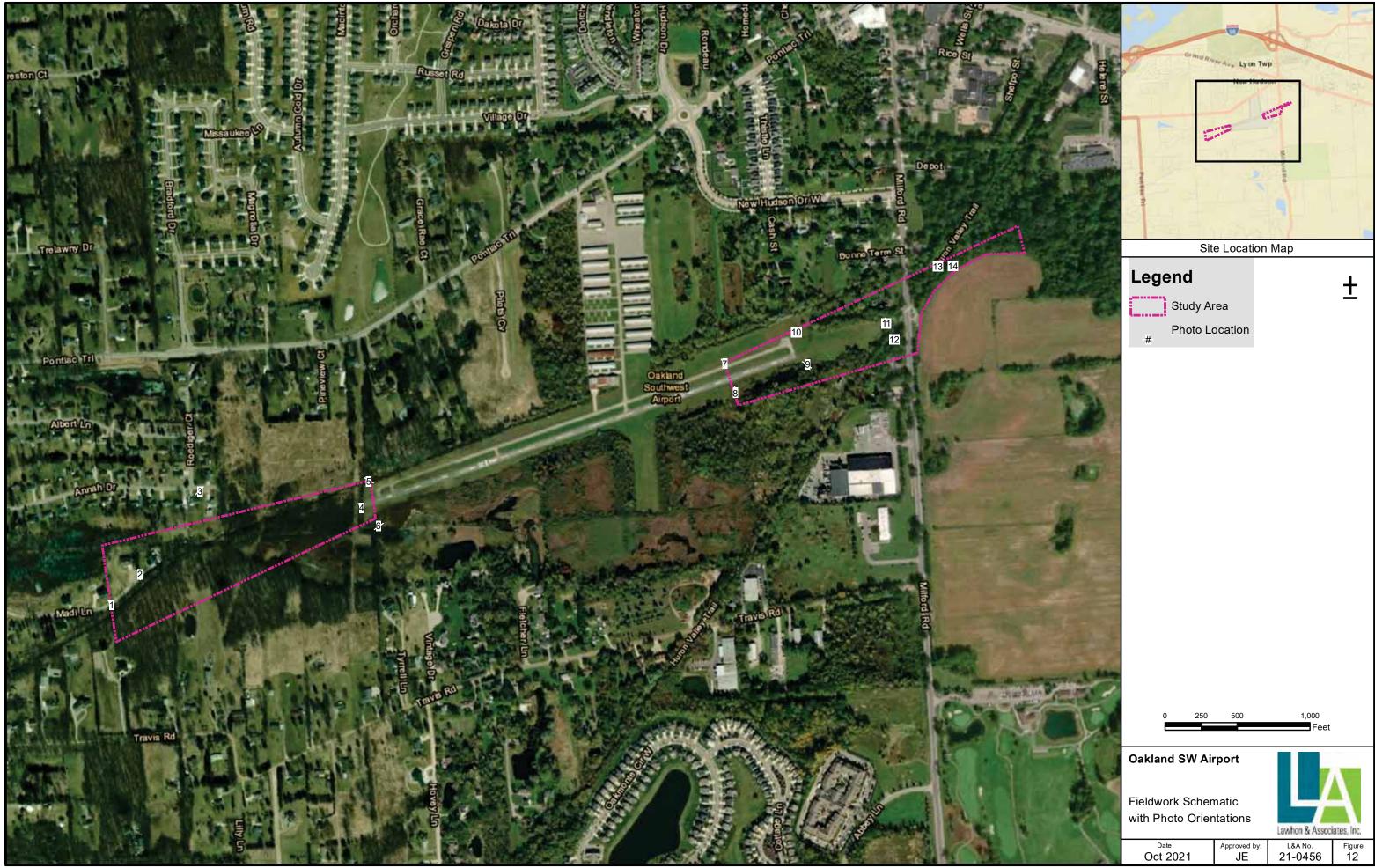












11.0 PHOTOS



Photo 1. Mature trees in Runway 8 APE, facing northeast



Photo 2. Residential lot with large trees in Runway 8 APE, facing east



Photo 3. Residential lot with large trees behind in Runway 8 APE, facing southeast



Photo 4. Conditions in Runway 8 APE, facing east



Photo 5. Conditions in Runway 8 APE, facing southwest



Photo 6. Conditions in Runway 8 APE, facing northwest



Photo 7. Conditions in the Runway 26 APE, facing northeast



Photo 8. Conditions in the Runway 26 APE, facing east



Photo 9. Conditions in the Runway 26 APE, facing northeast



Photo 10. Conditions in the Runway 26 APE, facing southeast



Photo 11. Conditions in the Runway 26 APE, facing southwest



Photo 12. Mature trees along Huron Valley Trail in the Runway 26 APE, facing southwest



Photo 13. Mature trees along Huron Valley Trail in the Runway 26 APE, facing southwest



Photo 14. Mature trees in the Runway 26 APE, facing northeast

APPENDIX A. PROJECT PLANS

Y47 Obstruction Analysis Report

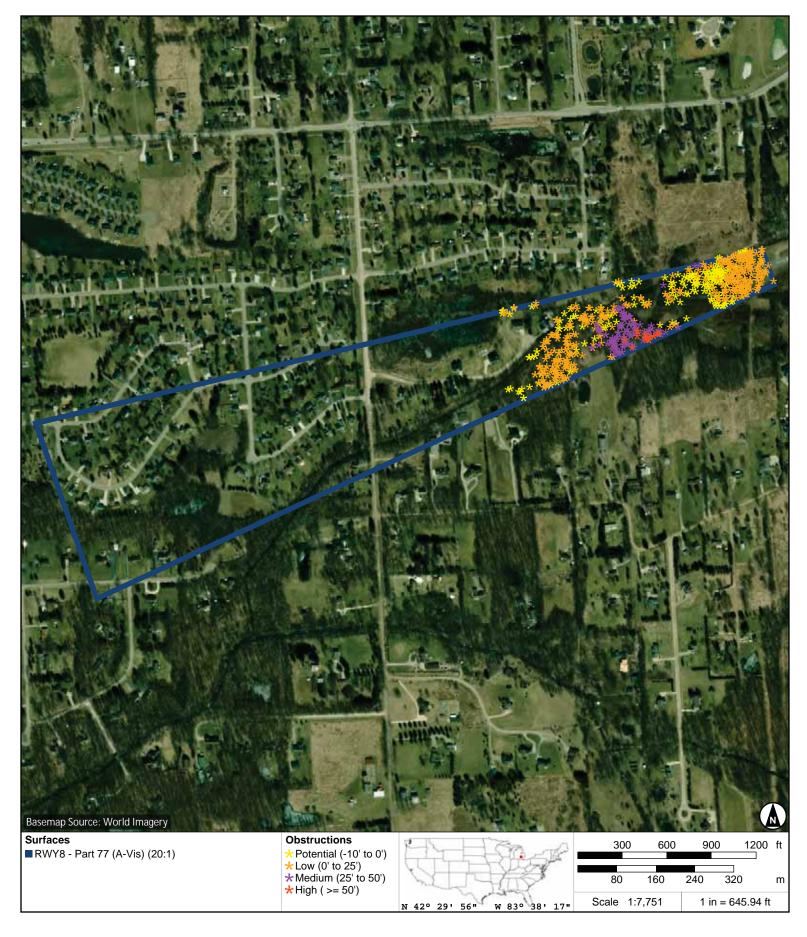


Oakland Southwest Airport Runway 8/26 (3128' x 40')

Acquired 6/01/2020 42° 30' 11.25" N, 83° 37' 25.33" W Elevation: 926.1'

Obstruction Results Summary								
Runway	Aviation Surface	Parcels	Obstructions	Potential				
8	Part 77 (A-Vis) (20:1)	19	527	189				

Surface Dimensions										
		Χ	Υ	Z	Flare					
	Α	13322196.58	366060.89	921.00	5.7°					
5000 (20 : 1)	В	13322278.74	365824.77	921.00	5.7°					
5000 (20 : 1)	С	13317720.71	363709.49	1171.00						
	D	13317309.95	364890.07	1171.00						
8 2 2 2			All Coordinates in Michigan South S							
8										
921.0 ft 1046.0 ft 1171.0 f										

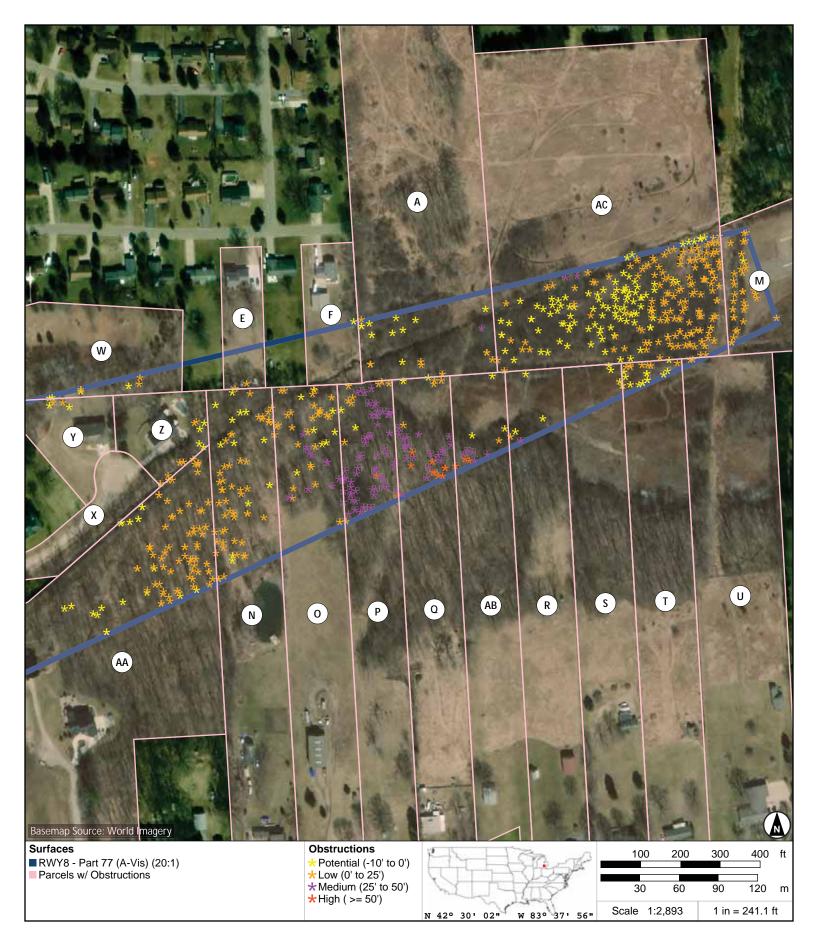


Parcel Results									
Owner Name	Key	Parcel	Appendix	Max Height Above Surface	To				
		Page #	Page #	Above Surface	Obstruction	Potential			
Not Provided	Q	2	3	56.74	41	2			
Not Provided	AB	3	4	52.31	12	3			
Not Provided	Р	4	5	50.74	77	2			
Not Provided	AC	5	6	47.37	158	102			
Not Provided	0	6	9	45.08	45	8			
Not Provided	R	7	10	31.70	3	3			
Not Provided	Α	8	11	27.46	9	10			
Not Provided	AA	9	12	22.13	70	18			
Not Provided	М	10	13	21.96	35	1			
Not Provided	N	11	14	21.92	53	12			
Not Provided	U	12	15	17.19	2	0			
Not Provided	T	13	16	15.81	7	13			
Not Provided	E	14	17	12.32	1	0			
Not Provided	W	15	18	9.40	5	2			
Not Provided	Υ	16	19	8.30	2	4			
Not Provided	Z	17	20	8.20	6	4			
Not Provided	Х	18	21	6.70	1	0			
Not Provided	F	19	22	-0.67	0	1			
Not Provided	S	20	23	-8.76	0	4			

Obstruction Results									
Obstruction ID	Kov	Distance	Offcot	Hoight	State Plane*		Height Above†		
Obstruction ID	Key	Distance	Offset	Height	Х	Υ	APPR		
T514	Q	1110.8	198.7 (R)	101.85	13321443	365456	56.74		
T521	Q	1110.8	198.7 (R)	101.85	13321443	365456	56.74		
T522	Q	1110.8	198.7 (R)	101.85	13321443	365456	56.74		
T533	Q	1123.3	215.8 (R)	102.17	13321437	365436	56.68		
T535	Q	1123.3	215.8 (R)	102.17	13321437	365436	56.68		
T532	Q	1139.9	200.4 (R)	100.82	13321416	365445	54.57		
T520	Q	1143.0	197.7 (R)	100.80	13321412	365446	54.28		
T534	Q	1132.5	210.5 (R)	99.03	13321426	365438	53.19		
T614	AB	1047.7	200.8 (R)	94.42	13321503	365475	52.31		
T544	AB	1047.7	200.8 (R)	94.42	13321503	365475	52.31		
T546	AB	1083.9	201.8 (R)	95.68	13321469	365462	52.02		
T545	AB	1083.9	201.8 (R)	95.68	13321469	365462	52.02		
T547	AB	1055.9	192.9 (R)	94.17	13321493	365479	51.97		
■ T511	Q	1135.5	172.3 (R)	97.94	13321411	365473	51.64		
■ T512	Q	1135.5	172.3 (R)	97.94	13321411	365473	51.64		
■ T518	Q	1189.5	164.8 (R)	99.68	13321357	365462	51.46		
T388	Q	1175.4	133.9 (R)	99.33	13321360	365496	51.15		

See accompanying summary table for 510 additional records, as well as potential obstruction records. Negative height above surface values indicate potential obstructions.

* Location of max obstruction point in Michigan South SP (ft). | † Max calculated height above surface being analyzed.



Y47 Obstruction Analysis Report

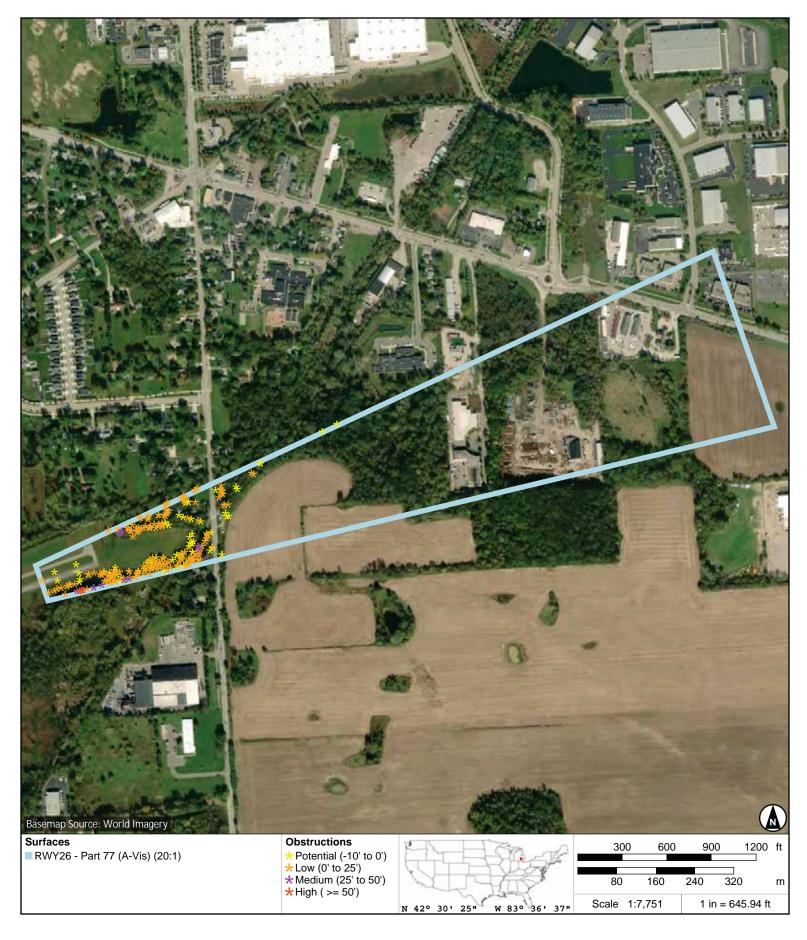


Oakland Southwest Airport Runway 8/26 (3128' x 40')

Acquired 6/01/2020 42° 30' 11.25" N, 83° 37' 25.33" W Elevation: 926.1'

Obstruction Results Summary								
Runway	Aviation Surface	Parcels	Obstructions	Potential				
26	Part 77 (A-Vis) (20:1)	11	189	60				

Surface Dimensions										
		Х	Υ	Z	Flare					
	Α	13324746.64	366948.14	924.00	5.7°					
5000 (20 : 1)	В	13329304.67	369063.42	1174.00						
5000 (20 : 1)	С	13329715.43	367882.84	1174.00						
D	D	13324828.80	366712.02	924.00	5.7°					
26) 27) B			All Coordinates in Michigan South S							
924.0 ft 1049.0 ft 1174.0 ft										

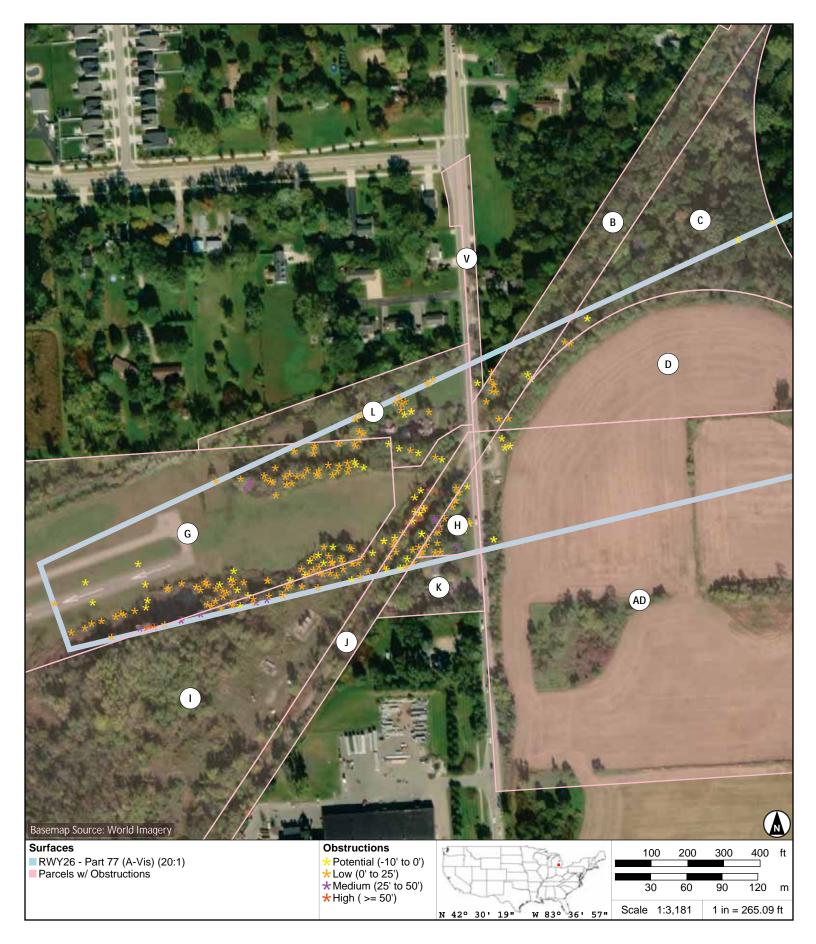


Parcel Results									
Owner Name	Key	Parcel	Appendix	Max Height	Total				
Owner Name	Rey	Page #	Page #	Above Surface	Obstruction	Potential			
Not Provided	G	21	3	64.23	89	19			
Not Provided	I	22	5	58.68	38	12			
Not Provided	Н	23	6	28.84	20	3			
Huron Valley Trail	J	24	7	26.06	12	9			
Not Provided	L	25	8	18.81	16	5			
Not Provided	K	26	9	17.56	2	0			
Not Provided	С	27	10	11.86	1	4			
Not Provided	D	28	11	9.57	2	1			
Huron Valley Trail	В	29	12	9.31	9	1			
Not Provided	AD	30	13	-6.22	0	5			
Not Provided	V	31	14	-7.23	0	1			

Obstruction Results									
Obstruction ID	Vov	Distance	Officet	Hojak	State F	Height Above†			
Obstruction ID	Key	Distance	Offset	Height	Х	Υ	APPR		
T233	G	431.2	146.8 (L)	76.27	13325054	366767	64.23		
T236	1	439.9	148.8 (L)	70.96	13325063	366768	58.68		
T231	G	418.0	145.8 (L)	69.27	13325042	366764	58.13		
T112	G	803.7	129.7 (R)	79.21	13325315	367151	49.87		
T107	G	815.7	131.9 (R)	76.82	13325326	367157	47.27		
T232	G	400.9	140.5 (L)	56.57	13325024	366763	46.22		
T205	- 1	727.3	177.5 (L)	55.25	13325344	366836	36.01		
T99	G	821.3	144.5 (R)	63.51	13325327	367171	33.31		
T179	- 1	515.6	155.9 (L)	44.21	13325137	366787	30.09		
T180	- 1	515.6	155.9 (L)	44.21	13325137	366787	30.09		
T182	I	515.6	155.9 (L)	44.21	13325137	366787	30.09		
T51	Н	1301.9	213.9 (L)	77.51	13325899	366990	28.84		
T203	- 1	757.4	180.7 (L)	47.59	13325374	366843	27.18		
T62	Н	1272.9	149.4 (L)	73.37	13325850	367042	26.58		
T178	1	572.6	158.4 (L)	42.49	13325192	366803	26.25		
T49	J	1268.8	124.6 (L)	71.98	13325838	367064	26.06		
T59	J	1268.5	120.7 (L)	71.44	13325837	367067	25.52		
T53	Н	1276.3	146.6 (L)	70.08	13325852	367045	23.18		
T202	- 1	721.8	176.2 (L)	41.97	13325338	366835	22.80		
T129	G	1023.0	178.5 (R)	60.82	13325506	367269	22.73		
T199	I	659.6	156.3 (L)	39.97	13325273	366834	22.66		
T55	Н	1260.0	158.6 (L)	68.94	13325841	367029	22.43		
T155	G	279.5	82.9 (L)	25.05	13324890	366778	22.40		
T143	G	875.0	125.9 (R)	53.00	13325384	367171	21.83		
T108	G	875.0	125.9 (R)	53.00	13325384	367171	21.83		

See accompanying summary table for 164 additional records, as well as potential obstruction records. Negative height above surface values indicate potential obstructions.

* Location of max obstruction point in Michigan South SP (ft). | † Max calculated height above surface being analyzed.



PHASE I ARCHAEOLOGY SURVEY Runway Improvements Project Oakland Southwest Airport (Y47) Oakland County, Michigan

L&A Project No: 23-0410



Prepared by: Lawhon & Associates, Inc. 1441 King Avenue Columbus, Ohio 43212 December 8, 2023



Prepared for:

Mead & Hunt, Inc. 2605 Port Lansing Road Lansing, Michigan 48906

Phase I Archaeology Survey for a Proposed Runway Improvements Project at Oakland Southwest Airport (Y47), Oakland County, Michigan

by

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ABSTRACT

In November of 2023, Lawhon & Associates (L&A), under contract with Mead & Hunt, Inc., conducted a Phase I archaeology survey of approximately 17.2 acres (6.95 hectares) for the proposed runway improvements project at Oakland Southwest Airport (Y47) in Lyon Township, Oakland County, Michigan. The Area of Potential Effect (APE) for this project includes the construction limits for the runway improvements to account for direct physical effects to cultural resources (e.g., archaeological sites). The APE is centered around Runway 8/26 and is rectangular in size, measuring approximately 2,770 feet by 268 feet. Field methods included visual inspection and subsurface testing. The crew documented soil disturbance during excavations, confirming the unnatural flatness of the ground surface was related to past grading activities across the project area. The crew excavated a total of 65 shovel probes with no locations showing evidence of undisturbed soil. L&A staff did not identify any archaeological sites during the survey.

Due to the extensive ground disturbance in the APE, there is no potential to encounter archaeological sites within the project area and no further archaeological investigations are recommended in connection with this project.

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1.0 INTRODUCTION

In November of 2023, Lawhon & Associates, Inc. (L&A), under contract with Mead & Hunt, Inc., conducted a Phase I archaeology survey of approximately 17.2 acres (6.95 ha) at Oakland Southwest Airport (Y47) in Oakland County, Michigan (Figure 1-Figure 4). The proposed project consists of improvements to Runway 8/26, including reconstruction, new lighting, and tree clearing. The Federal Aviation Administration (FAA) is the lead federal agency for this project.

The Area of Potential Effects (APE) is different for each project. According to 36 CFR 800, the APE is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." The delineation of an APE accounts for the effect that a proposed project will have on the project area itself and on the area surrounding the project. Direct effects are typically equivalent with the construction footprint of the project. They may also include the change of visual setting to the landscape that could visually affect resources outside the construction footprint, typically through a change in the setting of the resources through the introduction of a new element. Indirect effects may occur to resources outside of the construction footprint from actions and behaviors that occur after the project is completed. potentially lessening the integrity of significant resources. For example, rerouting of a stream could theoretically increase erosion elsewhere along its course, affecting a nearby archaeological site, or the improvement of a road intersection could make an area more attractive for development, irreversibly changing the character of a historical agricultural landscape. While not directly caused by the project, these effects occur as an indirect result of the completion of the project.

The cultural resources survey typically addresses potential direct effects by systematically investigating the area within the construction limits for archaeological and historical resources, along with a zone outside the limits where the completed project may be visible from historical resources to assess changes in setting. However, any project action that may result in a reasonably foreseeable indirect effect within or beyond the construction limits would need to be considered as well. A full cultural resources investigation evaluates the potential effects of a project on any cultural resources that may exist within the entire APE, considering both direct effects and foreseeable indirect effects.

The APE for this project consists of the construction limits for the runway improvements to account for direct physical effects to cultural resources (e.g., archaeological sites). The APE is centered around Runway 8/26 and is rectangular in size, measuring approximately 2,770 feet by 268 feet. L&A historians have previously evaluated the project area in a separate report and determined the proposed runway improvements will not result in a substantial visual change to the current setting of the area (Sewell et al 2021). Therefore, the APE for this project is constrained to the project area boundaries.

L&A conducted the archaeological investigations for this project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 2016, U.S.C. 470f. The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (1985) are the standards and guidelines used to develop survey methods. This document meets the standards established by the Advisory Council on Historic Preservation and the new Section 106 (36 CFR Part 800) regulations that went into effect on January 11, 2001. The federal standards and guidelines are supplemented by the procedures presented by the Michigan State Historic Preservation Office (MISHPO 2023a and 2023b). The goals of this survey are to determine whether archaeological resources exist within the project area, and to determine whether any identified resources are eligible for inclusion in the National Register of Historic Places (NRHP).

L&A conducted the archaeological fieldwork on November 6-7, 2023. The field crew included Ryan Killion, Brett Carmichael, and Paolo Panunzio. Ryan Killion served as the primary report author and Principal Investigator. Justin Zink and Andrew Sewell reviewed and edited the report. The following report describes the research design, methods, and results of the literature review and field survey for this project. The results presented in this report are based on information collected from various literature review resources as well as photographs and field records resulting from this study.

2.0 RESEARCH DESIGN

This research design presents a framework within which the Phase I survey was conducted. The purpose of the Phase I survey is to identify any cultural resources that will be affected by the proposed project, typically consisting of archaeological deposits and architectural resources 50 years or older. Once cultural resources are identified, the principal investigator evaluates each archaeological site or historic resource for characteristics of integrity and significance, which are important factors in determining eligibility of each resource for the National Register of Historic Places (NRHP). To be listed in the NRHP, a property must be significant to one or more aspects of American history, architecture, archaeology, or culture. For a property to be considered eligible, it must meet at least one of the following criteria:

- (A) be associated with events that have made significant contributions to the broad patterns of our history; or,
- (B) be associated with the lives of persons significant in our past; or,
- (C) embody the distinctive characteristics of type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or,
- (D) have yielded, or be likely to yield, information important to prehistory or history.

In addition to meeting one or more of the above criteria, a property must also possess integrity, which is how a property conveys authenticity through the survival of physical characteristics associated with the period of significance for the property. Cultural resource management (CRM) professionals evaluate integrity according to the following aspects: location, design, setting, materials, workmanship, feeling, and association. A property considered eligible for the NRHP will always display several, if not all, of the aspects of integrity. Aspects of integrity are discussed below (Little et al. 2000).

- 1. Location the place where the historic property was constructed or the place where the historic event took place.
- 2. Design the combination of elements that create the form, plan, space, structure, and style of the property.
- 3. Setting the physical environment of a historic property.
- 4. Materials the physical elements of a property. The property must retain the key exterior materials dating from the period of significance.
- 5. Workmanship the physical evidence of the crafts of a culture during any given period in history.
- 6. Feeling a property's expression of the aesthetic or historic sense of a period.
- 7. Association direct link between an important historic event of person and a historic property.

CRM specialists typically evaluate architectural resources under NRHP Criteria A-C and archaeological sites under NRHP Criterion D. However, certain archaeological sites can also be

eligible under Criteria A–C. For an archaeological site to be eligible for the NRHP, it must have the potential to yield data important in answering specific research questions important to the understanding of the past, and it must display enough physical integrity to allow proper evaluation of that data. If archaeologists cannot recover sufficient data during the Phase I survey to determine the eligibility of the resource, more intensive work may be required to determine the eligibility of the resource and consequently, the effect of the project on the resource. The principal investigator designed the Phase I survey to answer the following general set of questions:

- 1. Has the project been subjected to previous cultural resources investigations and are there any previously recorded sites or resources located within or immediately adjacent to the project?
- 2. What is the likelihood of identifying previously unrecorded cultural resources within the project? Where are these cultural resources most likely to occur?
- 3. Will the proposed project affect any cultural resources (archaeological or above ground structures)?
- 4. If cultural resources will be affected, are any of those affected resources listed, eligible, or require further study for inclusion on the National Register of Historic Places?

3.0 ENVIRONMENTAL SETTING

An understanding of the historical and current environmental setting of a project area is critical to determining the potential for the presence of archaeological resources. Since environmental factors influenced much of pre-contact activity, either directly or indirectly, the environmental setting contributes to the understanding of past human behaviors that result in the formation of the archaeological record. Understanding the environmental setting is a key element of the interpretation of archaeological sites.

3.1 CLIMATE

Oakland County is in the moist continental mid-latitude climate zone, having cold winters and cool to warm summers. The growing season generally falls between late April and early October (USDS SCS 1980). The annual rainfall in the county is approximately 32.53 inches, with most falling in September and least in January. The average annual high temperature in the county is 57°F and the low is 37°F (US Climate Data 2023).

3.2 PHYSIOGRAPHY AND GEOLOGY

The project area in Oakland County is in the southeastern interlobate core of the rolling plains physiographic region in the southern upland section of the lower peninsula. The topography within this part of the county is characterized as a broad tract of high relief, hummocky terrain variously associated with the interlobate region between the Saginaw and Huron-Erie lobes, in the southeastern lower peninsula. The bedrock geology of the project area is the Coldwater Shale (MGS WMU 2023; MSU 2023a).

3.3 SOILS

The project area is located within the Riddles-Marlette-Houghton soil association. The association contains nearly level to steep, well drained, moderately well drained, and very poorly drained loamy and mucky soils on moraines, till plains, and in bogs (USDS SCS 1980).

Two individual soil types are present within the APE (Table 1; Figure 5). The following soil descriptions are taken from the USDA NRCS web soil survey (2023).

Table 1. Soils Encountered within the APE

Soil Symbol	Soil Name	Landform	Drainage	Parent Material
27	Houghton and Adrian mucks, 0 to 2 percent slopes	Closed depressions and drainageways on lake plains, outwash plains, ground moraines, end moraines, till plains, and flood plains	Very poorly drained	Herbaceous organic materials more than 130 cm (51 inches) thick
48	Gilford sandy loam, 0 to 2 percent slopes	Broad closed depressions on outwash plains, glacial drainage channels, near- shore zones (relict), and on flood-plain steps	Poorly and very poorly drained	Loam over sandy sediments

3.4 HYDROLOGY

The project area is within a region characterized by a deranged drainage pattern, with many kettles, swamps, and lakes. The region contains many wetlands that are often discontiguous to one another (MGS WMU 2023). The major drainage in Oakland County is the Huron River, which drains into Lake Erie. The project area is drained directly by an unnamed tributary of Davis Creek that runs along its northern border.

3.5 FLORA AND FAUNA

Prior to historical settlement in the region, natural phenomenon such as glaciations during the Pleistocene and the associated climate changes had a major effect on plant and animal communities (Anderson and King 1976). As the glaciers retreated and the climate warmed, tundra ecosystems with their characteristic plant and animal life retreated north, and forests covered much of Michigan, bringing with them an entirely different community of life.

The modern animal and plant life in the county bears little resemblance to those present prior to wide-scale nineteenth century settlement in the region. These changes are attributable to habitat loss and change, purposeful extirpation of predators, unchecked hunting, and introduction of non-native species. Early settler accounts of the region provide useful information on the original ecosystem of this part of the state, supplemented by information from the archaeological record. The earliest recorded land surveys classified the natural vegetation in this region as wet prairie, shrub swamp/emergent marsh, and oak-hickory forestation (MSU 2023b).

The modern pattern of land use has altered historical animal and plant community distributions and populations. The fauna historically inhabiting the general region of the survey area included several species of mammals, birds, reptiles, amphibians, and fish. Many species are no longer present due to the drastic habitat changes in the region, competition with invasive species, and historical periods of overhunting (Anderson and King 1976).

In summary, the environmental information indicates a rich pre-contact environment with a variety of resources. A variety of plants characterized a diverse floral environment exploitable by humans and animals. Animal life provided a source of protein and raw material for clothing and tools. All these factors indicate that this area possesses potential for the presence of archaeological sites, although the poorly drained nature of the soils suggests the project area would not have presented ideal characteristics for long-term precontact habitations.

4.0 LITERATURE REVIEW

The principal investigator set the literature review study radius at 2 km (1.25 mi) from each exterior corner of the proposed project areas to provide the necessary contextual information regarding the presence and distribution of previously identified cultural resources and gain an understanding of the historical development of the project area. The report author examined the following sources from the State Historic Preservation Office and various online resources.

- 1. Hinsdale's 1931 Archaeological Atlas of Michigan
- 2. Michigan Archaeological Site Files
- 3. Contract Cultural Resource Management reports
- 4. National Historic Landmark listings
- 5. NRHP listings and nomination form files
- 6. USGS 7.5' and 15' series topographic maps, historical aerial photographs, and Oakland County historic atlases

The Archaeological Atlas of Michigan (Hinsdale 1931) does not indicate any pre-contact resources within or adjacent to the project area, although one mound was present near Kent Lake and the Grand River Trail passed to the north, where I-96 runs today (Figure 6). Hinsdale tallied fifteen village sites, eight burying grounds, and five mounds in Oakland County. These resources will not be impacted by the proposed undertaking; however, they do indicate that this part of Michigan is archaeologically sensitive.

The Michigan Archaeological Site Files indicate that there are five previously recorded archaeological sites within the 2-km study radius for the project (Table 2). None are present within the or immediately adjacent to the project area. They will not be impacted by the proposed development.

Table 2. Archaeological Sites within the Study Radius

Site #	Site Type	Temporal Affiliation	Site Size (m²)
20OK206	Unknown	Unassigned Archaic	284,106
20OK418	Unknown	Paleoindian	2,376,024
200K461	Unknown	Unassigned Prehistoric	892
20OK462	Unknown; Historic	Unassigned Prehistoric; Historic	749
20OK463	Unknown; Historic	Early Archaic; Historic	1,860

A review of the contract CRM reports indicated that no portion of the APE had been previously surveyed for cultural resources (Figure 7). There has been one previously conducted survey within the 2-km literature review study radius. 3D/Environmental Services, Inc conducted a Phase I archaeology survey in 1998 that resulted in the identification of three archaeological sites (20OK461–20OK463; Jenkins 1998).

There are no recorded Michigan SHPO Architectural Properties within the 2 km literature review study radius.

Examination of available historical maps dating to the mid-nineteenth century allows for a reconstruction of landscape history and can identify the potential for historical sites within a project area. The 1872 Map of Lyon Township (Figure 8) shows the project area split across the parcels of Sherwood, G. Fisher, N. Andrews, and S. Lyon, with no buildings or structures within or adjacent to the project area. Pontiac Trail, Milford Road, and Travis Road are all depicted on the

map to the north, east, and south of the project area, respectively. The 1896 Map of Lyon Township (Figure 9) shows the project area split across the parcels of Mrs. A. Chatfield, G. Knapp, Sarah Button, and Mrs. Weeks. The Grand Trunk Railroad is also indicated to the south and east of the project area, oriented northeast to southwest. There are no buildings or structures present within the project area on this map. The USGS 15' Series Topographic Maps of Milford (1909) and South Lyon (1906), Michigan (Figure 10) shows the landscape prior to the development of the airport. The unnamed tributary of Davis Creek is depicted running along the northern border of the project area. Marsh/swamp conditions are indicated to the south of the project area. The 1947 Map of Lyon Township (Figure 11) shows the project area stretching across the parcels of Dr. L. A. Griswold, Albert Sessidn, and the Parkway Flying Service. An airplane icon is drawn within the center of the project area on the parcel of the Parkway Flying Service. No structures are indicated within the project area. The USGS 7.5' Series Topographic Maps of Kent Lake (1965), Milford (1969), Salem (1969), and South Lyon (1965), Michigan (Figure 12) indicates the airport was present by 1965. The airport is labeled as the New Hudson Airport. The unnamed tributary of Davis Creek is shown in the same position as present and as previously shown on the earlier topographic maps. The swamp/marsh conditions are now depicted closer to the project area along the southern border and off the northwestern corner.

The principal investigator examined aerial photographs depicting the project area dating back to 1952 (NETR 2023; Google Earth). The aerial photograph from 1952 shows the early airfield with two crossing dirt landing strips and a single hanger, oriented north-south. By this time, the Grand Trunk Railroad had ceased to operate but its grade is still clearly visible. The clearing of the land for the airfield shows evidence of severe ground disturbance from grading and filling. The 1957 aerial photograph does not show any significant changes from the 1952 image, apart from the former rail grade becoming more difficult to distinguish because of vegetation growth. The 1964 aerial photograph shows the beginnings of the modern hanger complex at the airport, with three new hangers present, along with a small terminal building and the original hanger. Two of these hangers match the footprints of existing hangers. There is no hanger currently where the third hanger is shown in 1964. The airfield reached its modern extent by 1964, although the runways still appear to be dirt surfaces. In the 1967 image, the runways at the airport appear recently graded and possibly even paved, while a fourth hanger is also visible. By 1973, the current runway configuration was completed (although the numbers on the runways are 7 and 25, not 8 and 26). Eight hangers are present in this image, while the original hanger is still present with a new building on its north end. The 1983 aerial photograph shows that the original hanger had been replaced with the current buildings at the north end of the airport complex and the building at the south end of the complex present. No other major changes are visible. The 1999 aerial photograph shows that the airport had added several more hangers east of the original row. By 2002, the airport had achieved its current configuration of buildings and infrastructure, losing two hangers. By 2010, the runway numbers had changed to 8 and 26, which is the last significant change visible in aerial photographs.

5.0 CULTURAL SETTING

5.1.1 PALEOINDIAN PERIOD

Archaeologists estimate that occupation of the Lower Peninsula of Michigan would have been possible by approximately 11,500 B.C. to 11,000 B.C. By this time, the glacial front that had once covered the peninsula had retreated into the Upper Peninsula/Lake Superior region. The Paleoindians, the first known prehistoric population to occupy Michigan, were highly mobile, small-band hunters moving on a seasonal basis to exploit available natural resources (Dragoo 1976) more fully, and carbon dated evidence for their presence in the Lower Great Lakes region suggests occupations as far back as far as 10,500 B.C. (Carr 2012). The Paleoindians were

opportunists willing to use a broad spectrum of animal and plant resources, and with a fluctuating post-glacial environment, both in terms of climate and ecological communities, they had to adapt to exploit a variety of environments from tundra to wetlands. Analysis of pollen data and plant macrofossils suggest that tundra conditions in the late Pleistocene Midwest were constricted to the glacier margins, with differing ecological regimes advancing quickly northward as the glaciers retreated. Specifically, spruce-sedge parkland environments dominated the immediate post-glacial landscape for about 2000 years after the last glacial maximum, then rather quickly replaced by pine and then oak forests in the Lower Peninsula. Within this set of environmental conditions, a great diversity of animal species flourished, including several species that would have represented important game animals for human predation, such as mastodon, mammoth, ground-sloths, muskox, elk, caribou, and smaller game species.

One popular hypothesis about Paleoindian subsistence strategies is that they were primarily herd-followers, tracking caribou across the post-glacial landscape. Carr (2012) points out that such hypotheses are largely based on ethnographic analogy and not on hard data reflecting actual Paleoindian subsistence strategies. He points out that there is a general lack of such data for the lower Great Lakes and posits that this reflects Paleoindian site selection strategies that correspond to locations with poor long-term preservation characteristics. Instead, Carr lays out a hypothesis that Paleoindian hunters employed a herd-intercept strategy oriented along lake shores, moving to key locations where caribou herds would be found at certain points of a season, rather than seasonal relocation of a group to be within the summer and winter ranges of a single herd. People practicing the herd-intercept strategy would rely on storage and secondary protein resources when caribou were scarce. Carr suggests Paleoindian bands were residentially mobile within large territories exceeding 20,000 km² and notes the absence in the archaeological record for definitive evidence of periodic large aggregations of individual bands, which has occurred elsewhere in the Eastern Woodlands (Bull Brook, Massachusetts, for example).

Specific Paleoindian complexes in the lower Great Lakes include Gainey (9500-9000 B.C.), Parkhill (9000-8400 B.C.), Crowfield, and Holcombe (both occurring after 8400 B.C.). Shott and Wright (1999) also note the ephemeral presence of a Mid-Atlantic Paleoindian phase contemporary with Clovis called the Enterline phase, which is known in Michigan only from one site in Saginaw County and is quite possibly a local variant of Gainey instead of representing Enterline. The Gainey complex, taking its name from an important site in southeast Michigan, is represented by large, fluted points with parallel sides like western Folsom points, and accompanied by triangular end scrapers, side scrapers, and gravers (Carr 2012; Shott and Wright 1999). Archaeologists defined the Parkhill complex from a series of sites in southern Ontario and are identified through the presence of Barnes fluted points. Groups associated with the Parkhill complex are thought to have had a residential preference for the shore margins of Glacial Lake Algonquian and occupied much smaller territories than Gainey people; a large territory between Jackson and Alpena is posited to have been one such territory covering the eastern Lower Peninsula, albeit without much supporting evidence (Shott and Wright 1999). Parkhill toolkits show an increasing diversity of tool forms over preceding Gainey kits. The Crowfield and Holcombe complexes represent the end of the Paleoindian period, with many Holcombe points being either poorly fluted or in some cases, simply being basally thinned in place of fluting. Few examples of the Crowfield complex have been identified in Michigan, being more of an eastern Great Lakes phenomenon. Holcomb complex sites are mainly restricted to southeastern Michigan (Shott and Wright 1999).

Small lithic scatters and isolated finds of diagnostic fluted projectile points characterize the archaeological record of Michigan's Paleoindian period; such points including Clovis, Holcombe, Cumberland, Plainview, and Agate Basin types. Unfluted Hi-Lo points are also a diagnostic point for the period in Michigan (Justice 1987; Carr 2012); although some archaeologists prefer to

assign these points to the initial Early Archaic (Shott 1999). Paleoindian groups in Michigan are noted for a heavy reliance on Onondaga, Bayport, and Fossil Hill cherts, with early Gainey phase people also using exotic Upper Mercer chert from east-central Ohio (Carr 2012; Shott and Wright 1999). Notably, Paleoindian groups appear to have focused on single sources of lithic raw material, so that lithic types may be an identifier for a band territory.

5.1.2 ARCHAIC

A period of significant environmental change ensued as the glaciers retreated northward at the end of the Pleistocene. The climate became temperate. Large-game species, such as mastodon, became extinct, and the deciduous forest common today developed, replacing the boreal-coniferous forests. The Archaic period encompasses the notable human adaptations and settlement practices developed in response to the changing environment (Ford 1974). Artifact assemblages from Archaic sites show a wider range of tool types in comparison to the preceding Paleoindian period, some of which have specialized functions for the processing of a wider variety of plant and animal resources (Griffin 1967). Although all Archaic-period human groups exhibited characteristics of classic hunter-gathering lifestyles, environmental differences led to regionally distinctive artifact assemblages by the end of the period, which might reflect the evolution of culturally distinct human social groups (Dragoo 1976).

Changes in human social organization occurred concurrently with expanding food procurement strategies. In eastern North America, organizational changes generally included restricted group mobility, larger aggregations of individuals, development of ritual behavior, development of interregional exchange systems, and the first attempts at plant domestication (Ford 1974). Other results included smaller group territories, sites occupied for longer periods, reuse of sites at more frequent and probably more regular intervals, and the use of a wider variety of plants and animals. Storage facilities and vessels also appeared more frequently in Archaic sites, as well as evidence for early cultivation of some plant species. Burial ceremonialism and other ritual behavior developed during the Archaic period and showed signs of becoming formalized in some regions. Ritual activity might be linked to the establishment of social group identities, the maintenance of territorial boundaries, and the regulation of intergroup alliances and trade. However, archaeologists are still trying to adequately test this proposition.

Research has shown the progression of these adaptations through the Archaic period (ca. 8000 B.C. to 1000 B.C.), resulting in the subdivision of time into three distinct temporal periods: Early, Middle, and Late Archaic. Some general traits, such as basal styles of projectile points, are common throughout all three Archaic sub-periods, so some Archaic sites cannot be classified to one of these three periods.

Early and Middle Archaic sites are somewhat rare in Michigan, which was once attributed to an actual general absence of people during that time in the region. However, recent studies suggest that fluctuations in glacial meltwater lake levels in the early Holocene may have resulted in contemporary sites being either flooded or deeply buried under alluvium, as lake levels were considerably lower than at present.

5.1.2.1 EARLY ARCHAIC

During the Early Archaic period (8000 B.C. to 6000 B.C.), small mobile groups gradually became more geographically restricted as seasonally oriented hunting-and-gathering activities were focused on smaller, well-exploited territories. This reduction in territory size and mobility is a direct link to the expansion of the deciduous forests that produced a more favorable habitat for game species (Chapman 1975). Although hunting was the major subsistence activity, Early Archaic people also used a narrow spectrum of nutritious plant foods (Chapman 1975; Cleland 1966). This expansion of the subsistence base correlates with a change in material culture. Early Archaic

hunters switched from lanceolate spear points, ideal for hunting larger animals, to a series of smaller, more diversified notched and stemmed projectile points, scrapers, knives, drills, and ovoid blades. Woodworking and food preparation tools first appeared in the tool assemblage during the Early Archaic period. These tools included axes, adzes, mortars and pestles, awls, gouges, and grinding stones (Chapman 1975; Jennings 1968). Sites were small and scattered, largely discovered through surface collection, and usually located in uplands near secondary stream valleys (Benchley 1975).

Early on, Early Archaic bands in Michigan practiced a lifeway fairly similar to preceding Paleoindian groups, and sites from this part of the period are classified as the Plano tradition. Indeed, some archaeologists place Plano as a Paleoindian manifestation characterized by a loss of fluting in projectile point technology (Justice 1987). It seems likely that Plano and Dalton types of points are reflective of gradual change, rather than demarking any sharp divisions between the Paleoindian and Early Archaic periods, and thus may best be discussed as Paleoindian/Early Archaic. The Plano tradition dates to ca. 8000–7500 B.C. and is characterized by Hi-Lo projectile points (Shott 1999).

The succeeding Kirk tradition dates to ca. 7500–6000 B.C. and is notable for the first occurrence of notched and stemmed bifaces, variously attributable to Palmer, Kirk Corner-notched, Kirkstemmed, St Albans, Kanawha, and LeCroy types (Shott 1999). This change represents an abrupt change in lithic technology from preceding lanceolate forms, with a concurrent increase in use of exotic Ohio lithic materials. This change may be correlated with the movement of new groups into Michigan from Ohio, although such interpretations do not suggest what happened with the Plano people already present. Shott (1999) posits a viewpoint that suggests bands belonging to the Plano and Kirk traditions overlapped in territory and interacted with each other. Indeed, he notes that while there is a relative explosion in biface form diversity, the overall toolkit for Early Archaic peoples shares many characteristics with late Paleoindian and subsequent Archaic groups.

5.1.2.2 MIDDLE ARCHAIC

During the Middle Archaic period (6000 B.C. to 3000 B.C.), floral communities diversified as the overall climate warmed and stabilized, allowing for a broader selection of food and material for use. However, Middle Archaic people still appear to have emphasized hunting within an increasingly sedentary lifestyle (Cleland 1966). In lower Michigan, there is a debate as to whether the local environment could support a large population of hunter-gatherers. Boreal forests may not have developed sufficient mast-bearing species to support a new regime of large mammals, and stream flows may have been too rapid to support large fish populations. Nonetheless, extensive, productive marshes along the relict margins of Lake Algonquin in southeastern Michigan may have been well-exploited by Middle Archaic bands, and many of Michigan's Middle Archaic sites are found in the that region (Lovis 1999). As well, pollen studies indicate that oak, maple, and elm had begun to establish themselves in southern Michigan by 5000 B.C. It may simply be that Michigan Middle Archaic populations were largely focused on shoreline habitats that are now underwater, thus introducing a significant bias in typical survey results. In addition, Middle Archaic groups are suggested to have practiced a long-distance logistic mobility strategy that would spread evidence of Middle Archaic people thinly over a landscape, moving between shoreline residential camps and upland logistical sites (Lovis et al. 2005); such a strategy, where people are normally occupying sites on a very short-term basis, would also help to explain the low density of Middle Archaic sites.

Middle Archaic material cultural reflects the change in economy as well, adapted to intensive exploitation of forest and riverine environments. Some researchers divide the Middle Archaic in the Great Lakes into two horizons based on projectile point morphology (Stothers et al. 2001). The first horizon is the Weak-Stemmed Point Horizon (6000–3800 B.C.), with points such as

Morrow Mountain and Stanly Stemmed; the second horizon is the Side-notched Point Horizon (3800–2000 B.C.), associated with points similar to the Raddatz, Matanzas, Otter Creek, and Brewerton styles (Lovis 1999). Of note is the overlap of Brewerton points between the Middle and Late Archaic periods. Plant-processing tools included a variety of ground stone implements, grooved axes, metates, and nutting stones. Bone tools such as awls and fishhooks also appear in Middle Archaic assemblages. Atlatl weights and bone tools first appear in the archaeological record elsewhere in the Midwest and Northeast (Broyles 1971; Lewis and Lewis 1961). These types of groundstone tools are curiously absent from Michigan Middle Archaic sites, but this may be a bias resulting from the overall scarcity of Middle Archaic sites formally excavated in the state (Lovis 1999; Stothers et al. 2001).

Although Middle Archaic sites tend to be rare, one important site in Michigan is the Weber I Site (20SA581) in the Saginaw River Valley (Lovis 1999). This site exhibited stratified Middle Archaic and Late Archaic deposits and provided evidence for Middle Archaic subsistence strategies, specifically focusing on hunting elk and deer while gathering nuts and berries (Smith and Egan 1990).

5.1.2.3 LATE ARCHAIC

In contrast to the preceding Middle Archaic period, the Late Archaic (3000 B.C. to 500 B.C.) is a highly visible manifestation in Michigan's archaeological record. Group ceremonialism increased in importance, as demonstrated by more elaborate, formalized burial practices and the presence of exotic materials obtained from emerging trade networks. Scheduled harvesting of seasonal, available plant and animal resources climaxed in the Late Archaic (Caldwell 1964). Coinciding with an increase in territorial permanence was the first appearance of regionally distinct human culture groups in Michigan (Cleland 1966). Late Archaic lifeways in the northern parts of the state (the Upper Peninsula and northern Lower Peninsula) persisted well into what would be considered the Early Woodland period in more southerly regions, with pottery only appearing around A.D. 0. Late Archaic people were organized into seasonally mobile bands, likely in the range of 25-30 people. There likely were population aggregations in the winter months with dispersal in the warmer seasons, perhaps down to single-family groups. There is limited evidence for Late Archaic houses available in the archaeological record of Michigan.

In Michigan, the levels of the Great Lakes were much higher than today, but also fluctuated considerably over the course of the period. In the Late Archaic period, the expansion of deciduous forests reached its northernmost limit (Cleland 1966). The vegetation communities present in the state had become more modern (Roberston et al. 1999). Late Archaic people responding to the diverse and evolving ecosystems adapted varying ways of exploiting natural resources. Fishing was an important component of faunal exploitation. The Late Archaic period marks the first appearance of cultigens in the archaeological record. Archaeologists recovered chenopodium, sunflower, and gourd seeds dated to approximately 1500 B.C. from the Salts Cave site in Kentucky (Yarnell 1974), while other researchers have dated squash seed as early as 2300 B.C. in Missouri and Kentucky (Yarnell 1963). However, these Eastern Agricultural Complex (EAC) cultigens are not often found in Late Archaic contexts in Michigan (Robertson et al. 1999). Exploitation of local plant and animal resources, including aquatic species, became more efficient and broad-based in the Late Archaic period. The success of this subsistence strategy is shown by the recovery of charred botanical remains of a variety of nuts, including acorn, hazel, hickory, and black walnut. Fruit also was an important food resource, as demonstrated by the diversity of fruit seeds in archaeobotanical assemblages, such as wild grape, blueberry, raspberry, and strawberry (Dye 1977; Yarnell 1974). Late Archaic people exploited these resources as a seasonal round, with either longer, more extensive occupations or higher seasonal site fidelity only occurring in the Terminal Late Archaic. Specifically, spring occupations may have focused

on fish runs, followed by summer camps for berry exploitation, fall camps for mast resources, and winter camps with a broad-based hunting focus. A general lack of sedentism may be attributable to the largely unreliable nature of the fluctuating environmental conditions that typify most of this period (Robertson et al. 1999). It should be noted that caution must be taken with applying general statements about Late Archaic lifeways in Michigan, as the database of Late Archaic site information is heavily skewed towards the well-scrutinized Saginaw Valley region of southeastern Michigan.

Late Archaic people developed a wide array of specialized objects, including steatite and sandstone bowls, stone tubes and beads, polished plummets, net sinkers, whistles, rattles, birdstones, and boatstones, as well as awls, needles, and perforators made of bone (Chapman 1975). Brewerton series points are characteristic of this period (Ritchie 1961; Witthoft 1953; Robertson et al. 1999). In Michigan, broad-bladed stemmed points, such as Susquehanna, Adder Orchard, Perkiomen, and Genesee types, also are associated with the Late Archaic (Robertson et al. 1999). Interestingly, narrow projectile point styles that occur at Late Archaic sites in the eastern Great Lakes (Lamoka, Normanskill) are not associated with Michigan Late Archaic assemblages. By the end of the Late Archaic, projectile point style diversity increased, with the introduction of small, broad-bladed point types. These points are associated with types including Berrien Corner-notched, Oronoko Side-notched, Sodus Expanding Stemmed (Roberston et al. 1999). Turkey-tail points also occur in ceremonial contexts and in buried caches. By the very end of the period, Meadowood points begin to occur in Terminal Late Archaic contexts. Meadowood points do not occur with pottery on Michigan sites, although sites with Meadowood points are contemporary with Early Woodland sites in Ontario and elsewhere, suggesting that Meadowood points are associated with the end of the Late Archaic here In southern Michigan, the transition to the Early Woodland is typified by Terminal Late Archaic point types showing up in association with Early Woodland deposits (Robertson et al. 1999).

Trade is demonstrated through the appearance of exotic materials in Late Archaic assemblages, and through the dating of certain prehistoric Lake Superior copper mining pits to this period. In addition, foreign cherts such as Wyandotte/Indiana Hornstone and Onondaga appear in Lower Peninsula assemblages, and ritual objects made from marine shell appear for the first time. However, the occurrence of such exotic materials is rare on Late Archaic sites, suggesting that trade was not intensive. Trade was likely a key component of maintaining social ties among related but widely dispersed groups. Trade may also have been one response to the uncertain availability of resources related to subsistence, including food and animal hides for clothing. Notably, exotic trade items often are found in mortuary contexts. There are three distinct burial complexes associated with the Michigan Late Archaic: Old Copper, Glacial Kame, and Red Ochre (previously thought to represent entire cultures, but now more properly classified as distinct subcomponents of larger Late Archaic cultural practices). Old Copper Complex burials are largely found in the western Great Lakes, primarily Wisconsin, although there are documented occurrences in Ontario and Quebec to the east. The complex is eponymously named for the occurrence of copper artifacts with burials. Old Copper Complex burials are not documented from the Lower Peninsula. Glacial Kame burials are associated with exotic shell beads and gorgets. copper beads, stone pipes, and birdstones, among other items. As the name indicates, Glacial Kame burials have commonly been found interred in kame landforms. Largely a southern Midwest expression, Glacial Kame burials are documented as far north as Cheboygan County. Evidence from Wisconsin documents interactions between people practicing Old Copper and Glacial Kame burial traditions. Finally, the Red Ochre burial complex is associated with the Terminal Archaic Meadowood cultural expression, which elsewhere is associated with the initial stages of the Early Woodland period (there are very few Early Woodland mounds in Michigan, obscuring the boundary even further between the Terminal Archaic and Early Woodland periods). Red Ochre

burials take their name from the use of red ochre to cover the grave. Interments are flexed, accompanied by Turkey-tail blades, small ovate cache blades, copper artifacts, and tubular marine shell beads. As with Glacial Kame, Red Ochre burials have been documented in association with Old Copper culture burials at cemetery sites. It should be noted that not all Late Archaic burials conform to one of the three complexes, which are regional and may be sequentialized cultural expressions (Robertson et al. 1999). Of considerable interest is the observation that the increase in mortuary ceremonialism appears to halt with the commencement of the subsequent Early Woodland period.

5.1.3 WOODLAND PERIOD

W. C. McKern first described the Woodland period as an archaeological manifestation within the McKern Taxonomic System (McKern 1939), initially distinguishing it from the preceding Archaic period by pottery and ceremonial construction of earthworks and mounds. Griffin's work (1952) on the Woodland period defined three sub-periods: Early Woodland (1000 B.C.–100 B.C.), Middle Woodland (100 B.C.–A.D. 500), and Late Woodland (A.D. 500–1200). Archaeologists still use the same basic system today, although current research suggests that adaptations and cultural traits assigned to each period are quite variable in both time and location. For example, in some regions of the Midwest, the cultural expressions associated with the Middle Woodland are not present, with Early Woodland practices persisting through time. Some Woodland period sites are identified solely through the presence of pottery or burial mounds; these sites are typically not assigned to one of the three sub-periods. Specific to Michigan, the Woodland period spans 800 B.C. to A.D. 1650 (Chivis 2003). Late Prehistoric cultural manifestations, such as Mississippian cultures, did not occur widely in Michigan; instead, Late Woodland cultural practices persisted to the Contact Period in large portions of the state, and Late Prehistoric groups appear confined to the southwestern Lower Peninsula, contemporary with Late Woodland people elsewhere in the state.

5.1.3.1 EARLY WOODLAND

The Early Woodland period in Michigan begins at different times in different regions in Michigan. In the southern Lower Peninsula, it extends from approximately 800 B.C. to A.D. 1, overlapping somewhat with the Middle Woodland period. Research in the Midwest demonstrates a general continuum from the end of the Archaic through the Middle Woodland for the intensification of horticulture and the formalization and elaboration of mortuary practices (Dragoo 1976). However, Woodland people did not uniformly adapt these traits at the same general time, and some practices associated with Woodland people (such as mound building) are largely absent in Michigan. There are few Early Woodland mound sites in Michigan, Croton Carrigan Mounds in Newaygo County being one (Garland and Beld 1999). In general, Early Woodland peoples maintained a largely foraging-focused economy with gradual incorporation of plant cultivation, specifically sunflower and squash. Early Woodland sites are somewhat rare in Michigan, and often occur as part of multicomponent sites, with subsequent Woodland-period occupations.

To the south, archaeologists most closely associate the Early Woodland period with the Adena Culture. The Adena culture dominated much of the northern Eastern Woodlands from upstate New York into the Ohio and Mississippi Valleys, characterized by conical earthen mounds and elaborate burials with ornamental grave goods. The Adena culture may have developed as early as 500 B.C., based on the dating of burial mounds in the central Ohio River Valley region (Seeman 1992:25). Notably, the Adena culture did not expand into Michigan. However, there is one Early Woodland earthworks in central Michigan, 20IA37, which bear similarities to Adena earthworks to the south (Garland and Beld 1999). 20IA37 represents a unique occurrence of a ceremonial aggregation site associated with the Early Woodland period in the state. Mortuary processing at the site is suggested through the recovery of fragmentary human bones, but no actual burials are known to be present.

In Michigan, research indicates a strong continuity between Late Archaic and Early Woodland cultural practices. Horticulture likely became more important in the subsistence strategy of Early Woodland people, but how important this adaptation was to different groups varies across time and space within this period. Some areas do not show much evidence of domesticated plants until near the end of the Early Woodland period, coinciding with the beginning of the Middle Woodland period (Fritz 1990:403). Sunflower cultivation is demonstrated at the Eidson Site, being a continuous tradition with the preceding Late Archaic occupation (Garland and Beld 1999). Seasonal mast crops continued to be an important resource, and Early Woodland groups still depended on wild versions of plants that would become cultivars, such as squash, sumpweed, gourd and goosefoot.

Although there may have been some tendency for limiting residential mobility in the Early Woodland period, settlement patterns generally resemble those of the preceding Late Archaic period, with large summer base camps in the flood plains and upland resource extraction camps occupied in the fall and winter (Garland and Beld 1999; Yerkes 1988:319). Clay (1992:80) suggests that Early Woodland groups were likely practicing a semi-sedentary, hunter-gatherer lifestyle organized into egalitarian groups, rather than having a more hierarchical tribal system. This certainly seems to be the case in Michigan.

Projectile point/knife forms diagnostic of the Early Woodland period include Kramer, Cresap, Meadowood and Adena Stemmed types (Chivis 2003; Justice 1987). As noted previously, Meadowood points are also associated with the Terminal Archaic in Michigan. Early Woodland pottery first appears around 500 B.C. and tends to exhibit coil construction with cordmarked surfaces. Pottery types associated with the Early Woodland period includes Marion Thick (also known as Schultz Thick), Shiawassee Ware (found in the Saginaw Valley), and Mushroom Cordmarked, a late Early Woodland type (Garland and Beld 1999; Chivis 2003). Marion Thick is considered similar to types in other regions of the Midwest, such as Vinette in Ontario and Fayette and Leimbach Thick in Ohio. The production of Marion Thick appears to have persisted into the Middle Woodland period. Exotic materials are indicative of long-distance trade networks, including copper and high-quality cherts from Ohio and Illinois.

5.1.3.2 MIDDLE WOODLAND

The Middle Woodland period (ca. 100 B.C. – A.D.400) saw a gradual expansion in the general patterns of the Early Woodland. Elaborate burials and distinct ceremonialism increased, and mound construction became increasingly complex, with huge, precisely arranged geometric earthworks being the hallmark of the Hopewell cultural manifestation that flourished to the south in Ohio, with its influence spreading throughout the Midwest. Like the Adena, the Hopewell manifestation likely does not represent a single monolithic culture, but rather a shared worldview among many different groups of people across the mid-continent. Elaborate mound construction and an increased reliance on fishing are hallmarks of the Middle Woodland in southern Michigan. However, the northern Lower Peninsula seems to have gone their own way and did not practice the same earmarks of ceremonialism found in Hopewell sites.

In southwest Michigan, the Norton Tradition is the main regional expression of the Hopewell cultural manifestation, although Havana Hopewell is present in sites along the Michigan-Indiana border. Chivis (2003) notes that current research suggests many of the Middle Woodland vessels recovered archaeologically from western Michigan show influence from Illinois populations, with several probably representing imported or trade items. Pottery types associated with Middle Woodland groups in southwest Michigan include Norton Ware, Havana Ware, Western Basin Ware, Crockery Ware, and Hacklander Ware (Chivis 2003). In southeast Michigan, near Saginaw Bay, the local Hopewell expression is the Saginaw Tradition. Hopewell cultural expressions were not adopted by Woodland groups occupying the area beginning roughly at the Muskegon River

and northwards, and additionally do not seem to be present in the southeastern corner of the state south of Saginaw Bay (Kingsley et al. 1999). It appears that while migration of Hopewell people into southwestern Michigan may be the best explanation for the cultural development observed there, the Saginaw Bay tradition may have developed in situ. Middle Woodland period sites have been identified along the northwest coast of the Lower Peninsula, some with Hopewellian materials. However, it is not clear that these sites represent a Hopewell population; instead, they may be a contemporary Middle Woodland population that traded with Hopewell groups to the south but did not adopt their practices.

An important component of understanding the Middle Woodland period in Michigan is the presence of cultural systems unrelated to the Hopewell phenomenon. Some of these societies may simply be groups continuing cultural practices first developed in the Late Archaic and Early Woodland periods. In southeast Michigan, the Western Basin Tradition is recognized as a non-Hopewell Middle Woodland-Late Woodland cultural expression. Several researchers interpret Western Basin material as representing an in situ cultural evolution of Woodland traits culminating in Late Woodland cultural expressions, such as the Younge Phase in northwest Ohio and the Wayne Tradition in southeast Michigan. Another resident, non-Hopewell Middle Woodland population is posited in southwest Michigan, in between the Havana Hopewell and the Norton Hopewell areas. These people are known from locally derived ceramic forms, some of which are like Point Peninsula cultures to the east. Some Hopewellian material also occurs at sites thought to be Non-Hopewell Middle Woodland, interpreted as the result of contact with Hopewell groups to the north and south (Kingsley et al. 1999). In northern Michigan and the Upper Peninsula, groups are classified as belonging to the Lake Forest Middle Woodland, a cultural expression that is contemporary and interacted with other Middle Woodland cultures, such as people associated with Laurel, Hopewell, Point Peninsula, and North Bay cultural traditions.

The Lake Forest Middle Woodland culture is largely defined through its ceramic assemblage, characterized by sub-conoidal pottery decorated with "oblique or horizontal panels of massed simple motifs of stamped elements" (Brose and Hambacher 1999:173). A variety of ceramic types are found at Lake Forest Middle Woodland sites, such as Dane Incised, Pine River, and North Bay series, but southern types such as Laurel are also found on occasion. Ceramic types appear more tightly restricted to certain regions than in the preceding Early Woodland period.

The current understanding of settlement and subsistence behaviors of Middle Woodland populations is unclear at best, with a variety of opinion to explain the data collected to date. Ford (1979) suggested a basic hunting-and-gathering economy with limited horticulture. Groups practiced seasonal residential mobility, coming together at prime fish spawning sites in the spring (Brose and Hambacher 1999). Settlement strategies seem to focus on lake shores, with fewer inland occupations.

Late Woodland Transition

The transition from Middle Woodland to Late Woodland cultural practices in northern Michigan appears to reflect an in situ development with little dramatic changes in lifestyle, unlike contemporary Hopewellian populations to the south. However, the cultures of the people in this part of Michigan did change, adopting barbed harpoons, deep-water fishing, discontinuing the use of copper as a major ritual and functional material, and beginning the use of bow-and-arrow technology.

5.1.3.3 LATE WOODLAND

The Late Woodland period (ca. A.D. 400–1650) can be defined as a period of complex social change, and there are competing theories about the various cultural sequences associated with the period in the southern Lower Peninsula. The early part of the Late Woodland period is

characterized by a subsistence economy almost wholly devoted to wild food sources (ca. A.D. 600-1000), while the latter part of the period sees the increasing importance of horticulture and domesticates (ca. A.D. 1000-1650). However, Muhammad (2010) characterizes certain Late Woodland groups as practicing a "middle ground" subsistence system, with mingled aspects of hunter-gatherer and agriculturalist strategies. She further posits a fluid network of resource exchange between groups practicing different subsistence strategies as a form of societal risk management for dealing with periodic episodes of regional resource scarcity. The Late Woodland sites in the Upper Peninsula and northern Lower Peninsula show a general continuity with Middle Woodland cultural behaviors, with small bands of people relying on wild rice, mammal hunting, and fishing for their economic base. Lake Phase sites are found in the western Upper Peninsula, while Mackinac Phase, Bois Blanc Phase, and Juntunen Phase sites are associated with the eastern Upper Peninsula. One notable characteristic that differentiates Upper Peninsula Late Woodland from the preceding period is an increase in site fidelity (Martin 1999).

Late Woodland groups in the northern Lower Peninsula and eastern Upper Peninsula of Michigan are divided into two general sequences, which developed out of the Pine River Phase (ca. A.D. 500–900). The Skegemog (900–1200) and Traverse (1200–1500) phases developed along the northwest coast of the Lower Peninsula in the greater Traverse Bay region. In the eastern Upper Peninsula and at the Straits of Mackinac, the local people developed the Mackinac Phase (900–1100), the Bois Blanc Phase (1100–1300), and the Juntenen Phase (1300–1500). Late Woodland sites, particularly those of the Mackinac Phase, tend to be located at the junction of three ecozones, allowing full exploitation of a wide range of resources (Holman and Brashler 1999). Of primary importance were sites allowing access to the spring and fall spawning runs. Many Late Woodland groups appear to have practiced a mobile subsistence strategy, moving between warm-weather coastal sites and interior cold-weather hunting locations. Towards the end of the period, maize appears at some sites to supplement local food sources, showing the adoption of gardening and horticulture. Burial practices include the use of low mounds and large ossuary pits (Halsey 1999).

5.2 HISTORICAL PERIOD CONTEXT

There is scant evidence for the direct presence of Europeans in Michigan prior to the midseventeenth century. However, some protohistoric Native American sites do show indirect contact through the presence of European trade items, such as the Cloudman Site on Drummond Island, dating to ca. 1615 and including glass beads, iron, and copper artifacts made using Native methods but mimicking French knife forms. This site is interpreted as likely being an Ottawa occupation, whose residents had trade relations with other Native people to the east that had been directly in contact with early French explorers (Cleland 1999).

5.2.1 EARLY HISTORIC PERIOD, CA. 1630–1800

Early European presence in the Great Lakes is linked to French exploration and missionary activity. The first documented European explorer in the Michigan region is Jean Nicolet in 1634. Seven years later, the Raymbault Mission was established at Sault Ste. Marie by Jesuit missionaries. This mission first served Ojibwa groups moving west to get away from raiding Iroquois bands, with Ottawa people subsequently settling around it. While the French also established the fur trade, it did not become the dominant focus of activity in the region due to the conservatism of the French court, which placed greater emphasis on conversion of Native groups and exploration (Heldman et al. 1999). However, competition with other European nation-states forced a change in emphasis for the French to commerce, beginning about 1700. The French Bourbon court largely viewed its North American activities in terms of wealth extraction rather than colonial expansion and settlement. The lack of any substantial French immigration to the

New World (in contrast to British policies) meant that Native alliances were highly important to the success of French activities on the continent.

The French established settlements at the Straits of Mackinac beginning in 1671, first on the north shore near St. Ignace and then at Fort Michilimackinac in 1715 (the latter of which is arguably the most important early historical archaeological site in the Great Lakes). The French traded with local Huron, Petun, and Ottawa people here, and established a Jesuit mission headed by Father Jacques Marquette, who had moved the focus of missionary activity here from Sault Ste. Marie in recognition of the primacy of the Straits as a Native transportation route. The Native tribes had settled here just prior to the French, having been forced out of their former territories to the east and southeast during the Iroquois Wars, ca. 1640-1660 (Cleland 1999; Heldman et al. 1999). Other Native tribes that were present in the state in the seventeenth century include the Mascouten, Potawatomi, Miami, and Menominee. In particular, the Ottawa, Ojibwa, and Potawatomi formed a loose alliance called "The Three Fires" (Rubenstein and Ziewacz 2014). Native American sites of the Early Historic Period consist of villages and burials. Village sites can show reconstruction episodes for the longhouses, which can confuse interpretation. European trade goods are diagnostic, as are traditional Native technologies using European artifacts as raw material (e.g., glass projectile points, brass tinkler cones). An important corollary is that there do not appear to be any types of diagnostic Native artifacts that would allow identification of tribal identity; this situation is largely due to the disruptive effects of colonization and contact that led to rapid changes in material culture and mixing of previously separate tribal bands in single villages in some cases. One exception to this rule is the Marquette Mission Huron Village site (20MK82 and 20MK99), where artifacts do show an Iroquoian affiliation (Cleland 1999). Also of important note is that a drastic change in technology and raw material use does not indicate an equivalent change in cultural traditions. Ethnohistorical accounts support the continuation of cultural traditions with likely roots far back into the prehistoric period among Michigan tribal groups (Heldman et al. 1999).

In southwest Michigan, Rene-Robert Cavalier, Sieur de la Salle, established Fort Miami at modern St. Joseph in 1679, named after the Miami tribe that was the focus of missionary efforts in that location. In 1686, the French established Fort St. Joseph in the Port Huron area (the second fort by the name; the first was near Fort Miami). These forts protected French interests in the fur trade against the expanding British. In 1701, Antoine de la Mothe, Sieur de Cadillac, built Fort Pontchartrain between Lake Huron and Lake Erie, at a spot he called "le Detroit," meaning "the strait." Because of its strategic location, the fort and the surrounding community of Detroit became the most important French settlement in the first half of the eighteenth century (Rubenstein and Ziewacz 2014; Heldman et al. 1999). By the 1750s, numerous small French farms were present in the southeast Lower Peninsula.

The mid-1700s were a period of war between the two major colonizing powers in eastern North America, the French and British. King George's War broke out in 1744, followed by the French and Indian War of 1754–1763. The British were slowly expanding and forming new alliances with tribes, forcing the French to react with increased fortifications. British blockades during the war years severely hindered the French's ability to conduct trade. In 1760, all French forces surrendered, and in 1763, the French ceded claim to all their lands to the victorious British in the Treaty of Paris (Rubenstein and Ziewacz 2014). Soon after the surrender, British forces moved into the Great Lakes and took over important forts at the Straits of Mackinac and Detroit, although many French inhabitants of the associated settlements remained. Some stayed and lived alongside the British, while others relocated to new communities to preserve some sense of autonomy and cultural traditions, such as at River Raisin. British settlement outside of the forts is not well documented, but there are several archaeological sites known that represent British-era settlement.

The change from French to British occupation was drastic in terms of cultural approaches to interactions with Native groups. The British lost their chance to capitalize on goodwill with their Native allies by appointing Lord Jeffery Amherst as Governor General of North America. Amherst refused to listen to other British officials who understood Native customs and his actions, including ignoring pledges made during the war and a cessation of gift-giving, led to increasing hostilities, such as Pontiac's War of 1763. French traders encouraged the division between Native Americans and their former allies. The efforts of the French were successful in helping make up the minds of Great Lakes tribes to rise up against the British (Rubenstein and Ziewacz 2014). This conflict was a major, if temporary, setback to the British, who lost control of all their western forts apart from those at Detroit, Niagara, and Pitt. However, the British soon regained control of the territory (Heldman et al. 1999). The Proclamation of 1763, drafted in response to Pontiac's Rebellion, stated that all land west of the Allegheny Mountains as permanent Native territory, with land sales only by permission of the British government.

The next major event during the British period in Michigan was the American Revolution. Being on the periphery of British territory in North America, the British military outposts in Michigan did not result in any direct response to the outbreak of hostilities until 1778 and 1779, when American actions in Illinois prompted the building of new forts and strengthening of some of the older forts. In 1780-1781, the British dismantled Fort Michilimackinac and relocated to a new fort on Mackinac Island to better defend the Straits. Britain directed Native raids against American settlements from Detroit, which served as a major source of war supplies for such raids (Rubenstein and Ziewacz 2014). An interesting bit of Revolutionary War history is the taking of Fort St. Joseph at Niles by a combined force of Spanish, French, and Native soldiers, who briefly raised a Spanish flag over the fort before looting and abandoning it. Niles thus has the distinction of being the only city in Michigan that has had the flags of four nations flying over it (Rubenstein and Ziewacz 2014). The British period in Michigan ended with their signing of the Jay Treaty in 1794, and American forces took over the major British forts at Detroit and Mackinac in 1796. A British fort on Drummond Island was built in 1815 and remained until 1828, when the United States formally acquired the island.

5.2.2 AMERICAN ACQUISITION AND STATEHOOD, 1800-1837

Although American forces occupied forts in Michigan in 1796, American expansion and settlement in Michigan did not occur with any frequency until the nineteenth century, largely after the War of 1812. Landscapes within Michigan retained a frontier character until their resources became important to the economic development of the state and nation, such as the mineral ranges of the Upper Peninsula, which were not developed until later in the nineteenth century. The Michigan Territory was created by Congress in 1805 after the admittance of Ohio to the Union. However, prior to 1812, most of the white residents of the territory were French, with several British traders still operating out of the territory.

The War of 1812 broke out when the Michigan Territory was under control of territorial governor William Hull, who proved to be completely inept in military matters. Despite a brief foray into Canada, Hull's leadership was disorganized and British forces soon took over the primary forts in the territory, and Hull himself surrendered Detroit. Initial British success was short-lived, and American victory in 1814 marked the last active hostilities in Michigan between white and Native forces, while cementing the Michigan Territory as a part of the United States (Rubenstein and Ziewacz 2014). Native rights to land in Michigan were slowly chipped away in a series of land cessations, beginning with the Treaty of Detroit in 1807 and culminating in the Treaty of La Pointe in 1842 (Rubenstein and Ziewacz 2014). By the 1870s, most of the state's Native population were living on reservations.

By 1833. Michigan's population was over 60.000 people, more than enough to be admitted into the Union as a state. However, Congress refused to consider the matter until a boundary dispute with Ohio was resolved. Both the State of Ohio and the Michigan Territory considered a strip of land at the northwest corner of Ohio as their rightful possession. This area, called the Toledo Strip, was controversial because Ohio had a provision in its constitution that its northern boundary, delineated in the Ordinance of 1787, could be adjusted if it did not include the mouth of the Maumee River. However, when the Michigan Territory was set up in 1805, Congress either was unaware of or ignored this provision and gave this land to the new territory. While militias on both sides were formed and Michigan militiamen made incursions into Ohio, the so-called "Toledo War" mainly consisted of political bluster and was resolved without a shot being fired through a compromise bill in Congress that admitted Michigan as a state if it ceded the Toledo strip. As a consolation prize, the Upper Peninsula was included as part of the new state's territory (a transaction that subsequent generations of Michiganders now recognize as getting the best part of the deal). Still, various attempts down through the years have been made on Michigan's behalf to regain Toledo, all ending in failure. On January 26, 1837, Michigan was formally admitted to the Union (Rubenstein and Ziewacz 2014).

5.2.3 EXPANSION AND ECONOMIC GROWTH, 1837–1860

The initial settlement after statehood was achieved focused mainly on the southern tier of counties in the state, largely due to proximity to transportation routes, but also because of the presence of good farmland, especially in the southwestern prairie habitats. Settlers moved north at a slower rate, as transportation routes were nearly non-existent and there was a considerable effort required to clear land for agriculture. Too, the climate became harsher the farther north one went, with fewer growing days per year. The early settlers to the southeastern part of the state were largely from New England and New York, while people from Indiana and Ohio moved into the southwestern quarter, giving each area a distinct set of traits related to the settlers' origins. Improving transportation was the priority for the new state legislature, and an elaborate proposal to build two canals running across the state and three railroads, all extending east-west across the southern half of the Lower Peninsula was funded by a public improvement act in 1837. Unfortunately, financial troubles ultimately meant that these projects could never actually be funded through the sale of bonds (Rubenstein and Ziewacz 2014).

A new source of profit for the state was needed. Eyes turned towards the Upper Peninsula, especially the copper country of the Keweenaw Peninsula. The copper wealth of this region was first recognized back in the era of French exploration, when massive chunks of float copper were described on the surface. The expedition of Douglass Houghton and Henry Rowe Schoolcraft in 1837 confirmed for the state the vast potential of this area. However, exploiting this resource was hampered by the fact that the state did not technically possess this part of the Upper Peninsula, which was still recognized by the United States as Ojibwa territory. The Federal Government quickly entered negotiations with Ojibwa representatives, extracting the rights to the tribe's Lake Superior territory in exchange for \$800,000 and the right to occupy portions of the area for a temporary period. With the signing of the Treaty of La Pointe in 1842, the Upper Peninsula mineral rush began. After problems with issuing mining permits were ironed out between the state and the Federal governments, people began flooding into the western Upper Peninsula. Numerous mining companies financed by Eastern businessmen, especially from Boston, set up mines and attendant communities across the landscape. Soon after the establishment of copper mining, large iron ore deposits were discovered along the southern Lake Superior shore in the central Upper Peninsula near present-day Negaunee. As with the Keweenaw region, several iron mining companies quickly developed to exploit this valuable resource, with new communities springing up around the mine locations. For a brief period around 1880, Michigan led the nation in both copper and iron production. Many of the towns and villages of the western and central Upper

Peninsula today are directly related to the mining boom of the last half of the nineteenth century (Rubenstein and Ziewacz 2014).

In 1847, Lansing became the state capital, which previously was in Detroit. A new state constitution was approved in 1850, which raised the question of suffrage for non-white men. Ultimately, the constitution approved extending the vote to immigrants who pledged to attain full citizenship and Native Americans who renounced tribal membership. Suffrage for Black people was placed on a separate ballot and soundly defeated. This event was typical for early civil rights in the state, which had early on addressed the issue during the territorial government days by passing a law that, while protecting free blacks from Southern slave catchers, denied them any semblance of civil rights or equality. Still, the abolitionist movement grew in Michigan, bolstered by immigrants from states with large numbers of abolitionists. The Underground Railroad had several routes leading across the state and slowly, anti-slavery sentiment grew in strength, until antebellum newspapers were bold enough to print statistics on the number of escaped enslaved people that made it to freedom in Canada through Michigan. As part of this movement, the Republican party saw a surge in electoral success in the 1850s, turning the state into one of the first strongholds for the party in the nation (Rubenstein and Ziewacz 2014).

5.2.4 THE CIVIL WAR YEARS AND POSTBELLUM DEVELOPMENTS, 1860-1900

Michigan was a vocal supporter of the Union cause in the months leading up to the Civil War and put deeds to words by sending an infantry company for the Union Army to Washington, D.C., just over a month after Confederate forces fired on Fort Sumter. The Michigan legislature recognized the key issue of the conflict in an 1862 resolution calling for the complete abolishment of slavery. As the war ground on, however, northern Democrats saw a chance to push back and rallied against abolitionism. While seeing some short-term gains, a party platform explicitly supporting white supremacy was too much for many of the so-called "War Democrats" who switched affiliation to the Republicans, and the Michigan Democratic Party was essentially neutered. Republicans swept the 1864 election, buoyed by the success of Sherman's Atlanta campaign. Outside of the state government's actions, Michigan's support for the Union cause is seen in the number of men it sent to the war. Nearly a quarter of the male population of the state served in the war, including half of all military-aged men. Over 90,000 men in total went to war, including 1,600 free Black men who served in units like the First Michigan Colored Infantry. One of the most famous Michigan citizens tied to the Civil War is George Armstrong Custer, who rose to the rank of Major General and was known as one of the most talented cavalry officers on either side of the conflict. Michigan's economy boomed during the war years, as its copper and iron were vital to the war effort. Too, the state's farmers rapidly adopted mechanization into their labor practices, due to a labor shortage of farmhands who had gone off to war. This development was supported by increasing prosperity for farmers, who were making good money off providing food supplies for the war effort. This development was key in the change from primarily subsistence farming to large-scale commercial farming in the state. Although hampered during the war years because of labor shortages, the Michigan timber industry became one of the state's predominant industries, with a yearly average of 33,000 acres of timberland cleared during this period. This period was also the golden age of rail in the state, with nearly 7,000 miles of track crisscrossing the state by 1900 (Rubenstein and Ziewacz 2014).

The post-war years showed that Michigan, while strongly anti-slavery during the war, was hesitant to grant full civil rights to Black people afterwards. An act to grant suffrage to Black men barely passed in 1870, with fear among segments of the white populace that passage would result in a mass migration to the state of former slaves. The same year, Michigan's first women's suffrage societies formed, although their goals would not be reached until the twentieth century. Politically,

the Republican party dominated control of both the governor's seat and the State House during this period, although the Democrats made steady advances in eroding their control.

Ironically, while white Michiganders feared an influx of Black immigrants from the South, it was experiencing massive population growth during this period of other immigrants, primarily from Europe. Over half of the 700,000 people who moved to the state between 1860 and 1900 were foreign nationals. Indeed, foreign immigration to the state was actively encouraged by the state legislature as early as 1845. Special focus of these efforts was on the Germanic region of Europe, whose residents were seen as ideal immigrants due to their perceived conservatism, education, work ethic, and religious values. Many towns in Michigan still boast a strong Germanic culture, such as Frankenmuth and Gaylord. Canadians, especially French Canadiens, were another significant source of newcomers. An influx of Dutch settlers to western Michigan influenced cultural development in that region, including the development of a town called Holland, an annual tulip festival, and even a few traditional Dutch windmills. In the Upper Peninsula, the mining companies actively recruited skilled Cornish miners from the United Kingdom. Large numbers of Irish also came to the mining districts, followed at the end of the nineteenth century by Italians, Swedes, Eastern Europeans, and Finns. While many of these immigrants moved further west to follow mining booms, the Finns stayed put and Finnish heritage is a key component of Upper Peninsula culture (Rubenstein and Ziewacz 2014).

5.2.5 INDUSTRIAL BOOM YEARS AND THE DEPRESSION, 1900-1940

Michigan's industrial base developed greatly in the first two decades of the twentieth century. The copper and iron mining regions were still experiencing success, even with the contraction of active copper mines to the Portage Lake region and major competition with western mines. It was the automobile industry, however, that would define Michigan industry in the twentieth century. By 1900, Ransom Olds had already established Michigan's first automobile manufacturing company, and thanks in part to a mass-market advertising campaign, became rather successful. Olds' success inspired many others to enter the automobile industry. The most famous name in the industry is that of Henry Ford, who founded the Ford Motor Company in 1903. Ford is credited with the introduction of many innovations to the industry, including the assembly line and providing a living wage for his workers, based on the idea that the people who made his products should also be able to afford them. Other Michigan-based automobile companies that sprang up at the turn of the century include General Motors, created in 1908 out of an amalgamation of 30 different car companies purchased by William Durant.

The Great Depression had a tremendous effect on Michigan. The automobile industry was hard-hit, as cars were still viewed as a luxury item. The mining districts were devastated, and the copper mines never recovered. State efforts to provide relief were hampered by a Red Scare that occurred in the 1920s, lending a stigma to state welfare programs. Numerous strikes occurred during this period of labor disruption and unrest. Towards the end of the depression years, however, federal programs such as the Civilian Conservation Corps and Works Progress Administration had hired thousands of out-of-work Michigan residents, resulting in what has been described as 20 years' worth of infrastructure and societal improvements in the span of three years (Rubenstein and Ziewacz 2014).

5.2.6 WORLD WAR II AND THE POST WAR YEARS,1941-1967

Michigan was a major player in materiel supply during World War II. Its industries were well-positioned to convert to production of vehicles, ammunition, and other supplies for the war, while its mines provided valuable copper and iron. Indeed, World War II is likely responsible for the survival of the copper industry in Michigan past the mid-century mark. Ten percent of all federal war contracts went to Michigan companies, second only to New York. After the war, numerous

developments, such as middle-class families with substantial savings to spend and the development of the interstate highway system, helped grow the automobile industry even more. The copper industry essentially collapsed completely after the war, with only two major mining companies barely managing to struggle along. Many of the rural counties in Michigan, especially in the Upper Peninsula, saw drastic population declines as families moved elsewhere to take advantage of better economic opportunities.

The development of a car-centric culture is a key factor in suburban growth, with a more negative contribution coming from systematic racism, as white families fled cities like Detroit with rising Black populations. Race relations were always a simmering issue in Michigan, with a surge in the Ku Klux Klan in the 1920s and a major race riot in Detroit in 1943. Because of its large Black population, Detroit was a hotbed of civil rights activity in the postwar years. In 1963, the city was the location of a national civil rights conclave attended by key figures in the movement, including Reverend Martin Luther King, Jr. Despite efforts to improve social and economic conditions, unemployment reached 11 percent by 1967, and civil discontent reached the boiling point in July of that year, with the infamous 1967 Detroit Riot. Sparked by a police raid on a night club during a severe heat wave, riots spread uncontrollably throughout the city, with entire city blocks destroyed by fire, the deaths of 44 people, and over \$50 million in property damage. The city is still trying to recover from the effects of this event to this day (Rubenstein and Ziewacz 2014).

5.2.7 THE MODERN ERA

Beginning in the 1970s, Michigan experienced a series of declines in its industrial base. The automobile industry in the state has been affected through enticements by southern states to relocate factories with the promise of tax abatements and an anti-union governmental stance, while increased automation in the auto plants reduced the need for large workforces. The oil embargo of the early 1970s and governmental efforts to mandate fuel efficiency and emissions reductions also challenged the industry. By the 1980s, the state had one of the highest unemployment rates in the nation. The state economy has begun to diversify in recognition that depending largely on one dominant economic sector was not sustainable. New sources of business development appeared in the form of wineries and tourism. A series of political reforms of varying strategies helped pull the state out of severe economic woes by the 1990s, although it still lags much of the rest of the nation in key areas (Rubenstein and Ziewacz 2014).

5.2.8 OAKLAND COUNTY HISTORY

The Ojibwe, Ottawa, and Potawatomi peoples were the original inhabitants of what would become Oakland County. In the 1770s, there were at least two blended villages of Ojibwe and Potawatomi people established along the River Rouge in the county. These villages persisted into the nineteenth century, becoming reservations around 1800, and were part of a collection of pro-British Native American groups during the War of 1812. Three major Native American trails crossed the area containing Oakland County: the Saginaw Trail that is now Woodward Avenue, the Shiawassee Trail (Orchard Lake Road), and the Grand River Trail. By 1827, the reservations were terminated, and the villages moved northwest off the river to locations around Orchard Lake and Walled Lake, and by 1830, the inhabitants had moved out of southeast Michigan. (Durant 1877; Hagman 1970; Tanner 1987; Clarke Historical Library 2021).

The Graham, Hartsough, and Hersey families are the first recorded white settlers within Oakland County, arriving in the spring of 1817. Many of Oakland County's original settlers derived from the state of New York. The next succeeding settlements were made at Pontiac and Waterford Township in 1818; Orion, Royal Oak, Bloomfield, Oakland, and Troy Township in 1819; Southfield Township in May 1821, Farmington Township in October 1822; and Groveland and Brandon Township were settled last in 1835. The first mills in the county were constructed at Rochester

and Pontiac Townships in 1818 and 1819. (Durant 1877; Welch 1790-1897; The Oakland County Historical Society).

Lewis Cass, the Governor of the Territory of Michigan, established Oakland County from part of Wayne County in 1820 after the signing of the Treaty of Saginaw with the Chippewa Nation of Indians. The county is named for the prevalence of oak trees in this part of southeast Michigan. The Pontiac Company, formed by a group of men from Detroit and Macomb County, offered to provide money and property if the county seat was established in Pontiac, and Governor Lewis Cass took the group up on its offer. Acting Governor William Woodbridge divided the county into two townships on June 28, 1820. The northern section was made into Oakland Township and the southern section was named Bloomfield Township. In 1827, the state legislature further subdivided Oakland County into a total of five townships: Farmington, Bloomfield, Troy, Oakland, and Pontiac. By 1874, 25 individual townships of equal size covered Oakland County (Durant 1877; Hagman 1970; Welch 1790-1897; The Oakland County Historical Society).

Numerous towns, villages, and eventually cities developed in Oakland County, including Pontiac, Auburn Hills, Novi, Lake Orion, Oxford, Ferndale, Royal Oak, Birmingham, Rochester, and Farmington. The legislature incorporated the county seat of Pontiac in 1836 and Pontiac became a city in 1861. Other early communities include Auburn (the modern city of Auburn Hills, platted 1826), Rochester (platted 1826), Milford (platted 1836), Orion (modern Lake Orion, platted 1836), and Royal Oak (platted 1836). Oakland County grew quickly and by 1870 had reached a population of 40,867 people (Durant 1877; Hagman 1970).

Transportation has always been a key component of Oakland County's development. The Native American trail from Detroit to Saginaw was the main route through the county. On December 7th of 1818, Governor Cass passed an act to establish a road on this route. During the canal boom of the 1830s, a grand plan was conceived to link the east and west sides of the state with a canal stretching from the Clinton River to the Kalamazoo River. The canal was started in 1837 but was abandoned due to financial troubles in the 1840s, seeing only a few instances of traffic within Oakland County. On July 31, 1830 Governor Cass approved an act establishing the Pontiac and Detroit Railway Company, the first commission of a railroad granted in Michigan. However, this rail company was never able to start construction. The Detroit and Pontiac Railroad acquired a new charter from the state government in 1834 and by 1838 was operating along a 12-mile stretch of tracks, only reaching Pontiac by 1843 By the end of the nineteenth century, three rail lines served Pontiac (Durant 1877; Hagman 1970; Clarke Historical Library).

Oakland County initially developed an agricultural economy, producing much of the state's wheat, corn, and potato crops by the late nineteenth century. Early industrial development lagged agriculture as an economic driver, primarily due to a lack of waterpower sites for mills and factories. Still, the county boasted 104 manufacturing concerns by 1874, powered by steam, water, and other sources. The development of the automobile industry transformed Oakland County, specifically Pontiac, beginning in the early 1900s. In 1907, a business consortium led by Edward Murphy, president of the Pontiac Buggy Company, founded the Oakland Motor Car Company, being the first automobile maker in the county. General Motors (GM) purchased a controlling share in 1909 of the Oakland Motor Car Company's stocks, making it a holding of GM. The Oakland brand would be discontinued in 1931 at the start of the Great Depression, being renamed Pontiac Motor Car Company after its flagship model. The county was known as "Automation Alley" because it created one of the largest employment centers for engineering in the United States, including General Motors, Ford, and Chrysler that are collectively known as the Big Three. In the 1950s, Oakland County's population soared as more people desired to live in suburbs and the new interstate system allowed convenient access to jobs in downtown Detroit. Today, there is a clear divide between urban/suburban land use and rural land use, with the southeastern half of the county almost completely developed for residential, commercial, and industrial use, while the northwest half is dominated by farmland and recreation/conservation areas. Today, Oakland County's population is about 1,250,000 people, making it the second-most populous county in Michigan after Wayne (Hagman 1970; U.S. Census Bureau 2021).

5.2.9 LYON TOWNSHIP HISTORY

The territorial legislature established Lyon Township from Novi Township in 1834, naming it after Lucius Lyon, a member of the legislature in 1832 (Hagman 1970; Romig 1986). The first white settlers of Lvon Township were Bela Chase and her sons, who came from Wavne County in 1830. Many of the early setters immigrated from New York, particularly in the 1830s during initial settlement. Lyon Township had at one point three villages, established around a large swamp that formerly occupied the township: South Lyon, New Hudson, and Kensington. South Lyon was originally called Thompson's Corners after the first house built in the area in 1832. The name of South Lyon was based off the location of the village within Lyon Township. South Lyon was incorporated in 1873 as a village and as a city in 1930. In 1871, the Detroit, Lansing and Lake Michigan Railroad came through the village, heading west from Plymouth on the way to Lansing. Today, South Lyon hosts the CSX main line from Detroit to Grand Rapids. The village of New Hudson was first settled in 1832 and platted in 1837 by Russell Alvord. In 1835, a turnpike from Detroit to Grand Rapids was built through New Hudson and Kensington. The construction also included the first bridge in Lyon Township. Interstate 96 today follows the route of the early Grand River Turnpike. Kensington was settled in 1831 and was platted in 1836 by Alfred A. Dwight. Kensington suffered a hit to its development when the railroad bypassed the village, and it began a steep decline. By the end of the nineteenth century, the community was reduced to a rural post office and a few scattered houses, and its location today lies under I-96 and Kensington Metropark.

Lyon Township remained largely rural throughout the twentieth century. However, the township has taken on more of a suburban character in recent years with an uptick in housing developments expanding into the area. Major developments include the establishment of Kensington Metropark in 1947 with the enlargement of Kent Lake at the former village site of Kensington and the construction of I-96 through the northern part of the township in the 1960s. The population of Lyon Township in the 2020 census was 23,271 (Durant 1877; Hagman 1970; Romig 1986).

5.2.10 HISTORY OF THE PROJECT AREA

The project area consisted of undeveloped land up through the mid-twentieth century. The major development for the project area was the establishment of the Oakland Southwest Airport, which began operations in 1946. Known as the New Hudson Airport, the airport was initially used as a training facility for war veterans interested in pursuing their pilot's licenses under the G.I. Bill. Oakland County acquired the airport in 2000 for a fee of \$3.6 million and it is one of three first-class airports in the county, more than any other county in the state (Oakland County 2023).

Research indicated that there have never been any buildings or structures present within the project area, and the only development of the land was for the airport in 1946. Prior to that, the land was shown on early topographic maps as a swamp/marsh environment that was occasionally inundated due to its poor drainage.

5.3 RESEARCH QUESTIONS 1 AND 2 DISCUSSION

The first two research questions address the relationship of previous surveys and previously recorded sites/resources to the proposed project and the likelihood of encountering previously recorded cultural resources within the proposed project area. These questions can be answered using the information collected from the literature review and application of the environmental and cultural contexts to the specific ecological history of the project location.

- 1. Has the project area been subjected to previous cultural resources investigations, and are there any previously recorded resources located within or immediately adjacent to the project area?
 - The literature review revealed that the APE has not previously been surveyed for cultural resources and that no previously identified cultural resources are within or adjacent to it.
- 2. What is the likelihood of identifying previously unrecorded cultural resources within the project area?

The likelihood of encountering previously unidentified cultural resources is low. The project area is immediately adjacent to Runway 8/26 and underwent grading activities prior to construction. Further, the hydrological and geological conditions mapped for the area would not have been favorable to pre-contact groups and is unlikely to have been occupied during prehistoric times. Any finds are likely to consist of small lithic scatters or isolated finds indicative of ephemeral hunting/subsistence activities. The same environmental characteristics that would have discouraged pre-contact occupation also would have hindered any historical development of the project area. The entire project area is considered to have low archaeological sensitivity.

6.0 METHODS

6.1 ARCHAEOLOGICAL FIELD METHODS

The field crew used two methods of investigation during the archaeological survey: visual inspection and subsurface excavation. The field director recorded additional information such as field conditions, methods of investigation, and site locations. The crew documented all identified cultural resource locations using a Trimble R1 GNSS receiver (sub-meter accuracy) with a GPS enabled iPad operating Esri ArcGIS for data collection. The crew took photographs of the project as deemed appropriate. The field director kept a photolog record of the photographs, keyed to project mapping.

6.1.1 VISUAL INSPECTION

The crew visually inspected the entire surveyed area to identify readily apparent cultural resources, such as mounds, earthworks, buildings, or structural remnants of such. The crew also documented areas of disturbance, steep slope, and any inundated areas (i.e., wetlands, streams, ponds, etc.), which would preclude physical testing.

6.1.2 SUBSURFACE EXCAVATION

Systematic STU excavation took place in areas with less than 15 degrees of slope and poor ground surface visibility (less than 50 percent) that had not previously been subjected to standardized archaeological survey. The crew excavated STUs at 15 m (50 ft) intervals, and each unit measured 50 cm² (19.7 in²). The excavation of STUs in intact soils cease at the subsoil interface or at 50 cm below the surface. Crew members troweled the walls and floor of each unit clean to determine the depth of the plow zone and if in situ cultural remains were present. The crew screened all soil from each STU through 0.64 cm (0.25 in) hardware cloth to aid in the recovery of any cultural material present. The field director took notes on the soil color, texture, depth, and the presence or absence of artifacts for each STU.

If disturbed soils were identified in an STU, the crew member converted it to a shovel probe. The shovel probes were excavated to a depth that allowed for an accurate determination of the disturbed nature of the area, usually terminating at 15-20 cm below surface. The crew visually inspected and troweled through soil in shovel probes but did not systematically screen the soil for artifacts.

6.2 ARTIFACT ANALYSIS METHODS

The artifact analysis for the project is tailored to the specific classes of material recovered during the survey. As no artifacts were recovered or observed, this typical report section is omitted here.

7.0 RESULTS OF THE ARCHAEOLOGICAL SURVEY

The crew conducted fieldwork on November 6-7, 2023. The weather during the survey was partly cloudy and cold (40°F). The weather did not hinder the completion of the fieldwork. The crew used subsurface testing and visual inspection to survey the project area (Figure 13). The project contained wetland areas and visible severe disturbance precluding shovel testing in some locations. Subsurface testing documented evidence of severe disturbance throughout the project area, not visible from the surface, related to the initial construction and ongoing maintenance of the airport (Photo 1–Photo 7).

7.1 VISUALLY INSPECTED AREAS

The crew visually inspected the project area for surface evidence of archaeological sites apart from artifacts, as well as to identify any areas of disturbance that would have removed archaeological deposits or prevent survey. There were no indications of any archaeological features such as mounds, earthworks, or depressions such as cellar holes or outhouse shafts observed within the APE. The visual inspection confirmed the wetland conditions along the southern border of the project area and the severely disturbed conditions along the paved runway and access road, precluding shovel testing in those areas.

7.2 SUBSURFACE EXCAVATIONS

After the visual inspection was finished, the crew proceeded with subsurface investigations in the portions of the project area that were not visually evident as previously disturbed. The crew excavated a total of 65 shovel probes, with no locations showing evidence for intact soils. While the topsoil layers resembled the Gilford sandy loam mapped in the area, the subsoil showed evidence of the grading and filling activities that have occurred since the initial construction of the airport. The topsoil (Ap horizon) consisted of a mottled black (10YR 2/1) sandy loam; however, the subsoil (Bg1 horizon) contained a high amount of gravel and was extremely mottled. The occurrence of disturbance is clearly evidenced by the severe mottling and fill gravel in the shovel probes and the historic aerial photographs of the project area showing several grading and filling episodes over the years. A typical shovel probe showing disturbed soils is depicted in Photo 8.

7.3 RESEARCH QUESTIONS 3 AND 4 DISCUSSION

After completing analysis of the results of fieldwork, the second two research questions regarding effects on cultural resources and the presence of NR-eligible properties can be addressed.

- 3. Will the proposed project affect any cultural resources (archaeological or above ground structures)?
 - The proposed project does not appear to have the potential to affect any cultural resources, either directly or indirectly. No archaeological sites are within the project area and the project will not result in a substantial change to the current physical setting of the surrounding area.
- 4. If cultural resources will be affected, are any of those affected resources listed, eligible, or require further study for inclusion on the National Register of Historic Places?
 - No cultural resources will be affected.

8.0 SUMMARY AND CONCLUSIONS

In November of 2023, L&A, under contract with Mead & Hunt, Inc., conducted a Phase I archaeology survey of approximately 17.2 acres (6.95 ha) for the proposed runway improvements project at Oakland Southwest Airport (Y47) in Lyon Township, Oakland County, Michigan. The APE is centered around Runway 8/26 and is rectangular in size, measuring approximately 2,770 feet by 268 feet. Field methods included visual inspection and subsurface testing. The crew documented soil disturbance during excavations, confirming the unnatural flatness of the ground surface was related to past grading activities across the project area. The crew excavated a total of 65 shovel probes with no locations showing evidence of undisturbed soil. L&A staff did not identify any archaeological sites during the survey.

Due to the extensive ground disturbance in the APE, there is no potential to encounter archaeological sites within the project area and no further archaeological investigations are recommended in connection with this project.

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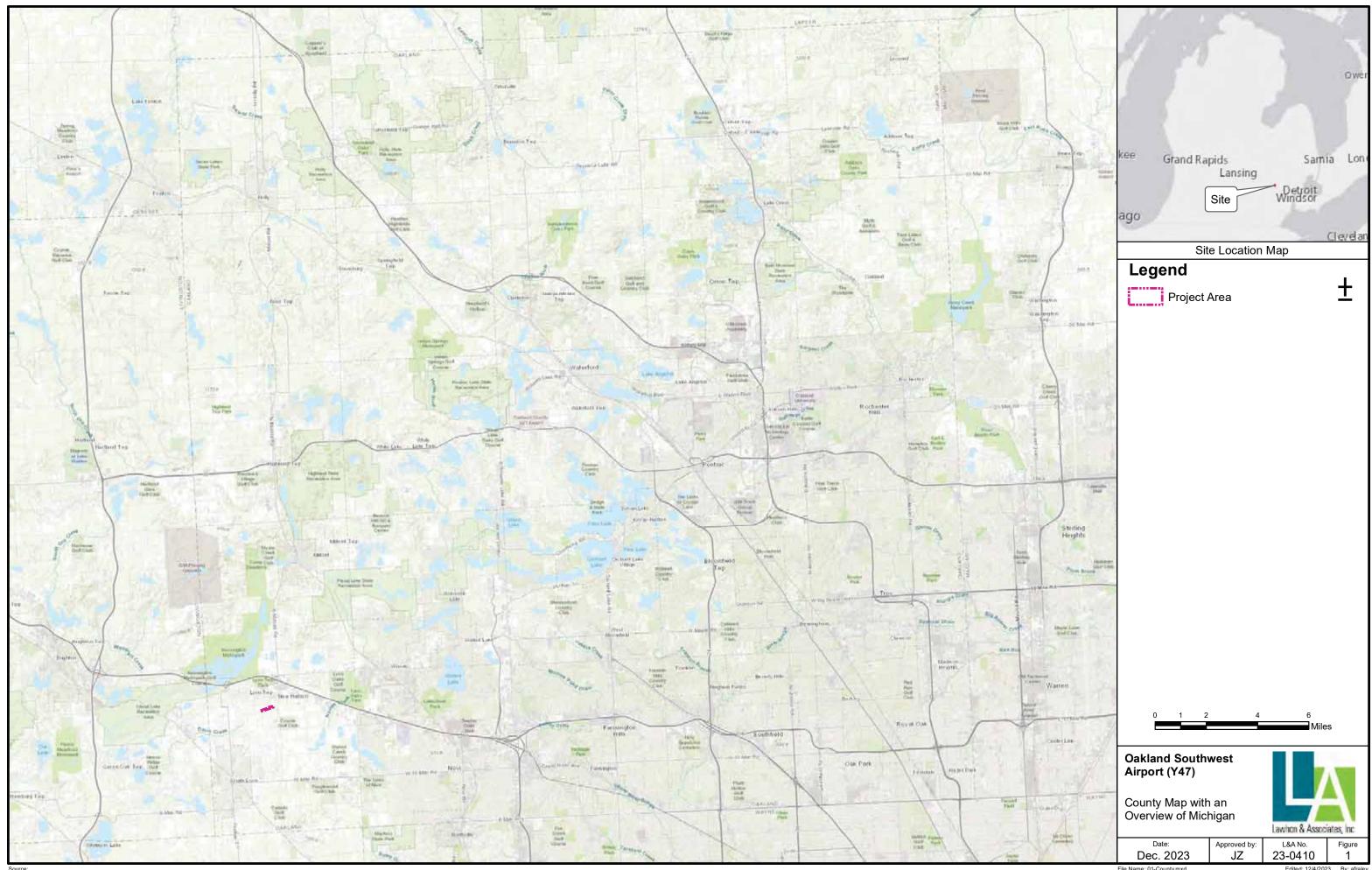
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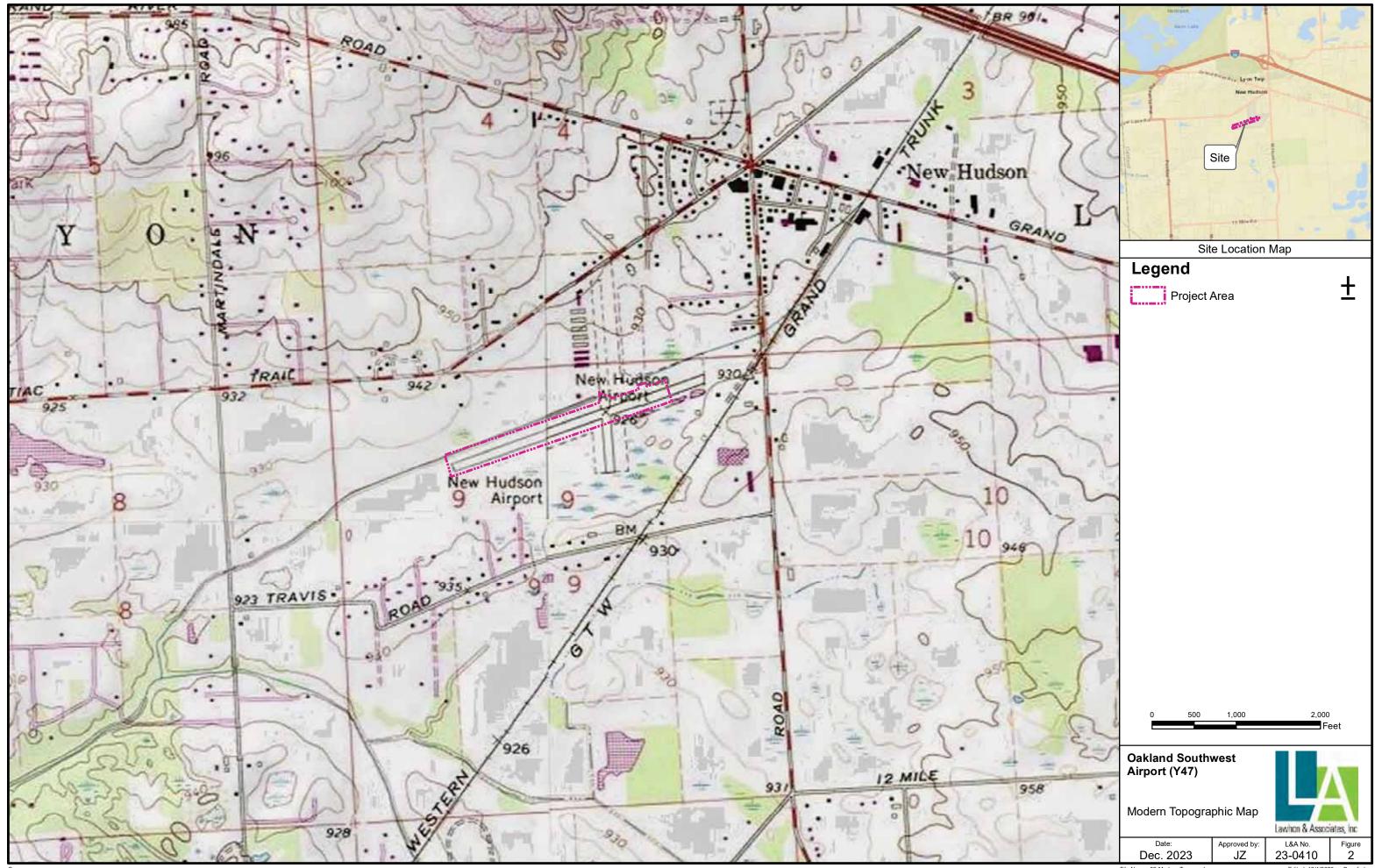
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10.0 FIGURES

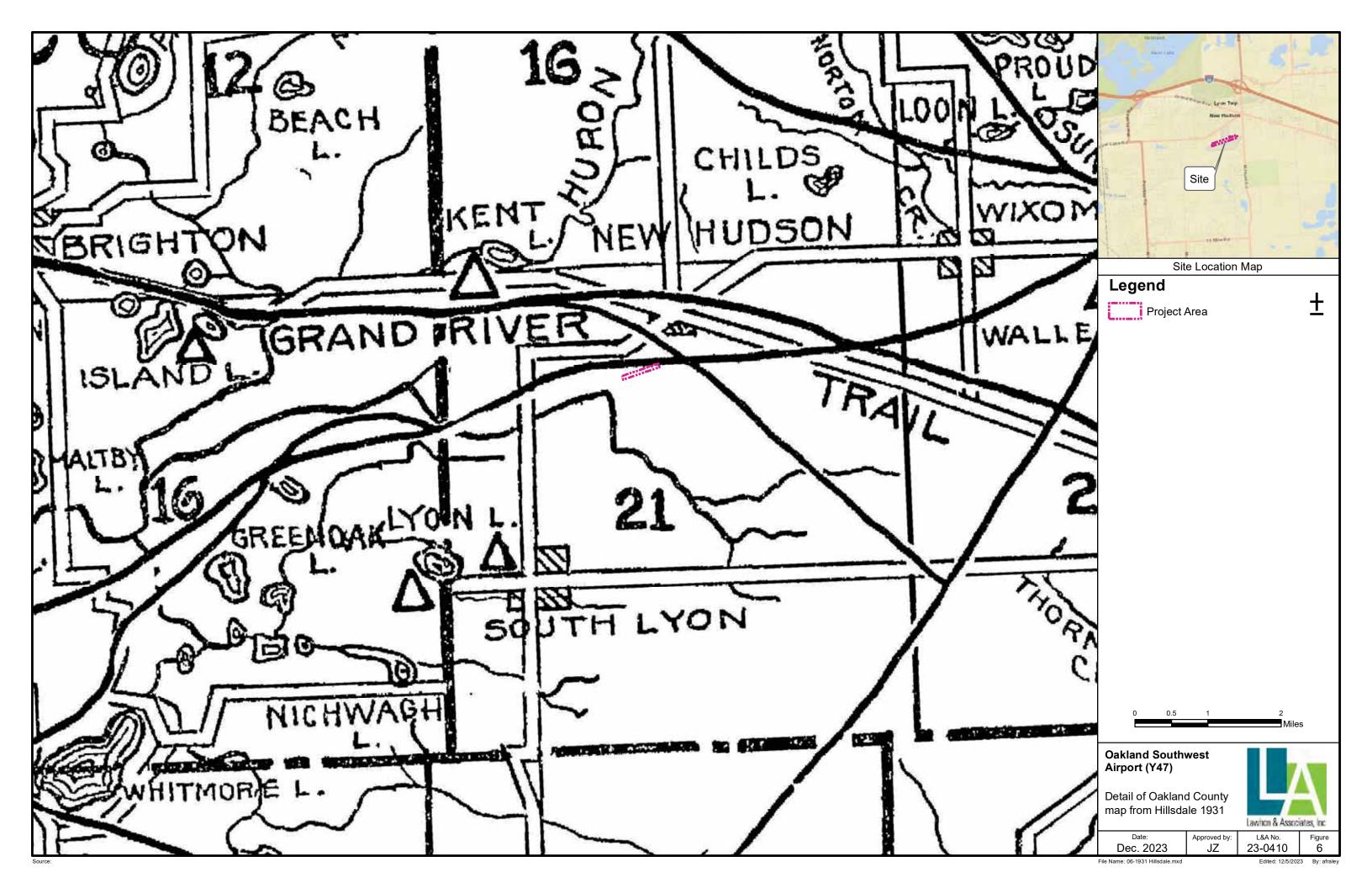




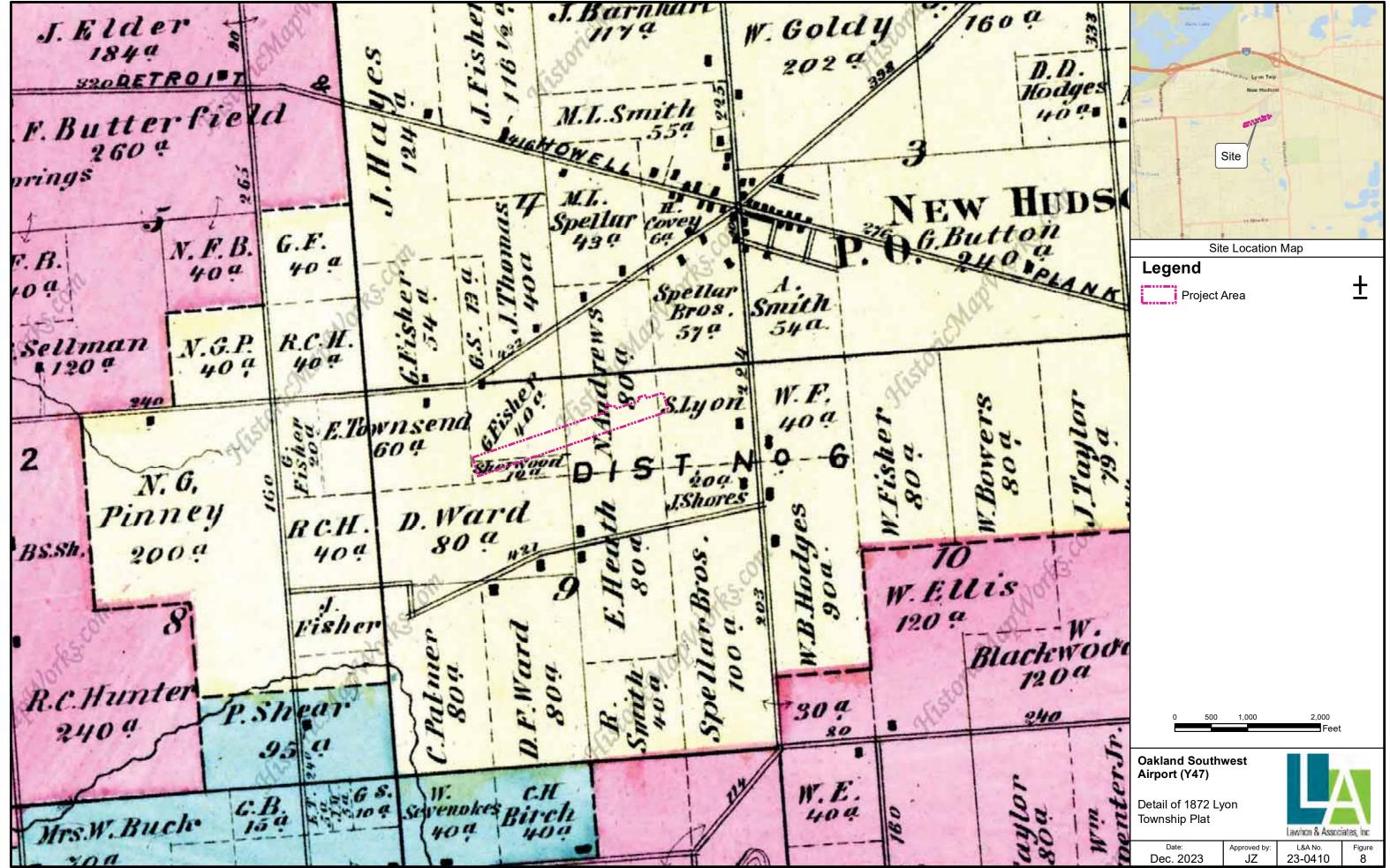


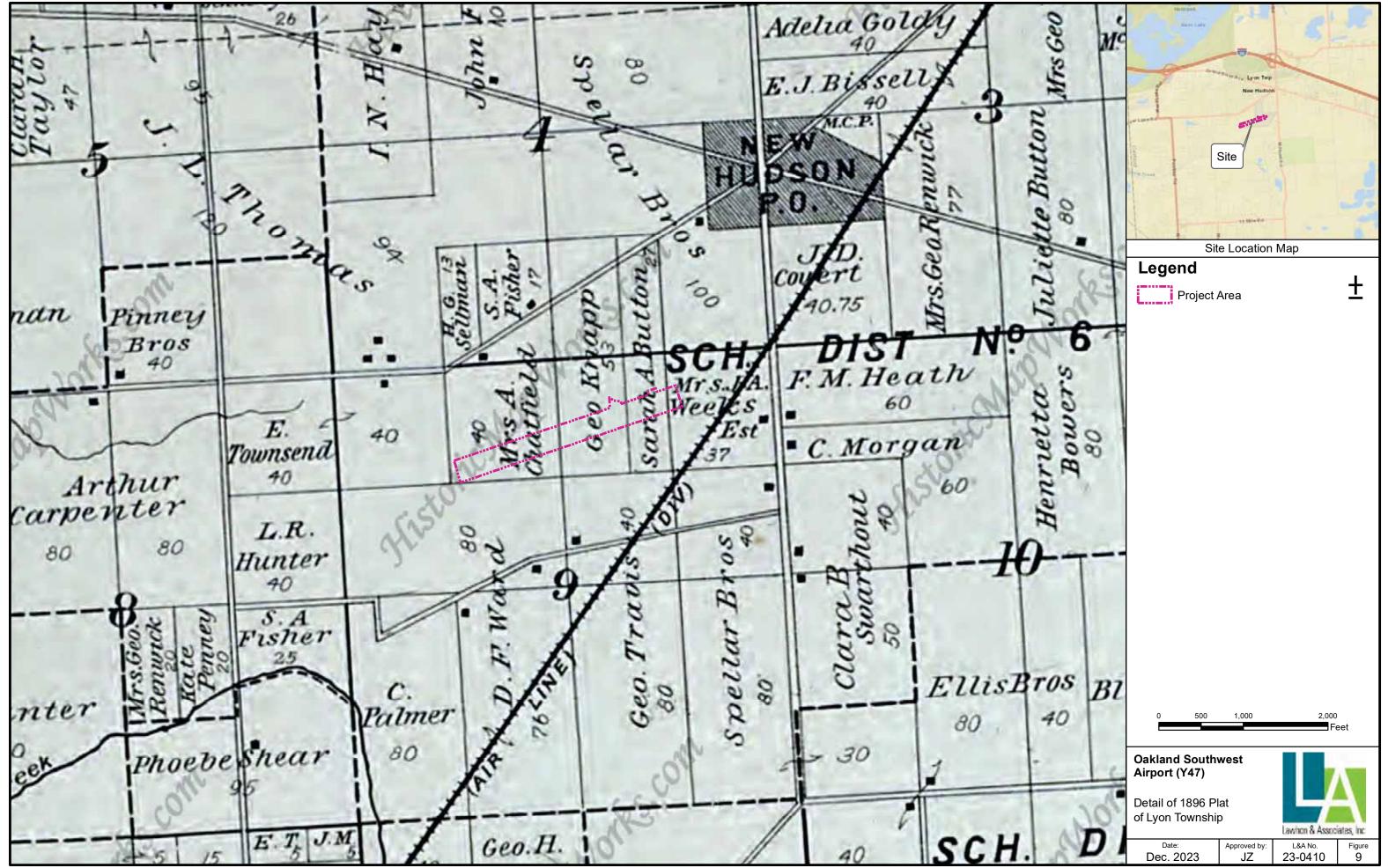


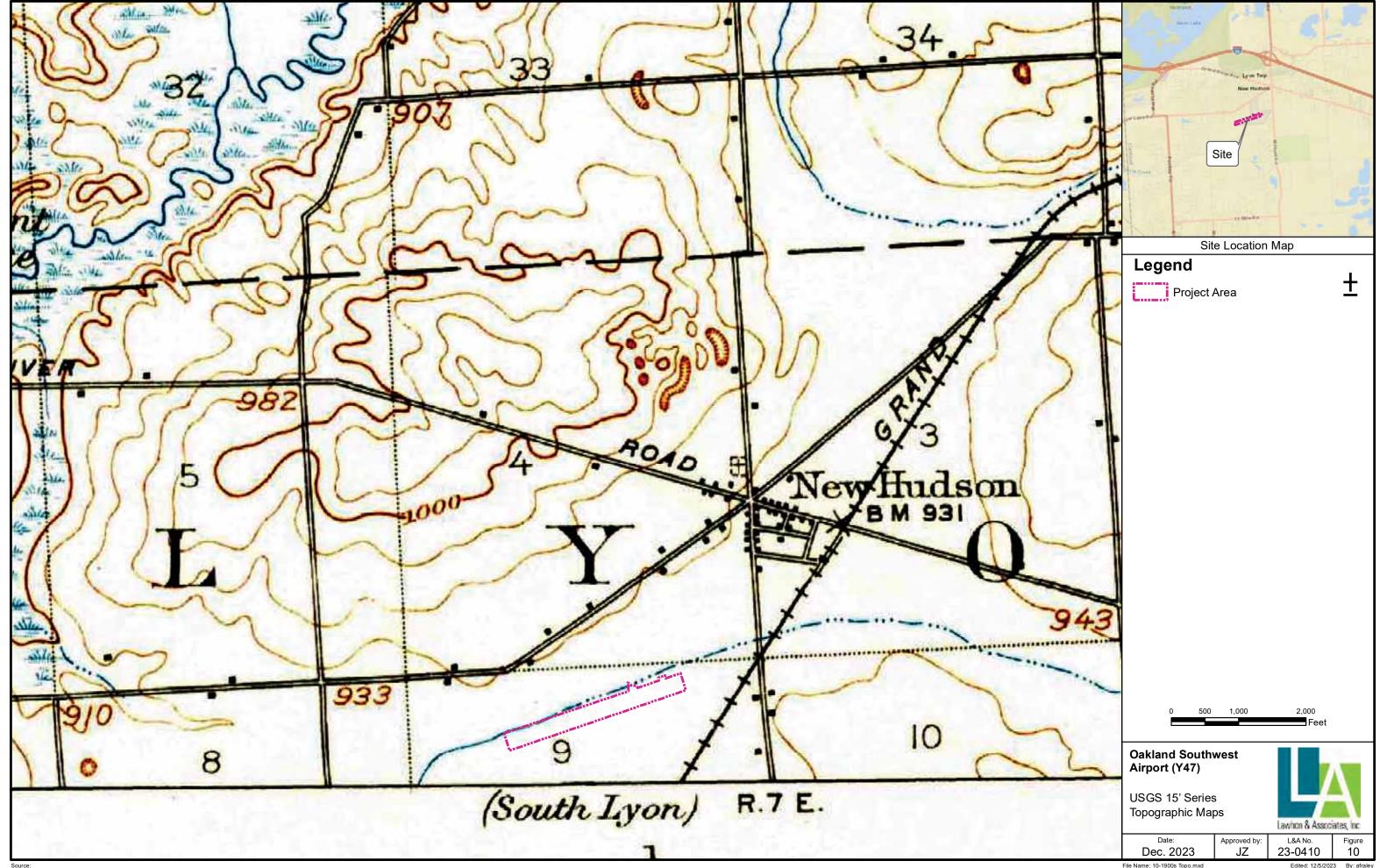


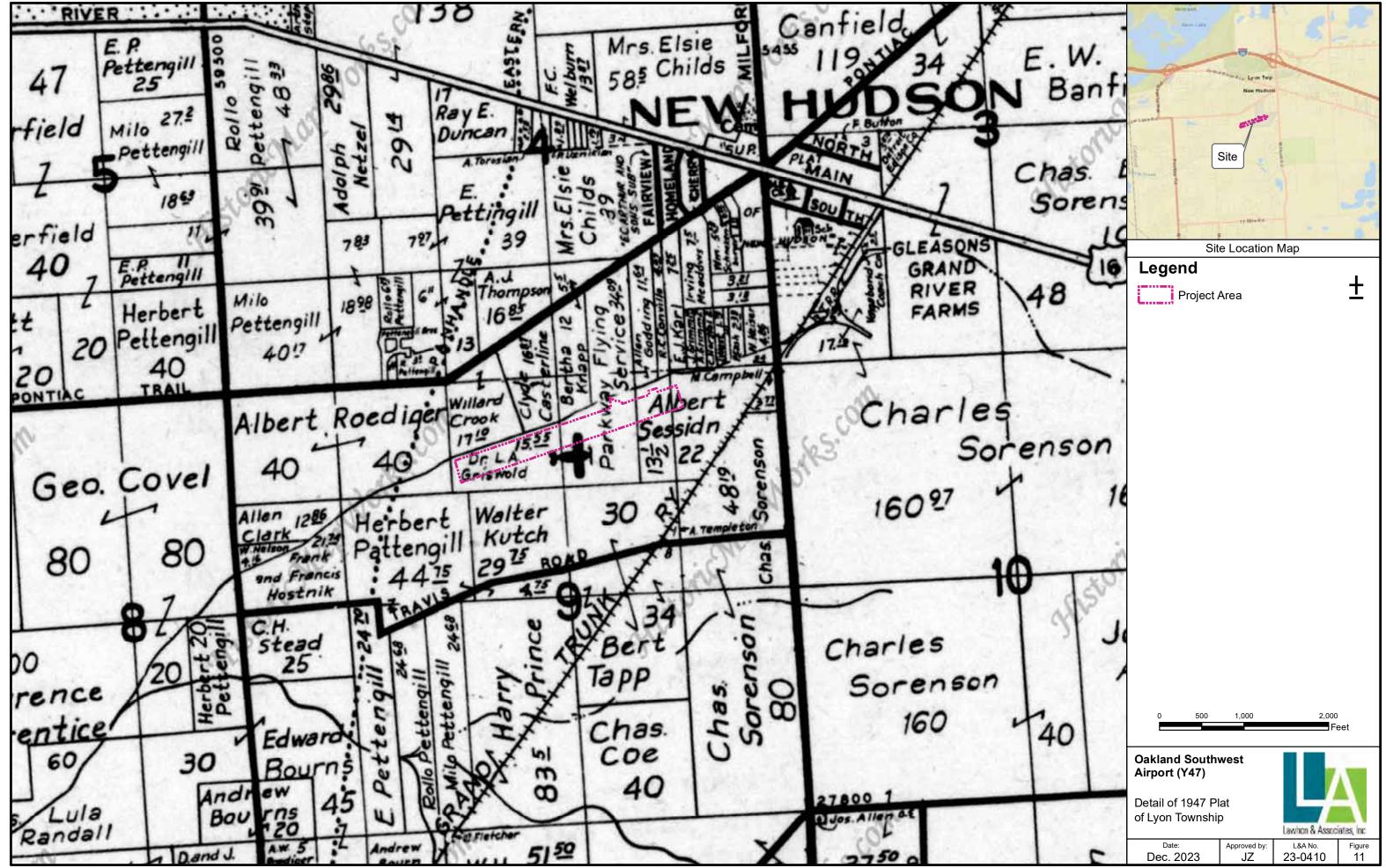


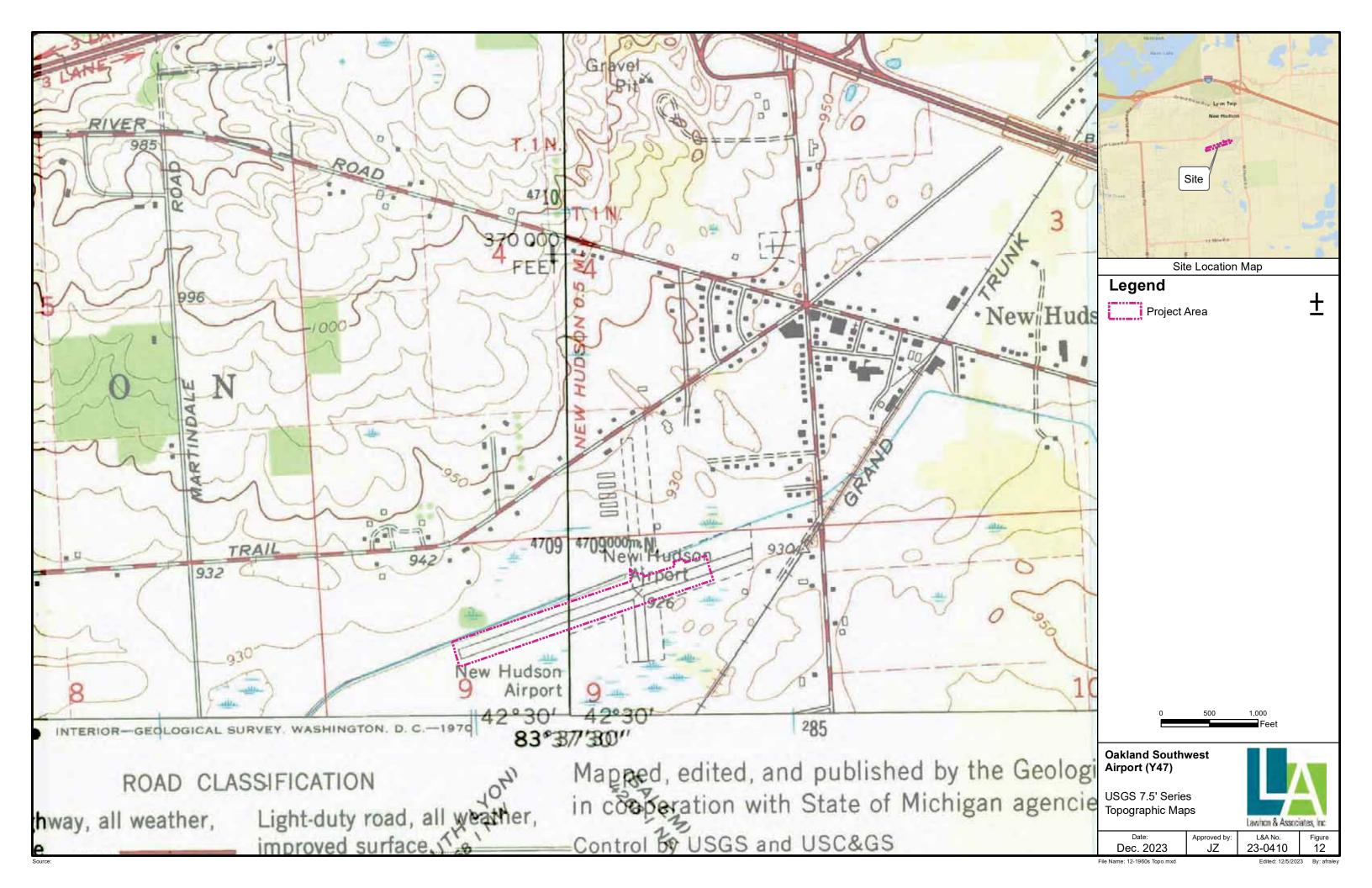


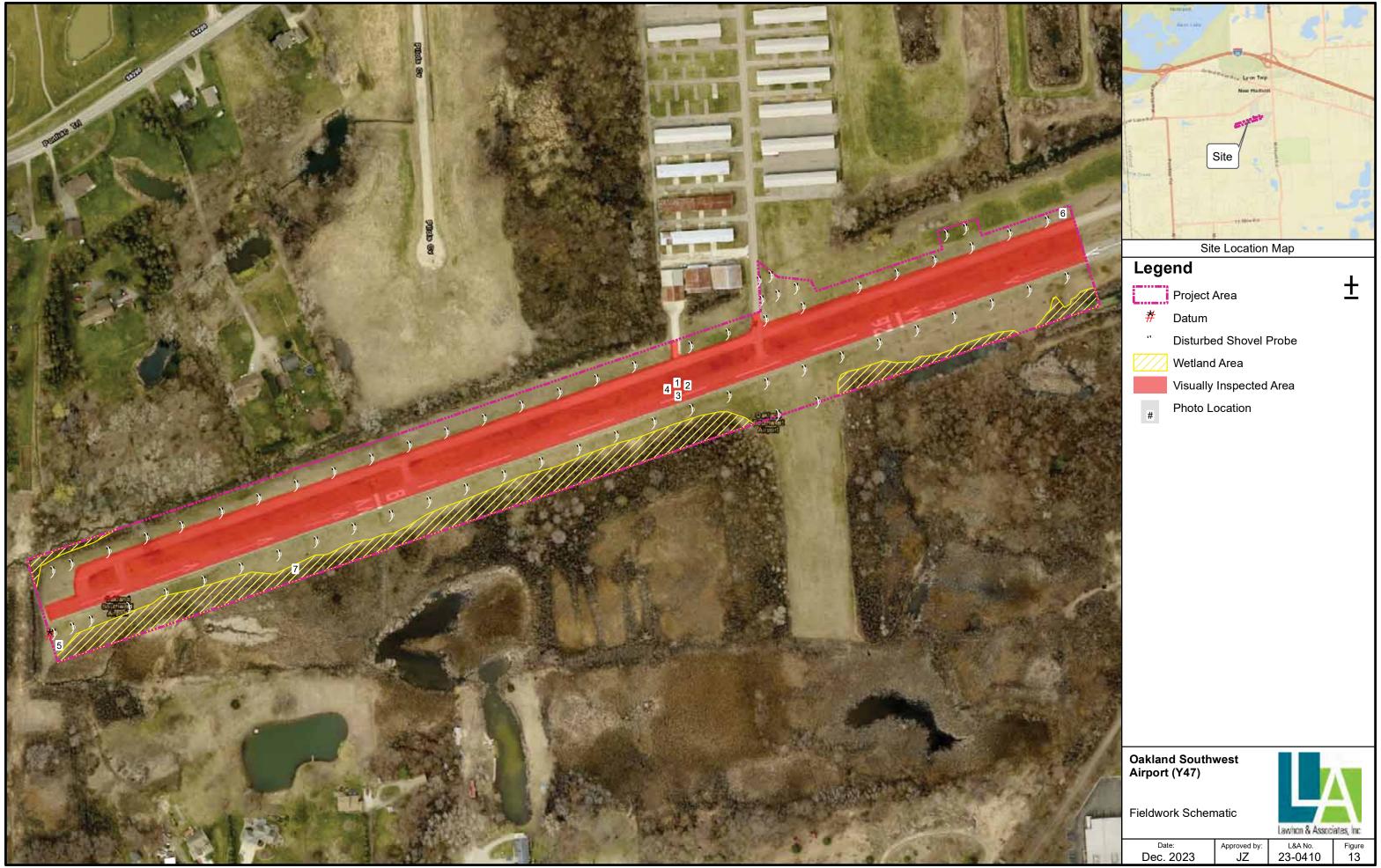












11.0 PHOTOS



Photo 1. View from the center of the project area, facing north



Photo 2: View from the center of the project area, facing east



Photo 3. View from the center of the project area, facing south



Photo 4. View from the center of the project area, facing west



Photo 5. View from the southwestern corner of the project area, facing northeast



Photo 6. View from the northeastern corner of the project area, facing southwest

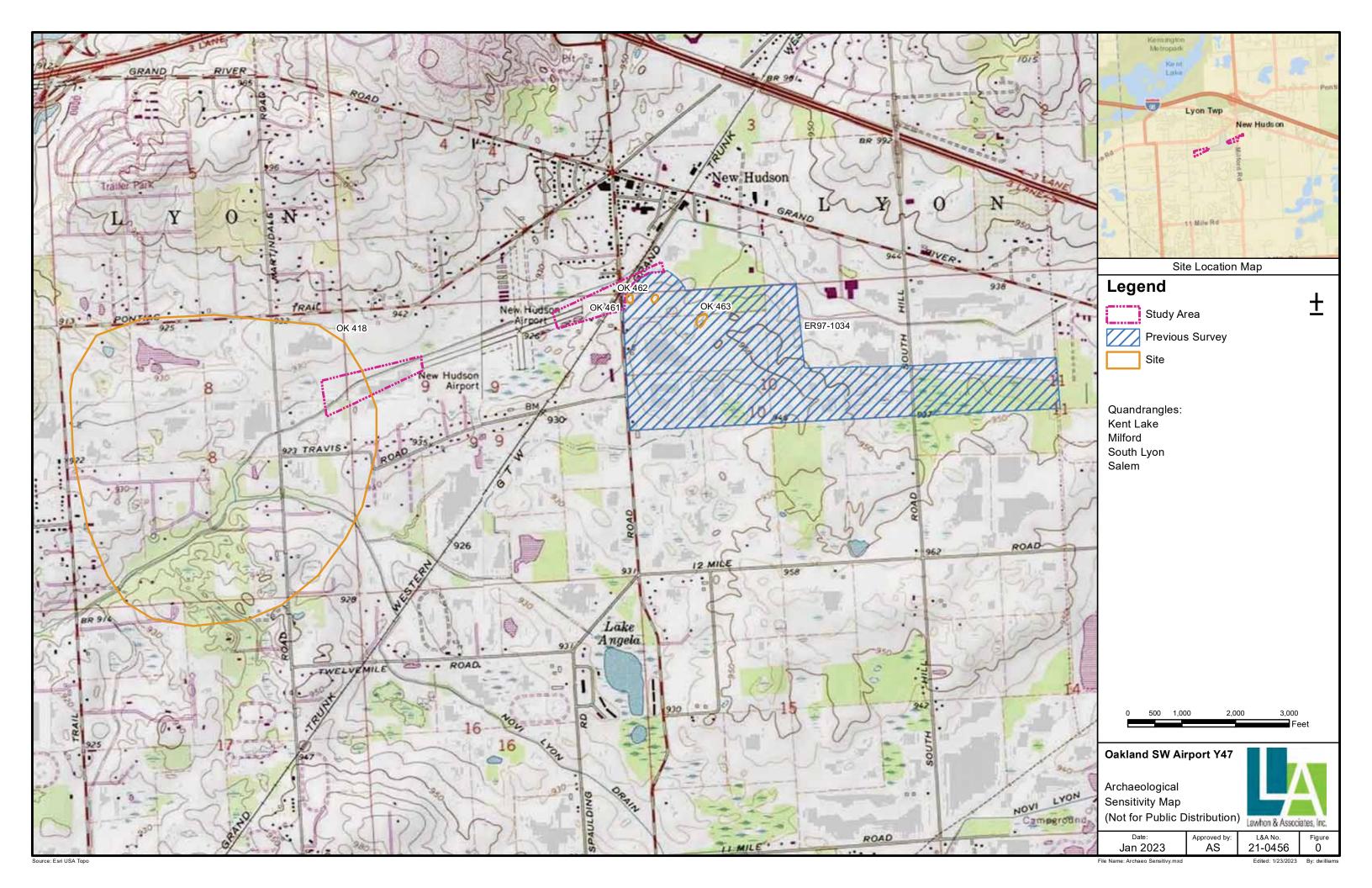


Photo 7. View of wetland conditions within project area, facing southeast



Photo 8. View of a disturbed shovel probe inside the project area

Attachment E.	Archaeology Sensitivity M	aps	





Attachment F.	Inventory Forms		



								STATE HISTORIC PRESERVATION OFFICE		
Street Address			29321 Milford Road							
City/Township, Sta	ate, Zir	o Code								
County	, т			Oakland County						
Assessor's Parcel	#			09226014						
Latitude/Longitude	(to th	e 6 th d	ecima	l point) Lat:	42.50)288	Lon	g: -83.615267		
Ownership Priva				blic-Local		ublic-State		olic-Federal Multiple		
Property Type	_	_	'		(Inse	ert primary photogr	aph be			
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Residential 🗵				Object			2.3	在 经济上 图》 毫		
Industrial				, –	l à		1	No. of the last of		
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Architectural Infor	matio	n								
Construction Date		1928								
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Building Form			angula			1986				
Roof Form			gable			E THE				
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Exterior Wall Mate	erials	Wood	d; stuc	stucco; stone						
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Foundation Materi	ials	Conc					-			
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Window Type		_		ne double-						
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Outbuildings		Yes		No _	-					
Number/Type:		(1) Ga	rage	J ∟					
Eligibility										
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Historic District Not Eligible ⊠	distri	υι <u></u>		to a district		Name:				
Area(s) of Signification			N/A							
Period(s) of Signif			N/A							
		erty p				ne of the 7 aspects				
	esign		Materials Workmanship Setting Feeling Association							
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				House						
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Survey Date 09	9/27/20	U22	Re	corded By B	rian I	Matuk (Mead & Hu	nt) A	gency Report #		

Provide a detailed description of the property, including all character defining features and any accessory resources.

This one-and-one-half-story, vernacular, front-gable house was constructed in 1928.¹ The form is generally a one-and-one-half-story front-gable with several additions. The front-gable roof is clad in asphalt shingles with an exterior brick chimney at the north elevation. It is of frame construction on a concrete-block foundation with an exterior of primarily vinyl siding. A stone water table spans a portion of the north and east elevations. Most windows are vinyl or metal, one-over-one, double-hung, with some replacement casement and fixed sash. The main entry is accessible via a poured concrete stoop, flanked by stone kneewalls and sheltered by a metal awning. A two-story addition is at the southeast corner, and second-story shed dormers are along both side elevations.

To the northeast of the house is a c.1950, two-car, concrete-block garage.² The side-gable roof is clad in asphalt shingles. A shed-roof overhang with support beams is at the south elevation.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required for all intensive level surveys and designation and recommended for other identification efforts.</u>

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.³

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.⁴ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁵ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century.⁶ The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in 2000.⁷ Today the area around Milford Road and the subject property consists of some extant rural houses

¹ "Oakland County-58385," Regrid, accessed August 23, 2022,

https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/404115&t=property.

² "Aerial Image: New Hudson, Oakland County, Michigan, 1940," *Oakland County Michigan*, accessed August 24, 2022, https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 1952," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

³ "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 1980." Oakland County Michigan, accessed August 24, 2022.

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 2010," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 2014," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁴ Downtown Development Authority, "Lyon Township" (Lyon Township, n.d.).

⁵ Downtown Development Authority, "Lyon Township."

⁶ "Aerial Image: New Hudson, Oakland County, Michigan, 1963," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1973," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1983," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁷ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

constructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.8

The earliest available plat map following the house's construction (1947) shows M. Campbell owning the subject property, as well as the two properties directly to the north at 29393 Milford Road and 29509 Milford Road.

Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. <u>This is required</u> for all properties.

This vernacular house was evaluated for the National Register of Historic Places (National Register) under *Criteria A, B,* and *C.* No evidence was found to suggest that it is significant under *Criterion A,* as research did not reveal any associations with historically significant events or the specific development or growth of Milford Road or New Hudson. Research did not uncover evidence to suggest significance under *Criterion B.* The house is an altered example of a vernacular front-gable residence and exhibits few stylistic elements. As such, it does not possess significance under *Criterion C.* Therefore, this property is recommended not eligible for listing in the National Register.

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^{8 &}quot;Oakland County."

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							PRESERVA	HISTORIC TION OFFICE
Street Address		2	29393 Milford Roa	ad				
City/Township, Sta	ite, Zip (Code 1	New Hudson, MI 48165					
County			Oakland County					
Assessor's Parcel	#	2	2109226013					
Latitude/Longitude	(to the	6 th decin	nal point) Lat:	42.50)4253	Lo	ong: -83.615695	
Ownership Priva			Public-Local	P	ublic-State		ublic-Federal	Multiple
Property Type				(Inse	ert primary photo	graph	below.)	
Building select	sub-tvp	e below	Structure					
Commercial								以为 为
Residential 🗵]		Object	7 [X		
Industrial			, _					
Other					The state of the state of	100		1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
Architectural Infor	mation				-ALA	4		
Construction Date		1952						
Architectural Style		Ranch		_				
Building Form		Rectang		_ 4	141	海 植		2 00
Roof Form		Side ga		- 		3		
Roof Materials			shingles	- 11				
Exterior Wall Mater		Wood s		- 1				
Foundation Materia	als	Concret						
Window Materials		Vinyl						
Window Type		_	-over-one double-					
Outbuildings			; picture; sliding No					
Number/Type:		(1) Gara						
Number/Type.		(1) Gara	ige					
Eligibility		_						
Individually Eligible	Criterio	n A	Criterion B		Criterion C] Cri	terion D	
Criteria Considerat	tions:		a. 🔲 b. 🔲	с. [de	f	g. 🗌	
Component of a	Contrib	outing to	_		Historic District	t		
Historic District	district		to a district [Name:			
Not Eligible 🖂								
Area(s) of Significa	ance	N/A	4					
Period(s) of Signific		N/A						
Integrity – Does the				or sor	ne of the 7 aspe	cts?		
	esign [rkman			Feeling A	ssociation
General Integrity:	· · · · L		Intact ☐ Altered ☐ Moved ☐ Date(s):					
Historic Name			House					
Current/Common N	Name		use					
Historic/Original Ov			known					
Historic Building Us			gle-Family Dwell	ing				
Current Building Use Single-Family Dwelling								
Architect/Engineer/			known					
Builder/Contractor	<u></u>		known					
		1						
Survey Date 09	9/27/202	22 F	Recorded By E	Brian I	Matuk (Mead & F	Hunt)	Agency Report #	
					·	,		

Provide a detailed description of the property, including all character defining features and any accessory resources.

This one-and-one-half-story Ranch-style house was constructed in 1952.¹ It is of frame construction and sheathed in clapboard siding. The side-gable roof is covered in asphalt shingles and vertical wood siding is in the gable ends. An interior brick chimney is at the center of the ridgeline. Windows are vinyl,, one-over-one double-hung; casement; and fixed sash. A front-gable projection is at the south end of the (east) facade. The main entrance is centrally located on the facade. To the southwest of the house is a two-car, concrete-block garage, which has a front-gable roof clad in asphalt shingles.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required</u> for all intensive level surveys and designation and recommended for other identification efforts.

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.²

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.³ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁴ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century.⁵ The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in 2000.⁶ Today the area around Milford Road and the subject property consists of some extant rural houses constructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.⁷

Aerial photographs of the area from the 1950s show Milford Road south of the village center of New Hudson as an established route with the surrounding area showing established residential development near 29393 Milford Road and rural farmsteads. The earliest available plat map following construction (1947) shows M. Campbell owning

¹ "Oakland County," Regrid, n.d., accessed August 24, 2022.

² "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 1980," Oakland County Michigan, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 2010," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 2014," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

³ Downtown Development Authority, "Lyon Township" (Lyon Township, n.d.).

⁴ Downtown Development Authority, "Lyon Township."

⁵ "Aerial Image: New Hudson, Oakland County, Michigan, 1963," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1973," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1983," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁶ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

^{7 &}quot;Oakland County."

^{8 &}quot;Aerial Image: New Hudson, Oakland County, Michigan, 1940."

the subject property as well as the properties directly to the north and south at 29509 Milford Road and 29321 Milford Road, respectively.

Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. <u>This is required</u> for all properties.

This Ranch-style house was evaluated for the National Register of Historic Places (National Register) under *Criteria A, B,* and *C.* No evidence was found to suggest that it is significant under *Criterion A,* as research did not reveal any associations with historically significant events or the specific development or growth of Milford Road or New Hudson. Research did not uncover evidence to suggest a significance under *Criterion B.* The house is a modest example of the Ranch and exhibits few stylistic elements. As such, the house does not possess significance under *Criterion C.* Therefore, this property is recommended not eligible for listing in the National Register.

References

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						PRESERVATION OFFICE		
Street Address		9509 Milford Roa						
City/Township, State, Zip		New Hudson, MI 48165						
County		Oakland County						
Assessor's Parcel #		2104477023						
Latitude/Longitude (to the			42.50		Long: -83			
Ownership Private 🛛	P	ublic-Local		ublic-State	Public-Fe			
Property Type			(Inse	rt primary photogra	aph below.)			
Building ⊠ select sub-ty Commercial □ Residential ⊠ Industrial □ Other □	pe below	Structure Object			/			
Architectural Information	ı		9					
Construction Date	1928			CONTRACTOR TO	115			
Architectural Style	Colonial	Revival						
Building Form	T-Shape				The state of the s	海影型流域		
Roof Form	Cross-ga		🛚			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Roof Materials	Asphalt s			EL MEAN				
Exterior Wall Materials	Vinyl			I EM	1			
Foundation Materials	Not visib	le	1		Byers.	1975		
Window Materials	Vinyl	SIDIC						
Window Type		over-one double-						
71		; awning;						
		ment; bay						
Outbuildings	Yes [
Number/Type:	N/A							
Eligibility			-					
Individually Criteri	on A	Criterion B		Criterion C	Criterion [ОП		
Eligible	OII / L	Ginterion B			O'INOTION !			
Criteria Considerations:		а. П b. П	c.	d. e.	fg	7		
	buting to a			Historic District	··			
Historic District distric		to a district		Name:				
Not Eligible								
	NI/A							
Area(s) of Significance	N/A							
Period(s) of Significance	N/A	and intermediate the college		f th - 7 t-	2			
Integrity – Does the property						ing Association		
Location Design			mans					
General Integrity:		Intact						
Historic Name		House						
Current/Common Name		House Unknown						
Historic/Original Owner								
Historic Building Use		le-Family Dwellin						
Current Building Use		le-Family Dwellir	ıg					
Architect/Engineer/Design		nown						
Builder/Contractor	Unk	nown						
Survey Date 09/27/20	22 R	ecorded By B	rian N	//atuk (Mead & Hur	nt) Agenc	y Report #		

Provide a detailed description of the property, including all character defining features and any accessory resources.

Two houses are on parcel 2104477023: 29509 Milford Road and 29511 Milford Road. This inventory form is for the house at 29509 Milford Road, located to the east of the house at 29511 Milford Road.

This one-and-one-half-story vernacular house was built in 1928 and has a cross-gambrel roof clad in asphalt shingles. The exterior is clad in vinyl and wood siding. Wood detailing is at the gambrel end of the front (east) facade. A large exterior brick chimney is at the north end of the east elevation. The windows are primarily one-over-one, double-hung, along with awning and casement sash. The north elevation contains a modern bay window. An enclosed hip roof porch is at the south end of the facade, which accommodates the main entry. To the west of the house is a one-story garage clad in wood siding, with a side-gable roof covered in asphalt shingles. A small addition was added to the southwest corner of the house, likely in the 1960s or 1970s.²

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required for all intensive level surveys and designation and recommended for other identification efforts.</u>

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.³

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.⁴ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁵ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century.⁶ The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in 2000.⁷ Today the area around Milford Road and the subject property consists of some extant rural houses

¹ "Oakland County-58385," Regrid, accessed August 23, 2022,

https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/404115&t=property.

² "Aerial Image: New Hudson, Oakland County, Michigan, 1957"; "Aerial Image: New Hudson, Oakland County, Michigan, 1963"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974."

³ "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 1980," Oakland County Michigan, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 2010," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 2014," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁴ Downtown Development Authority, "Lyon Township" (Lyon Township, n.d.).

⁵ Downtown Development Authority, "Lyon Township."

⁶ "Aerial Image: New Hudson, Oakland County, Michigan, 1963," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1973," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1983," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁷ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

co8nstructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.

The earliest aerial of Milford Road, from 1940, shows the other house on the parcel, 29511 Milford Road, to the west of the subject house.9

Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. This is required for all properties.

This vernacular house was evaluated for the National Register of Historic Places (National Register) under *Criteria* A, B, and C. No evidence was found to suggest that it is significant under Criterion A, as research did not reveal any associations with historically significant events or the specific development or growth of Milford Road or New Hudson, Research did not uncover evidence to suggest significance under *Criterion B*. The house is an altered example of a vernacular front-gable house and exhibits few stylistic elements. As such, the house does not possess significance under Criterion C. Therefore, this property is recommended not eligible for listing in the National Register.

References

- "Aerial Image: New Hudson, Oakland County, Michigan, 1940." Oakland County Michigan. Accessed August 24, 2022.
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^{8 &}quot;Oakland County."

⁹ "Aerial Image: New Hudson, Oakland County, Michigan, 1940."

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- "Oakland County-58385." *Regrid*. Accessed August 23, 2022. https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/404115&t=property.
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- W.S. McAlpine Map Company. "Lyon Township, New Hudson, Oakland County, Michigan 1947." 2 Inches to a Mile. Birmingham, Michigan, 1896. US160502. Historic Map Works Rare Historic Maps Collection. http://www.historicmapworks.com/Map/US/160502/Lyon+Township++New+Hudson/Oakland+County+1947/Michigan/.



							PRE	SERVATION OFFICE
Street Address	511 Milford Roa							
City/Township, State,	New Hudson, MI 48165							
County		Oakland County						
Assessor's Parcel #		04477023						
Latitude/Longitude (to	o the 6 th de			42.50			Long: -83.6163	
Ownership Private	Pul	blic-Local	P	ublic-Stat	e 🗌	Public-Federal	Multiple	
Property Type					ert primary	photogra	aph below.)	
Building Select su Commercial Residential		Structure Object	1					
Industrial ☐ Other ☐								
Architectural Informa	ation			à	1		- A.	
Construction Date	c.1945	·)		1 [至一个大学	
Architectural Style	Ranch				香油	DA ESE	May -	and the same of th
Building Form	T-Sha				1	7-1-3		
Roof Form	Cross-	gable			+- /	100		
Roof Materials	Aspha				- E			1 100
Exterior Wall Materia			g				-	
Foundation Materials	Not vis	sible			学	-0		ACCOUNT OF THE PARTY OF THE PAR
Window Materials	Vinyl							
Window Type			hung; fixed, awning					
Outbuildings	Yes		No 🗌] 느				
Number/Type:	(1) Sh	ed						
Eligibility								
Individually Ci Eligible	riterion A		Criterion B		Criterion	C 🗌	Criterion D	
Criteria Consideration	ns:		a. 🔲 b. 🔲	с. [d. 🗌	е. 🗌	f g	
	ontributing strict	to a	Non-contribut to a district	ing]	Historic Name:	District		
Not Eligible 🖂								
Area(s) of Significance	`p	N/A						
Period(s) of Significant		N/A						
Integrity – Does the p			s integrity in all o	or sor	ne of the	7 aspects	?	
Location Design		Mate				Setting	Feeling [Association
General Integrity:		ntact	☐ Alt	ered [Mov	red 🗍	Date(s):
Historic Name		Hous				11131		\- /-
Current/Common Na		Hous						
Historic/Original Own		Unkn						
Historic Building Use Single-family Dwellin				g				
Current Building Use Single-Family Dwe								
Architect/Engineer/De		Unkn						
Builder/Contractor		Unkn						
Survey Date 09/2	7/2022	Re	corded By B	rian N	Matuk (Me	ead & Hui	nt) Agency Rep	oort#
For SHPO Use Only	SHPO	Con	currence?: Y /	N		Date:		

Provide a detailed description of the property, including all character defining features and any accessory resources.

Two houses are on parcel 2104477023: 29509 Milford Road and 29511 Milford Road. This inventory form is for the house at 29511 Milford Road, located to the west, and behind, the house at 29509 Milford Road.

The one-and-one-half-story Ranch house at 29511 Milford Road was constructed c.1945. It is of frame construction and sheathed in vinyl cladding, with a T-plan. The cross-gable roof is covered with asphalt shingles. Windows are primarily replacement vinyl, and consist of one-over-one double-hung; awning; and fixed, multi-light windows. A side-gable addition is at the north elevation, and a shed-roof addition on the south end of the front (east) facade. According to aerial photography, a one-story, front-gable addition is at the south end of the rear (west) elevation that is not visible from the right-of-way.

To the northwest of the house is a large shed clad in vinyl siding constructed c.1965; it has a side-gable roof covered with asphalt shingles.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required</u> for all intensive level surveys and designation and recommended for other identification efforts.

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.¹

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.² Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.³ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century.⁴ The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in 2000.⁵ Today the area around Milford Road and the subject property consists of some extant rural houses constructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.⁶

¹ "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 1980," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 2010," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 2014," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

² Downtown Development Authority, "Lyon Township" (Lyon Township, n.d.).

³ Downtown Development Authority, "Lyon Township."

⁴ "Aerial Image: New Hudson, Oakland County, Michigan, 1963," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1973," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1983," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁵ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

^{6 &}quot;Oakland County."

The earliest aerial of Milford Road, from 1940, shows the other house on the parcel, 29509 Milford Road, but not the subject house built c.1945.⁷

Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. <u>This is required</u> for all properties.

This Ranch-style house was evaluated for the National Register of Historic Places (National Register) under *Criteria A, B,* and *C.* No evidence was found to suggest that it is significant under *Criterion A,* as research did not reveal any associations with historically significant events or the specific development or growth of Milford Road or New Hudson. Research did not uncover evidence to suggest a significance under *Criterion B.* The house is a modest Ranch example and exhibits few stylistic elements. As such, the house does not possess significance under *Criterion C.* Therefore, this property is recommended not eligible for listing in the National Register.

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 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.

⁷ "Aerial Image: New Hudson, Oakland County, Michigan, 1940."

- "Aerial Image: New Hudson, Oakland County, Michigan, 2000." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
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SHPO Concurrence?: Y/N



Street Address			58480 Travis Road			THE STATE OF THE S	TON OFFICE		
City/Township, S	tate. 7in								
County	, <u></u> .p		Oakland County						
Assessor's Parce	el #		2109100016						
Latitude/Longitud				12.4	99274	Long: -83.630026			
Ownership Priv			Public-Local		Public-State	Public-Federal	Multiple		
Property Type				(Ir	nsert primary photog	raph below.)			
Building Selection		pe below	v Structure						
Residential			Object		THE RESERVE	THE STATE OF THE			
Industrial					A STATE OF THE STA				
Other									
Architectural Info	rmation	l				智樂 二			
Construction Date	е	1967							
Architectural Styl	е	Ranch							
Building Form		Rectan							
Roof Form		Side-ga			A STATE OF THE PARTY OF THE PAR	STATE OF THE PARTY OF	The second second		
Roof Materials			t shingles			the state of the state of	建		
Exterior Wall Mat		Brick			700				
Foundation Mate		Not vis	ible						
Window Materials	S	Vinyl				The Party			
Window Type			g; fixed						
Outbuildings									
Number/Type	e:	(1) Out	building						
Eligibility									
Individually Eligible	Criterio	n A	Criterion B		Criterion C	Criterion D			
Criteria Consider	ations:		a. 🗌 b. 🔲	с. [] d. [] e. [] f	g			
Component of a Historic District	Contrib district	uting to	a Non-contributin to a district ☐	ng	Historic District Na	me:			
Not Eligible									
Area(s) of Signific	cance	N/	/A						
Period(s) of Signi		N/							
			sess integrity in all o	r so	me of the 7 aspects	?			
	Design		Materials Workmanship Setting Feeling Association						
General Integrity:			Intact Altered Moved Date(s):						
Historic Name			House						
			House						
Historic/Original (Unknown						
3			ngle-Family Dwelling	q					
Current Building			ngle Family Dwelling						
Architect/Engine			nknown						
Builder/Contracto			nknown						
Survey Date (09/27/20	22	Recorded By Br	rian	Matuk (Mead & Hun	t) Agency Report #			

Date:

For SHPO Use Only Form date: 6/25/2019

Provide a detailed description of the property, including all character defining features and any accessory resources.

This one-story Ranch house was constructed in 1967.¹ The house has a rectangular plan and a side-gable roof clad in asphalt shingles. It is clad in brick, with an interior brick chimney near the southern end of the roofline. Windows are replacement vinyl, with most operating as sliding or fixed. A partial-width entry porch with wood supports is towards the west end of the front (south) facade. A two-car attached garage is at the west end of the facade. A flat-roof overhang is towards the center of the north elevation.

To the northeast of the house is an orange outbuilding constructed c.1970. It has a side-gable roof covered in asphalt shingles, an exterior clad in vertical wood siding, and vinyl windows.

History of the Resource

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The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.²

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.³ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁴ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

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¹ "Oakland County-58385," Regrid, accessed August 23, 2022,

https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/404115&t=property.

² "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

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^{7 &}quot;Oakland County."

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References

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				PRESERVATION OFFICE				
Street Address	5	8504 Travis Road						
City/Township, State, Zi	p Code N	New Hudson, MI 48165						
County		Oakland County						
Assessor's Parcel #	2	109100015						
Latitude/Longitude (to the	e 6 th decim							
Ownership Private		ublic-Local	Public-State	Public-Federal Multiple				
Property Type			(Insert primary photogra	aph below.)				
Building ⊠ select sub-t	ype below	Structure		THE PARTY OF				
Residential 🗵 Industrial 🗍		Object						
Other								
Architectural Information	n			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
Construction Date	1972							
Architectural Style		yled Ranch						
Building Form	Rectang							
Roof Form	Side-gat							
Roof Materials	Asphalt			The second secon				
Exterior Wall Materials	Brick; stu		THE PARTY OF THE P					
Foundation Materials	Concrete							
Window Materials	Metal		The second second					
Window Type		r-one double-		CONTRACTOR OF THE PARTY OF THE PARTY.				
Tringen Type		sement; picture	· The second second	THE RESERVE OF THE PARTY OF THE				
Outbuildings	Yes			The state of the s				
Number/Type:	(2) Outb			the second secon				
Eligibility								
Individually Crite Eligible	rion A	Criterion B	Criterion C	Criterion D				
Criteria Considerations:		a.	c.	f g				
	ributing to a			1 9				
Historic District distri		to a district	Name:					
Not Eligible	[]	to a diotriot	110.110.					
Area(s) of Significance	N/A							
Period(s) of Significance	N/A							
Integrity – Does the prop	· · · · · · · · · · · · · · · · · · ·	ss integrity in all c	or some of the 7 aspects	?				
Location Design		Materials Workmanship Setting Feeling Association						
General Integrity:	Inta	Intact Altered Moved Date(s):						
Historic Name	Ног	House						
Current/Common Name	Ног	House						
Historic/Original Owner		Unknown						
Historic Building Use	Sing	Single-Family Dwelling						
Current Building Use		gle-Family Dwellir						
Architect/Engineer/Design		nown						
Builder/Contractor		nown						
Survey Date 09/27/2	022 R	ecorded By B	rian Matuk (Mead & Hur	nt) Agency Report #				
	,		,					

Provide a detailed description of the property, including all character defining features and any accessory resources.

This one- and two-story Ranch house with Tudor Revival features was constructed in 1972.¹ It has a rectangular plan with a side-gable roof clad in asphalt shingles. The house is wood-frame on a poured concrete foundation with a brick veneer water table, a mix of vertical and horizontal wood siding, as well as areas of stucco with faux half-timbering. An interior brick chimney is near the north end of the roof. Most windows are metal, one-over-one, double-hung, along with fixed and casement. An attached two-car garage is at the west end of the facade.

To the northeast of the house is a small outbuilding, with a side-gable roof clad in asphalt shingles and an exterior of vertical wood siding. The windows are vinyl sliding sash. To the north of the house is another building with a use that could not be determined during field survey.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required</u> for all intensive level surveys and designation and recommended for other identification efforts.

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Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. <u>This is required for all properties.</u>

This Ranch-style house was evaluated for the National Register of Historic Places under *Criteria A, B,* and *C.* No evidence was found to suggest that it is significant under *Criterion A,* as research did not reveal any associations with historically significant events or the specific development or growth of Travis Road or New Hudson. Research did not uncover evidence to suggest a significance under *Criterion B.* The house is a modest example of styled Ranch houses of the 1970s and exhibits ordinary Tudor Revival stylistic elements. As such, the house does not possess significance under *Criterion C.* Therefore, this property is recommended not eligible for listing in the National Register.

References

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- "Aerial Image: New Hudson, Oakland County, Michigan, 1973." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1990." Oakland County Michigan. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1997." *Oakland County Michigan*. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 2000." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
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								100	KESEK	VALION OFFICE
Street Address		;	58530 Travis	Road						
City/Township, State, Zip Code			e New Hudson, MI 48165							
County			Oakland County							
Assessor's Parcel			2109100014							
Latitude/Longitude				Lat: 42.49				ng: -83.63		
Ownership Privat	te 🖂		Public-Local	☐ Pu	ublic-State	e 🗌	Pul	olic-Feder	al 🗌	Multiple
Property Type				(Inse	rt primary	photogra	aph b	elow.)		
Building Select Commercial Residential Industrial Other]	oe below	Ow Structure Object O							
Architectural Inform	mation					The state of				
Construction Date		1969								to the state of
Architectural Style		Ranch			L L		100	B H		THE RESERVE
Building Form		Rectan	gular				100			
Roof Form		Cross-c								
Roof Materials			shingles							
Exterior Wall Mater	rials	Brick	g							
Foundation Materia		Concre	te							AND DESCRIPTION OF THE PERSON NAMED IN
Window Materials		Vinyl								Water Street
Window Type			te; sliding; gl	ass-						
Outbuildings			No							
			ds (1) Garag	ie						
Eligibility	'									
Individually Eligible	Criterio	on A	Criterio	n B	Criterio	n C	Cr	iterion D		
Criteria Considerat	iono:		а. П	b.	l d. □	e. 🗍	f. 🔲	a 🗆		
		outing to					ı. <u> </u>	g. 🗌		
	district	outing to	to a Non-contributing Historic District to a district Name:							
Not Eligible	uistrict		to a dist	.1101 🗀	ivallie.					
		1								
Area(s) of Significa		N/A								
Period(s) of Signific		N/A					_			
Integrity – Does the										
Location D	esign		aterials]	Workmans	hip 📙	Setting	Ш	Feeling	Ш	Association
General Integrity:		Inta	act 🛛	Altered [Mov	ed 🔲		Dat	e(s): c.1980
0 ,			House							
Current/Common N	lame	Ho	use							
Historic/Original Ov		Un	ıknown							
Historic Building Us			ngle-Family [Dwelling						
Current Building Us			ngle-Family [
Architect/Engineer/			ıknown							
Builder/Contractor			ıknown							
Survey Date 09	/27/202		Recorded By	/ Brian M	latuk (Me	ad & Hun	nt) /	Agency R	eport	#

Provide a detailed description of the property, including all character defining features and any accessory resources.

This one-story Ranch house was constructed in 1969.¹ It has a rectangular plan with a two-car attached garage at the east end of the front (south) facade. The moderate-pitch cross-gable roof is covered with asphalt shingles, with an interior brick chimney towards the east elevation of the roof. The house has a poured concrete foundation and is of brick construction in stretcher bond. Vinyl siding is in the gable end at the south elevation. The windows consist of one-over-one double-hung and a picture window. The attached garage contains glass-block windows. According to historical aerial photography the attached garage at the east end of the facade was added onto the original block of the house between 1974 and 1980.²

Three outbuildings are on the property. A c.1970 shed located to the northwest of the house (northwest shed) has a gambrel roof covered with metal roofing, with a shed-roof projection at the east elevation, and an exterior clad in corrugated steel siding. To the northeast of the house is a second smaller c.1990 shed (northeast shed), which has a gambrel roof covered with asphalt shingles, and an exterior clad in wood and steel siding. To the north of the house and northeast shed is a detached garage constructed sometime between 2006 and 2008. It has a front-gable roof covered in metal roofing, and an exterior clad in corrugated steel.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required</u> for all intensive level surveys and designation and recommended for other identification efforts.

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.³

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.⁴ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁵ By 1910 houses lined major roads in the area, including Milford Road, though still guite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century.⁶ The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in

¹ "Oakland County-58530," Regrid, accessed August 23, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.

² "Aerial Image: New Hudson, Oakland County, Michigan, 1974"; "Aerial Image: New Hudson, Oakland County, Michigan, 1980."

³ "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 1980," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 2010," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 2014," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁴ Downtown Development Authority, "Lyon Township" (Lyon Township, n.d.).

⁵ Downtown Development Authority, "Lyon Township."

⁶ "Aerial Image: New Hudson, Oakland County, Michigan, 1963," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1973," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1983," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

2⁷000. Today the area around Milford Road and the subject property consists of some extant rural houses constructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.⁸

Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. <u>This is required</u> for all properties.

This Ranch-style house was evaluated for the National Register of Historic Places (National Register) under *Criteria A, B,* and *C.* No evidence was found to suggest that it is significant under *Criterion A*, as research did not reveal any associations with historically significant events or the specific development or growth of Travis Road or New Hudson. Research did not uncover evidence to suggest a significance under *Criterion B*. The house is a modest example of the Ranch style and exhibits few stylistic elements. As such, the house does not possess significance under *Criterion C*. Therefore, this property is recommended not eligible for listing in the National Register.

References

- "Aerial Image: New Hudson, Oakland County, Michigan, 1940." Oakland County Michigan. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
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- "Aerial Image: New Hudson, Oakland County, Michigan, 1957." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
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- "Aerial Image: New Hudson, Oakland County, Michigan, 1973." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1974." *Oakland County Michigan*. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1980." *Oakland County Michigan*. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1983." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1990." Oakland County Michigan. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.

⁷ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

^{8 &}quot;Oakland County."

- "Aerial Image: New Hudson, Oakland County, Michigan, 2006." *Oakland County Michigan*. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 2008." *Oakland County Michigan*. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
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- "Oakland County-58530." *Regrid.* Accessed August 23, 2022. https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Oakland/Southwest Airport (Y47)." *Oakland County Michigan*. Accessed August 24, 2022. https://www.oakgov.com/aviation/airports/osa/Pages/default.aspx#:~:text=Formerly%20New%20Hudson%20Airport%2C%20Oakland,pilot's%20licenses%20under%20the%20G.I.



				PRESERVATION OFFICE					
Street Address	58	590 Travis Road							
City/Township, State, Zip	Code Ne								
County		Oakland County							
Assessor's Parcel #		2109100029 & 2109100028							
Latitude/Longitude (to the	6 th decima	cimal point) Lat: 42.497369 Long: -83.631579							
Ownership Private 🛛		blic-Local 🔲	Public-Federal Multiple						
Property Type			(Insert primary photogra	aph below.)					
Building Select sub-ty Commercial Residential Industrial		Structure Object							
Other Architectural Information	<u> </u>								
				A CONTRACTOR OF THE PARTY OF TH					
Construction Date	1972 Ranch		The state of the s	THE REAL PROPERTY OF THE PERSON OF THE PERSO					
Architectural Style Building Form	Rectangul	or							
Roof Form			And And And	The state of the s					
Roof Materials	Cross-gab Asphalt sh		B						
Exterior Wall Materials	Brick	iii iyies							
Foundation Materials	Concrete		THE REAL PROPERTY.						
Window Materials	Vinyl			THE RESERVE THE PARTY NAMED IN					
Window Type	Sliding; pi	cture:	The Later of the l						
vvilluow rype	casement								
Outbuildings	Yes 🖂	No 🗆							
Number/Type:	(1) Pole B		-						
Eligibility	(1)1 010 15	unung	J						
Individually Criteri	on A	Criterion B	Criterion C	Criterion D					
Eligible		Ontonon B		Sitterior B					
Criteria Considerations:		a.	c.	f g					
	buting to a	Non-contributi		<u>g</u> . <u></u>					
Historic District distric		to a district	Name:						
Not Eligible		2.2.2.700							
Area(s) of Significance	N/A								
Period(s) of Significance	N/A								
Integrity – Does the prope		s integrity in all c	or some of the 7 aspects	?					
Location Design		Materials Workmanship Setting Feeling Association							
General Integrity:		Intact Altered Moved Date(s):							
Historic Name		House							
Current/Common Name		House							
Historic/Original Owner		Jnknown							
Historic Building Use		Single-Family Dwelling							
Current Building Use		e-Family Dwellin	<u> </u>						
Architect/Engineer/Design									
Builder/Contractor	Unkn								
	1 0								
Survey Date 09/27/20	22 Re	corded By B	rian Matuk (Mead & Hur	nt) Agency Report #					
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Provide a detailed description of the property, including all character defining features and any accessory resources.

This one-story Ranch house was constructed in 1972.¹ The house has a generally rectangular plan with a side-gable roof clad in asphalt shingles. It is of brick construction on a poured concrete foundation, with an exterior brick chimney on the east elevation. The gable ends are clad in horizontal wood siding, with the front-facing gable displaying applied faux half-timbering trim. Most windows are vinyl sliding-sash with some casement, and a tripartite window on the front (south) facade with casement sashes. The door and several windows are flanked by decorative wood shutters. The garage door faces east, with the garage's south elevation featuring two vertical strips of glass blocks. A deck was added to the rear (north) elevation c.2000.²

To the north of the house is a pole building with a front-gable roof covered in corrugated metal, and an exterior of steel siding. The pole building is located on a separate parcel, but appears related to domestic functions of the house.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required</u> for all intensive level surveys and designation and recommended for other identification efforts.

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.³

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.⁴ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁵ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century.⁶ The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in 2000.⁷ Today the area around Milford Road and the subject property consists of some extant rural houses

https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/404115&t=property.

¹ "Oakland County-58590," Regrid, accessed August 23, 2022,

² "Aerial Image: New Hudson, Oakland County, Michigan, 1990"; "Aerial Image: New Hudson, Oakland County, Michigan, 1997"; "Aerial Image: New Hudson, Oakland County, Michigan, 2000."

³ "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 1980," Oakland County Michigan, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 2010," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 2014," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁴ Downtown Development Authority, "Lyon Township" (Lyon Township, n.d.).

⁵ Downtown Development Authority, "Lyon Township."

⁶ "Aerial Image: New Hudson, Oakland County, Michigan, 1963," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1973," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1983," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁷ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

co⁸nstructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.

Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. <u>This is required</u> for all properties.

This Ranch-style house was evaluated for the National Register of Historic Places (National Register) under *Criteria A, B,* and *C.* No evidence was found to suggest that it is significant under *Criterion A,* as research did not reveal any associations with historically significant events or the specific development or growth of Travis Road or New Hudson. Research did not uncover evidence to suggest a significance under *Criterion B.* The house is a modest example of the Ranch and exhibits few stylistic elements. As such, the house does not possess significance under *Criterion C.* Therefore, this property is recommended not eligible for listing in the National Register.

References

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 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
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 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
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- "Aerial Image: New Hudson, Oakland County, Michigan, 2002." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.

^{8 &}quot;Oakland County."

- "Aerial Image: New Hudson, Oakland County, Michigan, 2010." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 2014." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
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							PRESERVATION OFFICE			
Street Address		8600 Travis Ro								
City/Township, State, Zip Code			ew Hudson, M							
County		Oakland County								
Assessor's Parcel		2109100012								
Latitude/Longitude										
Ownership Priva	te 🛚	P	ublic-Local] P	ublic-State		Public-Federal Multiple			
Property Type				(Inse	ert primary	photogra	ph below.)			
Building select Commercial Residential Industrial Other	pe below	Structure Object								
Architectural Infor	mation	l								
Construction Date		1968			ALC: N	The same	BOLES BEEFE			
Architectural Style		Ranch				no Aur.				
Building Form		Rectang			-11					
Roof Form		Side-gal								
Roof Materials		Asphalt			TO THE					
Exterior Wall Mate	rials		ding; brick							
Foundation Materia	als	Not visib	le							
Window Materials		Vinyl								
Window Type		Multi-ligh	nt; picture							
Outbuildings Yes			☑ No □							
Number/Type:		(1) Barn								
Eligibility										
Individually Eligible	Criteri	on A	Criterion B		Criterion	С	Criterion D			
Criteria Considerat	tions:		a.	с. Г	d. 🗌	e. 🗍	f g			
Component of a		buting to a			Historic D		. <u>у</u> . <u>_</u>			
Historic District	district		to a district		Name:	71311101				
Not Eligible	uioti io	<u> </u>	to a district		Traine.					
		NI/A								
Area(s) of Signification		N/A								
Period(s) of Signifi		N/A		المالية			3			
Integrity – Does the										
	esign		Materials □ Workmanship □ Setting □ Feeling □ Association □ Intact □ Altered □ Date(s): c.1990							
General Integrity:				Altered	△	IVIOV	ed Date(s): c.1990			
Historic Name	Mana		House							
Current/Common N										
Historic/Original O			nown	llin a						
			gle-Family Dwe							
Current Building U			gle-Family Dwe	eiiing						
Architect/Engineer	esigrار ر		nown							
Builder/Contractor		Unk	nown							
Survey Date 09	9/27/20	22 R	ecorded By	Brian I	Matuk (Mea	ad & Hun	t) Agency Report #			
For SHPO Use On	ıly	SHPO Co	ncurrence?: Y	′ / N		Date:				

Form date: 6/25/2019

Provide a detailed description of the property, including all character defining features and any accessory resources.

This one-story Ranch house was constructed in 1968.¹ The house has a rectangular plan with a side-gable roof clad in asphalt shingles. It is of frame construction and sheathed in wood cladding, with areas of brick, and an interior brick chimney near the north end of the roof. Most windows are vinyl double-hung or fixed. The front (south) facade features a tripartite picture window. The door and several windows are flanked by decorative wood shutters. The house is heavily obscured by foliage, but modern aerial photographs show a shed-roof projection and stone patio at the north (rear) elevation, built c.1985 and c.1995, respectively.

To the north of the house is a large wood barn constructed in c.1970, according to aerial photography—likely with the date of the house—and was significantly altered between 1974-2010; it reached its modern footprint c.2010.² It is heavily obscured by foliage and only partially visible from the right-of-way.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required</u> for all intensive level surveys and designation and recommended for other identification efforts.

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.³

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.⁴ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁵ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century. The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in

https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/404061&t=property.

¹ "Oakland County-58600," Regrid, accessed August 26, 2022,

² "Aerial Image: New Hudson, Oakland County, Michigan, 1974"; "Aerial Image: New Hudson, Oakland County, Michigan, 1980"; "Aerial Image: New Hudson, Oakland County, Michigan, 1983"; "Aerial Image: New Hudson, Oakland County, Michigan, 1990"; "Aerial Image: New Hudson, Oakland County, Michigan, 2000"; "Aerial Image: New Hudson, Oakland County, Michigan, 2006," "Historic Aerials by NETROnline, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 2010," "Aerial Image: New Hudson, Oakland County, Michigan, 2010."

³ "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 1980," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 2010," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 2014," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁴ Downtown Development Authority, "Lyon Township" (Lyon Township, n.d.).

⁵ Downtown Development Authority, "Lyon Township."

⁶ "Aerial Image: New Hudson, Oakland County, Michigan, 1963," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1973," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1983," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

2⁷000. Today the area around Milford Road and the subject property consists of some extant rural houses constructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.⁸

Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. <u>This is required for all properties</u>.

This Ranch style house was evaluated for the National Register of Historic Places (National Register) under *Criteria A, B,* and *C.* No evidence was found to suggest that it is significant under *Criterion A*, as research did not reveal any associations with historically significant events or the specific development or growth of Travis Road or New Hudson. Research did not uncover evidence to suggest a significance under *Criterion B.* The house is a modest example of the Ranch style and exhibits few stylistic elements. As such, the house does not possess significance under *Criterion C.* Therefore, this property is recommended not eligible for listing in the National Register.

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 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
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 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
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⁷ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

^{8 &}quot;Oakland County."

- "Aerial Image: New Hudson, Oakland County, Michigan, 1997." Oakland County Michigan. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
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Street Address		58650 Travis Road	nd .						
City/Township, State, Z		New Hudson, MI 48165							
County		Oakland County	+0100						
Assessor's Parcel #		2109100011							
Latitude/Longitude (to the			: Long:						
		Public-Local	Public-State Public-Federal Multiple						
Property Type		T dolle Leedi	(Insert primary photograph below.)						
Building X select sub-	type belov	w Structure							
Commercial		_							
Residential 🛚		Object	1						
Industri <u>al</u>									
Other									
Architectural Information	on								
Construction Date	1978								
Architectural Style	Ranch								
Building Form	Rectan								
Roof Form	Side-ga	able	A CHARLES THE REST OF THE PARTY						
Roof Materials		It shingles							
Exterior Wall Materials	Brick; \								
Foundation Materials	Not vis	sible	TO A STATE OF THE PARTY OF THE						
Window Materials	Metal		THE RESERVE THE PARTY OF THE PA						
Window Type		ver-one double-							
	hung								
Outbuildings	Yes	□ No ⊠							
Number/Type:	None ((0)							
Eligibility		_							
Individually Crite Eligible	erion A	☐ Criterion B	☐ Criterion C ☐ Criterion D ☐						
Criteria Considerations:		a. 🗌 b. 🗌	c d e f g						
	tribu <u>ting</u> to		-						
Historic District distr	ict 📙	to a district	_ Name:						
Not Eligible									
Area(s) of Significance	N/	/A							
Period(s) of Significance	e N/	/A							
			or some of the 7 aspects?						
Location Design			rkmanship Setting Feeling Association						
General Integrity:			Itered Date(s):						
Historic Name		ouse							
Current/Common Name		ouse							
Historic/Original Owner		nknown							
Historic Building Use		Single-Family Dwelling							
Current Building Use		ingle-Family Dwelli	ing						
Architect/Engineer/Desi		nknown							
Builder/Contractor	Ur	nknown							
Survey Date 8/26/20)22	Recorded By E	Brian Matuk (Mead & Hunt) Agency Report #						
E. OUDO II. O. I	OUDO	2 2 2 2							
For SHPO Use Only	SHPO	Concurrence?: Y /	N Date:						

Form date: 6/25/2019

Provide a detailed description of the property, including all character defining features and any accessory resources.

This one-story Ranch house was constructed in 1978.¹ The house has a rectangular plan and moderate-pitch, side-gable roof form covered with asphalt shingles, with solar panels along the western end over the attached garage. The exterior is a mix of brick construction and vertical wood siding, with vinyl siding in the gable ends. Most windows are metal, one-over-one, double-hung. According to historical aerial photography the wood deck was added to the north elevation c.2000.² A contemporary metal accessibility ramp leads from the street to the entryway across the front elevation. Portions of the house are obscured by trees and foliage.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required</u> for all intensive level surveys and designation and recommended for other identification efforts.

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.³

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.⁴ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁵ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century.⁶ The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in 2000.⁷ Today the area around Milford Road and the subject property consists of some extant rural houses constructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.⁸

¹ "Oakland County-58650," Regrid, accessed August 23, 2022,

https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/404115&t=property.

² "Aerial Image: New Hudson, Oakland County, Michigan, 1997"; "Aerial Image: New Hudson, Oakland County, Michigan, 2000."

³ "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

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⁴ Downtown Development Authority, "Lyon Township" (Lyon Township, n.d.).

⁵ Downtown Development Authority, "Lyon Township."

⁶ "Aerial Image: New Hudson, Oakland County, Michigan, 1963," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1973," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1983," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁷ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

^{8 &}quot;Oakland County."

Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. <u>This is required</u> for all properties.

This Ranch-style house was evaluated for the National Register of Historic Places (National Register) under *Criteria A, B,* and *C.* No evidence was found to suggest that it is significant under *Criterion A*, as research did not reveal any associations with historically significant events or the specific development or growth of Travis Road or New Hudson. Research did not uncover evidence to suggest a significance under *Criterion B*. The house is a modest example of the Ranch style and exhibits few stylistic elements. As such, the house does not possess significance under *Criterion C*. Therefore, this property is recommended not eligible for listing in the National Register.

References

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								PRI		VATION OFFI	E
Street Address		5870	00 Travis	Road							
City/Township, State, Zip	Code										
County		Oakland County									
Assessor's Parcel #		2109100010									
Latitude/Longitude (to the	6 th dec	cimal point) Lat: 42.499228 Long: -83.633267									
Ownership Private 🛛		Publ	lic-Local		Public-State	e 🗌	Puk	olic-Federa	I [] Multiple	;
Property Type				(II	nsert primary	photogra	aph be	elow.)			
Building Select sub-ty	pe belo	w S	tructure			1 mar	ALC CAL	S. C. Carlo			- 40
Commercial								J. Alexander	2÷ =		
Residential 🛛		C	Object								
Industri <u>al</u>									1 , 1		
Other					and the second	45					
Architectural Information	1										
Construction Date	1969									100	And And
Architectural Style	Ranch					-		WENT SE	-		300
Building Form	Recta										8.00
Roof Form	Cross				1	-	W 100	A STREET IN			
Roof Materials	Aspha				Marine I am		THE REAL PROPERTY.	- Fallen			1
Exterior Wall Materials			g; brick			-	STORY OF THE				
Foundation Materials	Concr	ete									
Window Materials	Vinyl										
Window Type	1	-over-one double-									
Ocallo di Para		g; fixed; casement									
Outbuildings	Yes	<u> </u>	No 1\ Carrar								
Number/Type:	(1) 31	ieu, (1) Garag	∌							
Eligibility											
Individually Criteri	on A		Criterion	В	Criterion	С	Crite	erion D			
Eligible											
Criteria Considerations:			a. 🗌 b				f. 🔲	g. 🗌			
	buting t	o a	Non-con			District					
Historic District distric	t 📙		to a distr	ict 📙	Name:						
Not Eligible											
Area(s) of Significance	N	1/A									
Period(s) of Significance	N	I/A									
Integrity – Does the proper	erty pos	sess	integrity i	n all or	some of the	7 aspects	?				
Location Design		Mater	ials	Workm	anship 🗌	Setting		Feeling		Association	
General Integrity:	Ir	ntact 🏻		Altere	ed 🗌	Mov	/ed □		Dat	te(s): c.1980	
Historic Name		louse								()	
			House								
			wn								
Historic Building Use	S	Single	-Family D	welling							
Current Building Use			-Family D								
Architect/Engineer/Design		Jnkno									
Builder/Contractor		Jnkno	wn								
					<u> </u>						
Survey Date 09/27/20	22	Rec	orded By	Bria	n Matuk (Me	ad & Hur	nt) A	Agency Re	port	#	

Provide a detailed description of the property, including all character defining features and any accessory resources.

This one-story Ranch house was constructed in 1969.¹ The house has a general rectangular plan (altered from an original square plan), with a moderate-pitch, cross-gable roof covered with asphalt shingles. The house is of frame construction atop a poured concrete foundation, with an exterior clad in wood siding and brick veneer. A large exterior brick chimney is at the western end of the south elevation. Most windows are vinyl, one-over-one, double-hung along with casement. The door and several windows are flanked by decorative wood shutters. The side addition constructed c.1980 on the northwest corner of the house is of brick construction. It has a side-gable roof and features a picture window flanked by two casements.

The property has two outbuildings: a c.1985 shed located northeast of the house and a c.2005 garage located northwest of the house. The shed is of frame construction and has a front-gable roof covered in asphalt shingles. The garage is clad in steel siding and has a front-gable roof covered in metal roofing.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required</u> for all intensive level surveys and designation and recommended for other identification efforts.

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.²

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.³ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁴ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century.⁵ The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in 2000.⁶ Today the area around Milford Road and the subject property consists of some extant rural houses

https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/375048&t=property.

¹ "Oakland County-58700," Regrid, accessed August 23, 2022,

² "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f; "Aerial Image: New Hudson, Oakland County, Michigan, 1980," Oakland County Michigan, accessed August 24, 2022,

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³ Downtown Development Authority, "Lyon Township" (Lyon Township, n.d.).

⁴ Downtown Development Authority, "Lyon Township."

⁵ "Aerial Image: New Hudson, Oakland County, Michigan, 1963," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1973," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer; "Aerial Image: New Hudson, Oakland County, Michigan, 1983," *Historic Aerials by NETROnline*, accessed August 24, 2022, https://historicaerials.com/viewer.

⁶ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

co⁷nstructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.

Statement of Significance/Recommendation of Eligibility

Provide a detailed explanation of the property's eligibility for the National Register, including an evaluation under at least one of the four criteria, discussion of the seven aspects of integrity, and recommendations about eligibility. <u>This is required</u> for all properties.

This Ranch-style house was evaluated for the National Register of Historic Places (National Register) under *Criteria A, B,* and *C.* No evidence was found to suggest that it is significant under *Criterion A,* as research did not reveal any associations with historically significant events or the specific development or growth of Travis Road or New Hudson. Research did not uncover evidence to suggest a significance under *Criterion B.* The house is a modest example of the Ranch style and exhibits few stylistic elements. As such, the house does not possess significance under *Criterion C.* Therefore, this property is recommended not eligible for listing in the National Register.

References

- "Aerial Image: New Hudson, Oakland County, Michigan, 1940." *Oakland County Michigan*. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1952." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1957." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1963." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1973." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1974." *Oakland County Michigan*. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1980." Oakland County Michigan. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1983." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1990." *Oakland County Michigan*. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 1997." *Oakland County Michigan*. Accessed August 24, 2022.
 - https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.

⁷ "Oakland County."

- "Aerial Image: New Hudson, Oakland County, Michigan, 2000." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
- "Aerial Image: New Hudson, Oakland County, Michigan, 2002." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
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- "Aerial Image: New Hudson, Oakland County, Michigan, 2006." *Oakland County Michigan*. Accessed August 24, 2022. https://oakgov.maps.arcgis.com/apps/webappviewer/index.html?id=1f0afc2c676740c7a5ea7f9c9b5c6f2f.
- "Aerial Image: New Hudson, Oakland County, Michigan, 2010." *Historic Aerials by NETROnline*. Accessed August 24, 2022. https://historicaerials.com/viewer.
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- "Oakland County-58385." *Regrid*. Accessed August 23, 2022. https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/404115&t=property.
- "Oakland County-58700." *Regrid*. Accessed August 23, 2022. https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/375048&t=property.
- "Oakland/Southwest Airport (Y47)." *Oakland County Michigan*. Accessed August 24, 2022. https://www.oakgov.com/aviation/airports/osa/Pages/default.aspx#:~:text=Formerly%20New%20Hudson%20Airport%2C%20Oakland,pilot's%20licenses%20under%20the%20G.I.



			PRESERVATION OFFICE						
Street Address		8740 Travis Road							
City/Township, State, Z		ew Hudson, MI 481	65						
County		akland County							
Assessor's Parcel #	2	109100009							
Latitude/Longitude (to t	he 6 th decim	al point) Lat:	42.499208 Long: -83.633877						
Ownership Private	P	ublic-Local	Public-State Public-Federal Multiple						
Property Type		(1.	nsert primary photograph below.)						
Building ⊠ select sub- Commercial ☐ Residential ⊠ Industrial ☐	type below	Object Object							
Other									
Architectural Information	on								
Construction Date	1971								
Architectural Style	Ranch								
Building Form	Rectang	ular							
Roof Form	Side-gab								
Roof Materials	Asphalt								
Exterior Wall Materials	Clapboa								
Foundation Materials	Concrete								
Window Materials	Vinyl								
Window Type		over-one double-							
		g; awning;							
	casemer								
Outbuildings	Yes	☐ No ☐							
Number/Type:	(1) Pole	Building							
Eligibility									
Individually Crite	erion A	Criterion B	Criterion C Criterion D						
Eligible									
Criteria Considerations	:	a b c	c.						
Component of a Con	tributing to a	Non-contributing							
Historic District distri	rict 🔲	to a district	Name:						
Not Eligible ⊠									
Area(s) of Significance	N/A								
Period(s) of Significance									
			some of the 7 aspects?						
Location Design		Materials Workmanship Setting Feeling Association							
General Integrity:		Intact ☐ Altered ☐ Moved ☐ Date(s):							
Historic Name	Hou	ise							
Current/Common Name	e Hou	ise							
Historic/Original Owner	Unk	Unknown							
Historic Building Use		gle-Family Dwelling							
Current Building Use		gle-Family Dwelling							
Architect/Engineer/Des		nown							
Builder/Contractor		nown							
	'								
Survey Date 09/27/2	2022 R	ecorded By Bria	an Matuk (Mead & Hunt) Agency Report #						

Provide a detailed description of the property, including all character defining features and any accessory resources.

This one-and-one-half-story Ranch house was constructed 1971.¹ The house has a general rectangular plan, with a steep-pitch, side-gable roof clad in asphalt shingles, and an exterior brick chimney. The house is of frame construction atop a poured concrete foundation, with an exterior clad in horizontal wood siding with areas of wood shingle siding and brick veneer water tables. Most windows are replacement vinyl casement, with some one-overone double-hung and fixed windows. A shed-roof dormer is on the east end of the rear (north) elevation. The door and several windows are flanked by decorative wood shutters.

To the northwest of the house is a c.1980 pole building, which has a gambrel roof and an exterior clad in steel siding.

History of the Resource

Provide information on previous owners, land use, construction and alteration dates in a narrative format. <u>This is required</u> for all intensive level surveys and designation and recommended for other identification efforts.

The area around the subject property was developed over several decades from the nineteenth through twentieth centuries. Oakland County parcel data dates the earliest extant properties along this part of Milford Road from the early twentieth century, located closer to the New Hudson village center. Pockets of infill construction throughout the next several decades grew the community outward from the village center, but remains semi-rural in most areas.²

The New Hudson village center consists of commercial and residential development concentrated around the six-point intersection of Hudson Street (today's Pontiac Trail), Main Street (today's Grand River Avenue), and Lyon Street (today's Milford Road), located approximately one-half mile north of the subject property.³ Most of the properties outside of the New Hudson village center are primarily 20-80 acres, and minimally subdivided, suggesting the land may have been used for agriculture, if developed. Local histories of New Hudson suggest that agriculture in the area consisted of dairy products, cornfields, and general crop farming at this time.⁴ By 1910 houses lined major roads in the area, including Milford Road, though still quite sparse.

Development around the subject property is incremental and sporadic through the next several decades of the twentieth century. The New Hudson Airport, now known as Oakland/Southwest Airport (Y47), was constructed in 1946 west of Milford Road and the subject property. Originally built as an airfield for war veterans with interest in obtaining their pilots license, improvements to the airport continued through the twentieth century.⁵ The Grand Trunk Railroad located directly to the west of the subject property was converted to the Hudson Valley Trail in 2000.⁶ Today the area around Milford Road and the subject property consists of some extant rural houses constructed throughout the twentieth century, cleared areas, and forested land, as well as pockets of residential subdivision developments from the early 2010s.⁷

¹ "Oakland County-58740," Regrid, accessed August 23, 2022,

https://app.regrid.com/us/mi/oakland#b=admin&base=satellite&p=/us/mi/oakland/lyon/375048&t=property.

² "Oakland County," *Regrid*, accessed August 23, 2022, https://regrid.com/; "Aerial Image: New Hudson, Oakland County, Michigan, 1940"; "Aerial Image: New Hudson, Oakland County, Michigan, 1952"; "Aerial Image: New Hudson, Oakland County, Michigan, 1974," *Oakland County Michigan*, accessed August 24, 2022,

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⁶ David Sands, "Huron Valley Trail Receives \$250,000 Maintenance Grant, Plans New Connection," *MetroMode*, June 24, 2021, https://www.secondwavemedia.com/metromode/devnews/inside-our-outdoors-huron-valley-trail-michigan-air-line.aspx.

^{7 &}quot;Oakland County."

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References

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Federal and S	State Coordination					
Mr. Rodman	Mark Rodman	State Historic Preservation Officer	State Historic Preservation Office	300 North Washington Square	Lansing, Michigan 48913	rodmanm@michigan.gov
Mr. Comrov	Aaron Comrov	Environmental Protection Specialist	FAA, Infrastructure Engineering Center-Chicago, AJW-2C15H	2300 East Devon Avenue, Room 450	Des Plaines, Illinois 60018	847.294.7665
Mr. Duffiney	Tony Duffiney	State Director	USDA - APHIS Wildlife Services	2803 Jolly Rd., Suite 100,	Okemos, MI 48864	517-336-1928
Mr. Watling	Jim Watling	Supervisor	EGLE, Water Resources Division, Transportation Review Unit	P.O. Box 30458	Lansing, MI 48909-7958	517-599-9002
Mr. Simon	Charlie Simon	Chief	U.S. Army Corps of Engineers, Detroit District, Regulatory & Permits	477 Michigan Avenue, Room 603	Detroit, MI 48226-2550	313-226-2218
Mr. Dugan	Moises Dugan	Regional Administrator (Acting)	Federal Emergency Management Agency, Region 5	536 South Clark Street, 6th Floor	Chicago, Illinois 60605	312-408-5500
Ms. Gagliardo	Jean Gagliardo	District Conservationist	USDA, Natural Resource Conservation Service, Portage Service Center	5950 PORTAGE RD	PORTAGE, MI 49002	269-382-5121 ext 3
Mr. Hicks	Scott Hicks	Field Office Supervisor	US Fish and Wildlife - Michigan Field Office	2651 Coolidge Road, Suite 101	East Lansing, Michigan 48823	517-351-6274
Mr. Westlake	Kenneth Westlake	Chief	EPA Region 5 , NEPA Implementation Section	77 West Jackson Boulevard	Chicago, Illinois 60604	312-886-2910
Ms. Lott	Shannon Lott	Natural Resources Deputy	Michigan Department of Natural Resources, Executive Division	P.O. Box 30028	Lansing, MI 48909	517-243-3166/517-284-5810
Local & Politi	cal Coordination					
Mr. Dolan	John Dolan	Supervisor	Lyon Township	58000 Grand River Avenue	New Hudson, MI 48165	248-437-2240
Ms. Des Rochers	Katherine Des Rochers	Planning Department Coordinator	Lyon Township	58000 Grand River Avenue	New Hudson, MI 48165	248-956-1679
Ms. Zawada	Leslie Zawada	Lyon Township Engineer	Civil Engineering Solutions, Inc.	1150 Corporate Office Drive, Suite 210	Milford, MI 48381	248-264-6906
Mr. Nash	Jim Nash	Commissioner	Oakland County Water Resources Commissioner's Office	One Public Works Drive, Building 95W	Waterford, MI 48328	248-858-0958
Mr. Rasegan	Bret Rasegan, RA	Planning Manager	Oakland County Planning Division	2100 Pontiac Lake Road, Building 41 West	Waterford, MI 48328	248-858-5445
Ms. Tighe	Ingrid Tighe	Director	Oakland County Economic Development	2100 Pontiac Lake Road, Building 41 West	Waterford, MI 48328	248-858-0720
Mr. Carlson	Sean Carlson	Deputy County Executive	Oakland County	2100 Pontiac Lake Road, Building 41 West	Waterford, MI 48328	248-858-1650
Native Americ	can Coordination					
Chairperson			Bay Mills Indian Community of Michigan	12140 West Lakeshore Drive	Brimley, MI 49175	
Chairperson			Grand Traverse Band of Ottawa and Chippewa Indians of Michigan	2605 NW Bayshore Drive	Suttons Bay, MI 49682	
Chairperson			Hannahville Indian Community of Michigan	N14911 Hannahville B1 Road	Wilson, MI 49896-9728	
Chairperson			Huron Potawatomi, Inc.	2221 1-1/2 Mile Road	Fulton, MI 49052	
Chairperson			Keweenaw Bay Indian Community of Michigan	Keweenaw Bay Tribal Center, 107 Beartown Roa	ad Baraga, MI 49908	
Chairperson			Lac Vieux Desert Band of Lake Superior Chippewa of Michigan	PO Box 249, N4698 US HWY 45	Watersmeet, MI 49969	
Chairperson			Little River Band of Ottawa Indians	2608 Government Center Drive	Manistee, MI 49660	
Chairperson			Little Traverse Bay Bands of Odawa Indians	7500 Odawa Circle	Harbor Springs, MI 49740-9692	
Chairperson			Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians	PO Box 218, 1743 142nd Avenue	Dorr, MI 48323	
Chairperson			Pokagon Band of Potawatomi Indians of Michigan	PO Box 180, 901 Spruce Street	Dowagiac, MI 49047	
Chairperson			Saginaw Chippewa Indian Tribe of Michigan	7070 East Broadway	Mt. Pleasant, MI 48858	
Chairperson			Sault-Ste. Marie Tribe of Chippewa Indians of Michigan	523 Ashmun Street	Sault Ste. Marie, MI 49783	
Chairperson			Burt Lake Band of Ottawa and Chippewa Indians	6461 Brutus Road, Box 206	Brutus, MI 49716	
Chairperson	Fred Jacko, Jr.	Culture Department Manager	Nottawaseppi Huron Band of Potawatomi	1485 Mno-Bmadzewen Way	Fulton, MI 49052	269.704.8307
Chairperson			Grand River Band of Ottawa Indians	1316 Front Ave NW	Grand Rapids, MI 49504	

March 11, 2022

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«Contact_Name»
«Title»
«Organization»
«Address»
«City_State_Zip»
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Re: Early Coordination Review of Proposed Improvements
Oakland Southwest Airport, New Hudson, Michigan

Dear «Salutation line»:

The Oakland Southwest Airport (Airport) is exploring the potential impacts of avigation easements and obstruction clearing at both ends of Runway 8/26. As part of the on-going development of the Airport, obstructions were identified during the update of the Airport Layout Plan (ALP) and the Runway Protection Zone (RPZ) Analysis.

To better facilitate clear approach and departure paths and to enhance safety of the Airport, a series of easements are being sought for properties that lie within either the RPZ or the approach surface at both runway ends. These easements will give Oakland County, owner of the Airport, the right to maintain the airspace in these areas and allow for the removal of trees penetrating the approach surface.

Based upon the data contained in the ALP and the recently acquired LiDAR Obstruction Analysis for the Federal Aviation Regulation (FAR) Part 77 surface, it has been determined that there are approximately 30 properties that are expected to be included in the acquisition and tree removal process. These parcels include properties with existing obstructions to the FAR Part 77 surface as well as those with obstructions within 10 feet of the approach. Inclusion of these parcels allows for proper planning for future removals.

Federal funding will be utilized for the proposed project; therefore, environmental documentation and analysis sufficient to satisfy the National Environmental Policy Act (NEPA) is required by law. To meet this requirement, the Federal Aviation Administration (FAA) Environmental Evaluation Form C "Short Form Environmental Assessment" developed by the FAA's Eastern Region will be used to define and analyze potential impacts of the proposed action and evaluate any reasonable alternatives.

This Short Form EA will also be developed to further determine whether any potential impacts are significant

«Contact_Name» Page | 2

enough to necessitate an Environmental Impact Statement (EIS). During the Short Form EA project, investigations will be conducted to identify potential Social, Economic, and Environmental (SEE) impacts related to the improvements being proposed. These SEE impacts will be documented and considered as required by the National Environmental Policy Act (NEPA).

The Michigan Department of Transportation Office of Aeronautic (MDOT AERO) acting on behalf of the FAA is the lead agency and as such, the Short Form EA will be prepared in accordance with NEPA, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B. *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

It should be noted that MDOT AERO does not necessarily endorse the proposed project, nor have they agreed to a Preferred Alternative. MDOT AERO is requiring the Airport to fully evaluate the Purpose and Need, any reasonable alternatives including the No-Build Alternative, and identify associated impacts leading to the selection of the Preferred Alternative.

Major development actions covered in this Short Form EA include:

- Obtain avigation easements to remove trees that are obstructions to the approach surfaces of Runways 8 and 26
- Clear obstructions (trees) which penetrate the FAR Part 77 Surface of Runways 8 and 26

As part of our early agency coordination, we are attempting to identify key issues that will need to be addressed during the NEPA process. To accomplish this, your organization's comments are being requested for the above referenced project as it relates to the following:

- Your specific areas of concern / regulatory jurisdiction
- Specific benefits of the project for your organization or to the public
- Any available technical information / data for the project site
- Potential mitigation / permitting requirements for project implementation

For your convenience, several maps and figures are enclosed that illustrate the site location and approximate project area limits. In order to sufficiently address key project issues and maintain the project schedule, your comments are requested by **April 29, 2022**.

Please send your written or email comments to:

MEAD & HUNT, Inc.
William Ballard, AICP
2605 Port Lansing Road
Lansing, MI 48906
517-321-8334 | william.ballard@meadhunt.com

«Contact_Name» Page | 3

Sincerely,

Steve Houtteman
Aeronautics Environmental Specialist
Michigan Department of Transportation

Enclosures

«Contact_Name»
«Title»
«Organization»
«Address»
«City_State_Zip»

Re: Early Coordination Review of Proposed Improvements
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The Oakland Southwest Airport (Airport) is exploring the potential impacts of avigation easements and obstruction clearing at both ends of Runway 8/26. As part of the on-going development of the Airport, obstructions were identified during the update of the Airport Layout Plan (ALP) and the Runway Protection Zone (RPZ) Analysis. To better facilitate clear approach and departure paths and to enhance safety of the Airport, a series of easements are being sought for properties that lie within either the RPZ or the approach surface at both runway ends. These easements will give Oakland County, owner of the Airport, the right to maintain the airspace in these areas and allow for the removal of trees penetrating the approach surface.

Based upon the data contained in the ALP and the recently acquired LiDAR Obstruction Analysis for the Federal Aviation Regulation (FAR) Part 77 surface, it has been determined that there are approximately 30 properties that are expected to be included in the acquisition and tree removal process. These parcels include properties with existing obstructions to the FAR Part 77 surface as well as those with obstructions within 10 feet of the approach. Inclusion of these parcels allows for proper planning for future removals.

Federal funding will be utilized for the proposed project; therefore, environmental documentation and analysis sufficient to satisfy the National Environmental Policy Act (NEPA) is required by law. To meet this requirement, the Federal Aviation Administration (FAA) Environmental Evaluation Form C "Short Form Environmental Assessment" developed by the FAA's Eastern Region will be used to define and analyze potential impacts of the proposed action and evaluate any reasonable alternatives.

This Short Form EA will also be developed to further determine whether any potential impacts are significant enough to necessitate an Environmental Impact Statement (EIS). During the Short Form EA project, investigations will be conducted to identify potential Social, Economic, and Environmental (SEE) impacts related to the improvements being proposed. These SEE impacts will be documented and considered as required by the National Environmental Policy Act (NEPA).

«Contact_Name» Page | 2

Michigan Department of Transportation Office of Aeronautics (MDOT AERO) acting on behalf of the FAA is the lead agency and as such, the Short Form EA will be prepared in accordance with NEPA, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B. *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

It should be noted that MDOT AERO does not necessarily endorse the proposed project, nor have they agreed to a Preferred Alternative. MDOT AERO is requiring the Airport to fully evaluate the Purpose and Need, any prudent and feasible alternatives including the No-Build Alternative, and identify associated impacts leading to the selection of the Preferred Alternative.

Major development actions covered in this Short Form EA include:

- Obtain avigation easements to remove trees that are obstructions to the approach surfaces of Runways 8 and 26
- Clear obstructions (trees) which penetrate the FAR Part 77 Surface of Runways 8 and 26

As part of our early agency coordination, we are attempting to identify key issues that will need to be addressed during the NEPA process. MDOT AERO requests your comments regarding this project, any information you wish to share pertaining to archaeological or historical resources located in the project area, or notification that you would like to become an interested party under Section 106 of the National Historic Preservation Act.

For your convenience, several maps and figures are enclosed that illustrate the site location and approximate project area limits. In order to sufficiently address key project issues and maintain the project schedule, your comments are requested by **April 29, 2022**.

Your response should be addressed to:

Mr. Steve Houtteman
Michigan Department of Transportation
Office of Aeronautics
2700 Port Lansing Road
Lansing, MI 48906
616-299-2654 | HouttemanS@michigan.gov

Sincerely,

Steve Houtteman

Aeronautics Environmental Specialist

Michigan Department of Transportation

Enclosures



STATE OF MICHIGAN

DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY



LANSING

May 2, 2022

VIA EMAIL

William Ballard, AICP Mead and Hunt, Inc. 2605 Port Lansing Road Lansing, Michigan 48909

Dear William Ballard:

SUBJECT: Early Coordination Review of Proposed Improvements;
Oakland Southwest Airport, New Hudson, Michigan
Oakland County, T01N R07E Sections 3, 4, 8, 9, and 10; Lyon Township
Michigan Department of Environment, Great Lakes, and Energy (EGLE)
Water Resources Division (WRD)

Thank you for your March 11, 2022, early coordination letter regarding the development of a Short Form Environmental Assessment (EA) for improvements in the Airport Layout Plan, and the Runway Protection Zone of Runway 8/26 at the Oakland Southwest Airport. The EA will evaluate potential impact of avigation easements, and obstruction clearing at both ends of Runway 8/26.

The WRD has the following comments:

- a) Davis Creek is present along the entire length of Runway 8/26, and it extends both southwest, and northeast of the runway through the entire proposed avigation easements, and obstruction clearing areas. Any work below the ordinary high water mark of this stream, such as removing stumps and roots from cut trees, will require a permit under Part 301, Inland Lakes and Streams, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).
- b) Any filling, occupation, or grading within the 100-year floodplain of Davis Creek, if it has a drainage area of two square miles or more, will require a permit under the State's Floodplain Regulatory Authority, found in Part 31, Water Resources Protection, of the NREPA.

- c) Available wetland inventories indicate the presence of hydric soils, and potential wetlands along the entire length of Runway 8/26, and through proposed avigation easements, and obstruction clearing areas. Cutting trees to remove obstructions within regulated wetland such that wetland areas are converted from forested wetland to emergent or scrub-shrub wetland will require a permit under Part 303, Wetlands Protection, of the NREPA. All wetland areas within the avigation easements, and obstruction clearing areas should be delineated by a professional wetland consultant, and then submitted to Transportation Review Unit for verification. Our recommendation is to submit a Voluntary Preliminary Review request form in MiWaters for verification of wetland delineations, and discussion of permitting requirements and limitations. Mitigation may be required for any unavoidable wetland conversion, or other impacts, as a result of this project.
- d) A review of our database indicates potential State and/or Federal Threatened and Endangered species Indiana Bat (*Myotis sodalis*), Northern Longeared Bat (*Myotis septentrionalis*), and Eastern Massasauga Rattlesnake (*Sistrurus catenatus*) in T1N, R7E, Sections 3, 4, 8, 9, and 10. It is recommended that you hire a qualified biologist to determine whether your project will impact one of these species. If there are impacts then a permit will be needed from the Michigan Department of Natural Resources, and the U.S. Fish & Wildlife Service.

Thank you for the opportunity to comment on this EA. If you have any questions regarding this letter, please contact me at 517-256-1469; SkubinnaJ@Michigan.gov; or EGLE, WRD, Transportation Review Unit, P.O. Box 30458, Lansing, Michigan 48909.

Sincerely,

John Skubinna

16 plis

Environmental Quality Analyst Water Resources Division

cc: Steve Houtteman, Michigan Department of Transportation

From: William Ballard

Sent: Thursday, April 28, 2022 1:39 PM

To: Dave Clawson

Subject: FW: Early Coordination Review of Proposed Improvements Oakland Southwest Airport, New Hudson,

Michigan

Attachments: Oakland Southwest Airport Proposed Improvements USDA WS Response 042622.pdf

FYI.

BILL BALLARD, AICP

PROJECT MANAGER, AVIATION

Mead & Hunt

Direct: 517-908-3105 | Cell: 989-640-1060 | Transfer Files meadhunt.com | LinkedIn | Twitter | Facebook | Instagram



120 YEARS OF SHAPING THE FUTURE

From: Madrigal, David F - APHIS <david.f.madrigal@usda.gov>

Sent: Thursday, April 28, 2022 1:34 PM

To: William Ballard < william.ballard@meadhunt.com>

Cc: Duffiney, Anthony G - APHIS <anthony.g.duffiney@usda.gov>; Krom, Earl G - APHIS <earl.g.krom@usda.gov> **Subject:** Early Coordination Review of Proposed Improvements Oakland Southwest Airport, New Hudson, Michigan

You don't often get email from david.f.madrigal@usda.gov. Learn why this is important

Mr. Ballard.

Please find the attached document that illustrates our review of the proposed land use modification at Oakland Southwest Airport, New Hudson, Michigan. We thank you for reaching out and allowing us to give recommendations on the proposed project. USDA will remain available for any questions or concerns you may have through this process.

David Madrigal
Wildlife Biologist
USDA Wildlife Services Michigan
(517) 331-0375
David.f.madrigal@usda.gov

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United States
Department of
Agriculture

April 26, 2022

Marketing and Regulatory Programs Mead & Hunt, Inc. William Ballard, AICP 2605 Port Lansing Rd. Lansing, MI 48906

2803 Jolly Road Suite 100 Okemos, MI 48864

Re: Early Coordination Review of Proposed Improvements Oakland Southwest Airport, New Hudson, Michigan

Dear Mr. Ballard,

Thank you for the opportunity to review your proposed improvements at Oakland Southwest Airport New Hudson, Michigan. This letter is in response to your request dated 03/11/22 for comments on the proposed improvements. Our concern in reviewing such proposals is for the safety of aviation travel and how wildlife may potentially affect aviation safety. Our mission is to not only protect aviation safety, but also to protect the wildlife in the immediate vicinity of the airport.

In reviewing this proposal, our focus is on how the removal of the vegetation (primarily trees) may affect wildlife usage of this area. Upon closer inspection of online aerial imagery, it appears the proposed vegetation for removal is adjacent to residential dwellings, along roads, and within fencerows. In very simplistic terms, when one type of habitat is altered, it will be replaced by another type of habitat. In this situation, with the removal of the trees, it can be assumed that the habitat replacing the trees will consist of grasslands or additional agriculture. Our concern is the establishment of additional grasslands or agriculture may attract wildlife such as raptors (i.e, hawks, owls), sandhill cranes, white-tailed deer, geese, and coyotes. Additionally, if debris is left behind it may create potential habitat preferred by many small mammals that may in turn attract aerial predators.

Our recommendations with this proposal are as follows:

- 1. Avoid planting any vegetation after the trees are removed that may be attractive to wildlife such as clover, wheat, rye, corn, soybeans, etc. These plantings are known to attract deer and geese at various times of the year which can be hazardous to aviation safety.
- 2. If any standing water is documented upon tree removal, plot it on a map and check for any modification efforts that may be implemented in the area. This will be dependent on what class or soil type you are dealing with.
- 3. Once the trees are removed, if the area reverts to native vegetation, the recommended grass height is 7-14". Consider letting it grow longer if geese and starlings appear to be attracted to it, or cutting it shorter if the grass is attracting rodents, coyotes, and raptors.
- 4. Conduct routine wildlife monitoring of the proposed area to evaluate wildlife usage before and after the project is completed. If an increase in wildlife usage is noted, recommended mitigation

- techniques would include non-lethal harassment and/or lethal removal.
- 5. Wildlife Services can perform a site visit to further discuss habitat management techniques to discourage wildlife usage of the proposed area as well as non-lethal and lethal control strategies to respond to wildlife using the area.
- 6. Wildlife Services would also be able to conduct a mini-wildlife hazard assessment over the course of several days to better evaluate wildlife hazards and their affect on aviation safety. Ideally, visits could be scheduled before and after the tree removal to fully assess wildlife usage in the area. Recommendations could then be developed on wildlife hazard mitigation strategies.

Wildlife Services would like to remain a partner in the development of this project and continue to offer technical expertise in evaluating and mitigating wildlife hazards to aviation.

Thank you again for the opportunity to assist with this project. Feel free to contact me if you have any questions.

Sincerely,

David Madrigal
Wildlife Biologist
david.f.madrigal@usda.gov

From: William Ballard

Sent: Wednesday, April 27, 2022 9:08 AM

To: Dave Clawson

Subject: Agency letter reply. Oakland Southwest Airport Proposed Improvements

Attachments: image2022-04-26-071907.pdf

BILL BALLARD, AICP

PROJECT MANAGER, AVIATION

Mead & Hunt

Direct: 517-908-3105 | Cell: 989-640-1060 | Transfer Files meadhunt.com | LinkedIn | Twitter | Facebook | Instagram



120 YEARS OF SHAPING THE FUTURE

From: Comrov, Aaron (FAA) <aaron.comrov@faa.gov>

Sent: Tuesday, April 26, 2022 4:10 PM

To: William Ballard < william.ballard@meadhunt.com>

Subject: Oakland Southwest Airport Proposed Improvements

Hi Bill,

I hope all is well. Back in the office for the first time since COVID and found the attached on my desk. I assume this is a SBGP airport. Are there any FAA connected actions as part of this project, especially in regards to our equipment? If there are no impacts to our equipment, then FAA ATO Engineering Services has no comment on this project.

Aaron W. Comrov

Environmental Team Lead CSA ES EOSH Center | AJW-2C16E Federal Aviation Administration 2300 East Devon Avenue, Room 450 Des Plaines, Illinois 60018 direct: 847.294.7665 aaron.comrov@faa.gov

From: William Ballard

Sent: Wednesday, April 27, 2022 9:10 AM

To: Dave Clawson

Subject: FW: Proposed Improvements at Oakland Southwest Airport - Comments from DNR

Attachments: Avigation Easements and Obstruction Letter.pdf

Importance: High

FYI. Another agency letter to include.

BILL BALLARD, AICP

PROJECT MANAGER, AVIATION

Mead & Hunt

Direct: 517-908-3105 | Cell: 989-640-1060 | Transfer Files meadhunt.com | LinkedIn | Twitter | Facebook | Instagram



120 YEARS OF SHAPING THE FUTURE

From: Sadler, Taunia (DNR) <SadlerT@michigan.gov>

Sent: Tuesday, April 26, 2022 4:22 PM

To: William Ballard < william.ballard@meadhunt.com>

Cc: Lott, Shannon (DNR) <LottS1@michigan.gov>; Sadler, Taunia (DNR) <SadlerT@michigan.gov>

Subject: Proposed Improvements at Oakland Southwest Airport - Comments from DNR

Importance: High

You don't often get email from sadlert@michigan.gov. Learn why this is important

Sending on behalf of Natural Resources Deputy Shannon Lott.

Dear Mr. Ballard:

Thank you for the opportunity to comment on the proposed improvements at Oakland Southwest Airport in New Hudson. I asked the DNR's Parks and Recreation and Wildlife Division staff for their review; their feedback is outlined below:

Wildlife Division:

To ensure compliance with Part 365, we recommend a threatened and endangered species review be completed to avoid take of listed species. A desktop review can be done by Michigan Natural Features Inventory or a consultant with access to Biotics, Michigan's most comprehensive database of rare species occurrences in Michigan.

Wildlife Division does not have any concerns from a land management viewpoint and will defer to PRD as the closest land administering division.

Park and Recreation Division:

Staff are familiar with the process at Pontiac Lake Rec Area and trail area. No comments/concerns.

If you require anything else, please let me know.

Shannon Lott, Natural Resources Deputy Lotts1@michigan.gov

From: Castaldi, Duane < Duane.Castaldi@fema.dhs.gov>

Sent: Thursday, March 31, 2022 3:29 PM

To: William Ballard

Subject: Oakland Southwest Airport

You don't often get email from duane.castaldi@fema.dhs.gov. Learn why this is important

Good Afternoon.

There appears to be mapped floodplain around the runways but based on the proposed scope of work, FEMA has no comment on the proposed tree removal.

Should the scope of work change or other modifications be made to the floodplain, please notify FEMA.

Duane Castaldi

Regional Environmental Officer | FEMA Region V | Department of Homeland Security

Office: 312.408.5549 | Mobile: 312.576.0067

duane.castaldi@fema.dhs.gov | Pronouns: he / him / his

Federal Emergency Management Agency fema.gov



From: William Ballard

Sent: Thursday, April 21, 2022 3:48 PM

To: Dave Clawson

Subject: FW: Oakland Southwest Airport Improvements Early Coordination

Attachments: 22-599 Preliminary coordination.pdf

Another agency letter for the EA.

BILL BALLARD, AICP

PROJECT MANAGER, AVIATION

Mead & Hunt

Direct: 517-908-3105 | Cell: 989-640-1060 | Transfer Files meadhunt.com | LinkedIn | Twitter | Facebook | Instagram



120 YEARS OF SHAPING THE FUTURE

From: Grennell, Brian (LEO) < Grennell B@michigan.gov>

Sent: Thursday, April 21, 2022 3:45 PM

To: houttemans < Houttemans@michigan.gov>; William Ballard < william.ballard@meadhunt.com>

Subject: Oakland Southwest Airport Improvements Early Coordination

You don't often get email from grennellb@michigan.gov. Learn why this is important

Attached is a copy of our response. Since we are primarily working remotely and are not in the office, a hard copy will not be sent unless specifically requested. Please let me know if you have any questions of would like to discuss this project.

Thank you,



Brian G. Grennell
Cultural Resource Management Coordinator
State Historic Preservation Office
300 N. Washington Square | Lansing, MI 48913
Direct Phone (517) 335-2721

Grennellb@michigan.gov www.michigan.gov/shpo

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GRETCHEN WHITMER

STATE OF MICHIGAN MICHIGAN STRATEGIC FUND STATE HISTORIC PRESERVATION OFFICE

QUENTIN L. MESSER, JR.
PRESIDENT

April 21, 2022

STEVE HOUTTEMAN
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF AERONAUTICS
2700 E AIRPORT SERVICE DRIVE
LANSING MI 48906

RE: ER22-599 Oakland Southwest Airport Improvements, New Hudson, Oakland County (FAA)

Dear Mr. Houtteman:

The State Historic Preservation Officer (SHPO) received your early coordination notification for the above-cited undertaking at the location noted above.

Section 106 requires federal agencies to take into account the effect of their undertakings on historic properties. The Section 106 regulations specify what is required for a Section 106 review [36 CFR § 800.11]. It is the responsibility of the federal agency, not the SHPO, to fulfill the requirements of Section 106. In some instances, the federal agency may delegate legal responsibility to a state, local, or tribal government. Consultants or designees contracted to prepare information, analyses, or recommendations, are not recognized as federally delegated authorities.

The Section 106 regulations specify what is required for a Section 106 review [36 CFR § 800.11]. As this is early coordination and not enough information on the proposed undertaking is available at this time, it is premature for the SHPO to provide meaningful comment. However, as plans are developed, a section 106 application must be submitted to the SHPO for review, comment and meaningful consultation.

Applicants who are merely seeking information on historic resources may visit our website to make a request for information in the SHPO's site records: https://www.miplace.org/historic-preservation/research-resources/schedule-a-research-appointment/ The SHPO cannot conduct such research on your behalf. Please note also that sensitive archaeological data is protected and will only be shared with Federally Qualified Archaeologists.

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 the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

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 Coordinator

for Mark A. Rodman State Historic Preservation Officer

BGG

Copy: William Ballard, MEAD & HUNT, Inc.



From: William Ballard

Sent: Tuesday, May 10, 2022 9:46 AM

To: Dave Clawson

Subject: FW: State of Michigan Department of Transportation – Oakland Southwest Airport, New Hudson, MI

FYI. Tribal letter.

BILL BALLARD, AICP

PROJECT MANAGER, AVIATION

Mead & Hunt

Direct: 517-908-3105 | Cell: 989-640-1060 | Transfer Files meadhunt.com | LinkedIn | Twitter | Facebook | Instagram



120 YEARS OF SHAPING THE FUTURE

From: Houtteman, Steve (MDOT) < HouttemanS@michigan.gov>

Sent: Tuesday, May 10, 2022 9:26 AM

To: William Ballard < william.ballard@meadhunt.com>

Subject: FW: State of Michigan Department of Transportation - Oakland Southwest Airport, New Hudson, MI

For your records (couldn't remember if I sent)...

Steve Houtteman

Supervisor, Airport Planning & Environmental Unit MDOT – Office of Aeronautics Monday-Thursday 6:00a-4:30p houttemans@michigan.gov (616) 299-2654



From: Douglas Taylor < Douglas. Taylor@nhbp-nsn.gov>

Sent: Monday, April 4, 2022 6:31 PM

To: Lauren Cuevas < !doutteman.gov < Houtteman.gov > <a href="mailto:houttem

Cc: Frederick Jacko < Frederick. Jacko@nhbp-nsn.gov>

Subject: RE: State of Michigan Department of Transportation - Oakland Southwest Airport, New Hudson, MI

CAUTION: This is an External email. Please send suspicious emails to abuse@michigan.gov

Greetings,

Ref: State of Michigan Department of Transportation

Thank you for including the Nottawaseppi Huron Band of the Potawatomi in your consultation process. From the description of your proposed project, it does not appear as if any cultural or religious concerns of the Tribe's will be affected. We therefore have no objection to the project. Of course, if the project scope is significantly changed or inadvertent findings are discovered during the course of the project, please contact us for further consultation.

Very Respectfully Douglas R. Taylor

Douglas R. Taylor | Tribal Historic Preservation Officer (THPO)

Pine Creek Indian Reservation 1301 T Drive S, Fulton, MI 49052

o: 269-704-8347 | c: 269-419-9434 | f: 269-729-5920 Douglas.Taylor@nhbp-nsn.gov | www.nhbp-nsn.gov



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From: Lauren Cuevas < lauren.cuevas@nhbp-nsn.gov>

Sent: Monday, April 4, 2022 3:02 PM

To: Douglas Taylor < Douglas.Taylor@nhbp-nsn.gov Cc: Frederick Jacko Frederick.Jacko@nhbp-nsn.gov Subject: State of Michigan Department of Transportation

Good afternoon Doug,

I have attached the State of Michigan Department of Transportation (Early Coordination Review of Proposed Improvements-Oakland Southwest Airport, New Hudson, Michigan.

Please contact Fred if you may have any questions.

Respectfully, Lauren Cuevas

Lauren Cuevas | Culture Department Administrative Assistant
NOTTAWASEPPI HURON BAND OF THE POTAWATOMI

Pine Creek Indian Reservation

1485 Mno-Bmadzewen Way

o: (269) 704-4171 | c: (269) 223-9988 |

lauren.cuevas@nhbp-nsn.gov| www.nhbpi.com



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Notification of Project at Oakland Southwest Airport (Y47)

Brian Matuk < Brian. Matuk @ meadhunt.com >

Wed 2023-08-30 2:25 PM

To:office@ocphs.org < office@ocphs.org >

1 attachments (2 MB)

Y47 Study Area.pdf;

Oakland History Center:

On behalf of the Michigan Department of Transportation, Office of Aeronautics, Mead & Hunt is completing a historic resources evaluation report for a proposed project at the Oakland Southwest Airport (Y47). The proposed project is expected to consist of tree clearing at the approaches for Runway 8/26, which would occur on the airport property and adjacent private property in Lyon Township. See attached study area for reference to the location of these activities in relation to the overall airport property and surrounding area.

As the airport is a "State Block Grant Airport," the project is subject to review by the Federal Aviation Administration (FAA) under Section 106 of the National Historic Preservation Act (Section 106) to identify and take into account any effects the proposed project may have on historic properties. A historic property is defined as any historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places. The historic resources evaluation report will be focused on documenting and evaluating buildings and structures within the immediate area of the proposed tree clearing to determine if any building qualifies as a historic property under Section 106.

If you believe there is any additional information we should consider in our research or evaluation, please submit at your earliest convenience to Brian Matuk, Cultural Resources Specialist at Mead & Hunt, Inc. at brian.matuk@meadhunt.com.

Regards, Brian Matuk

Brian Matuk (He, Him, His)

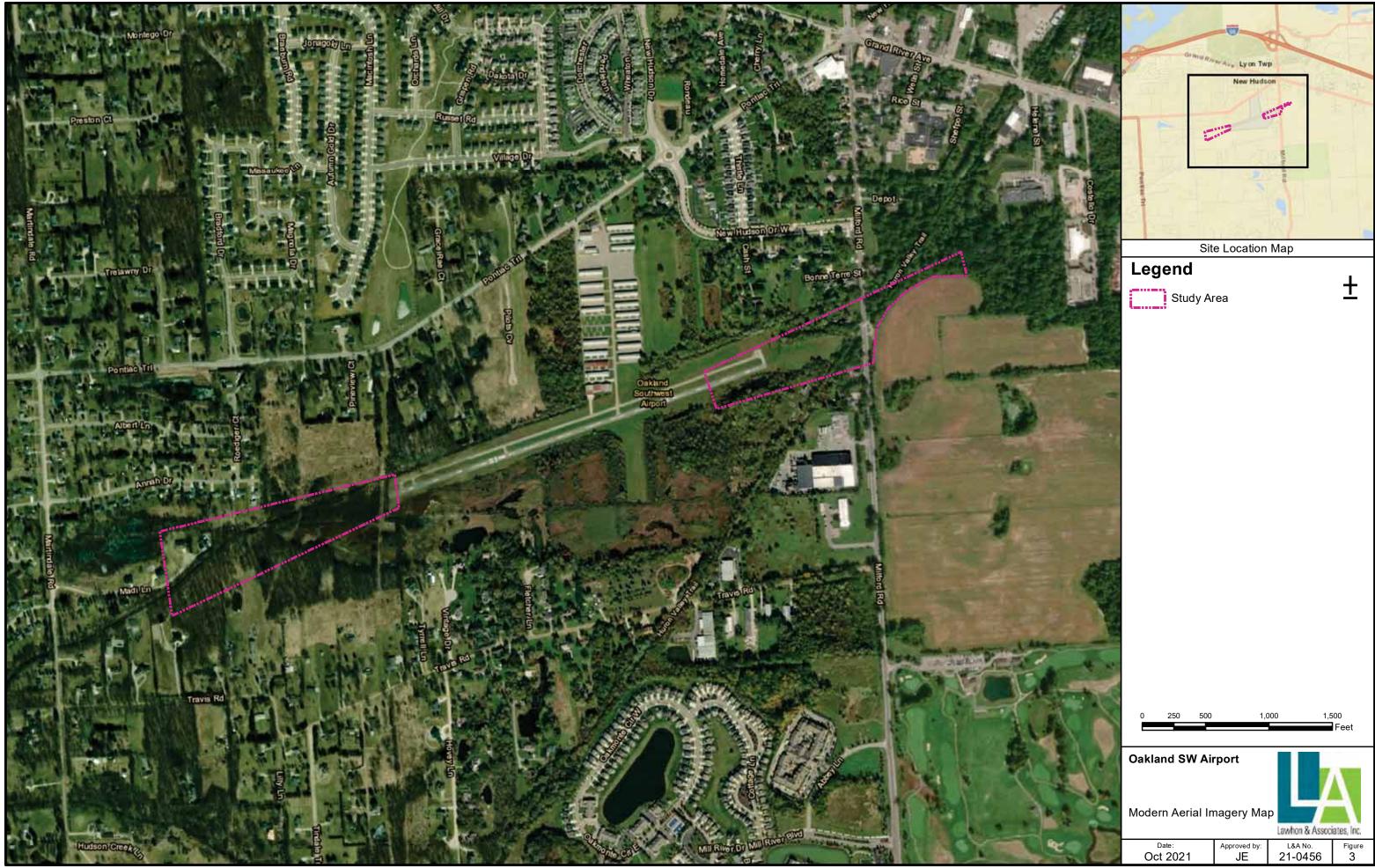
Historian, Cultural Resources | Cultural Resources

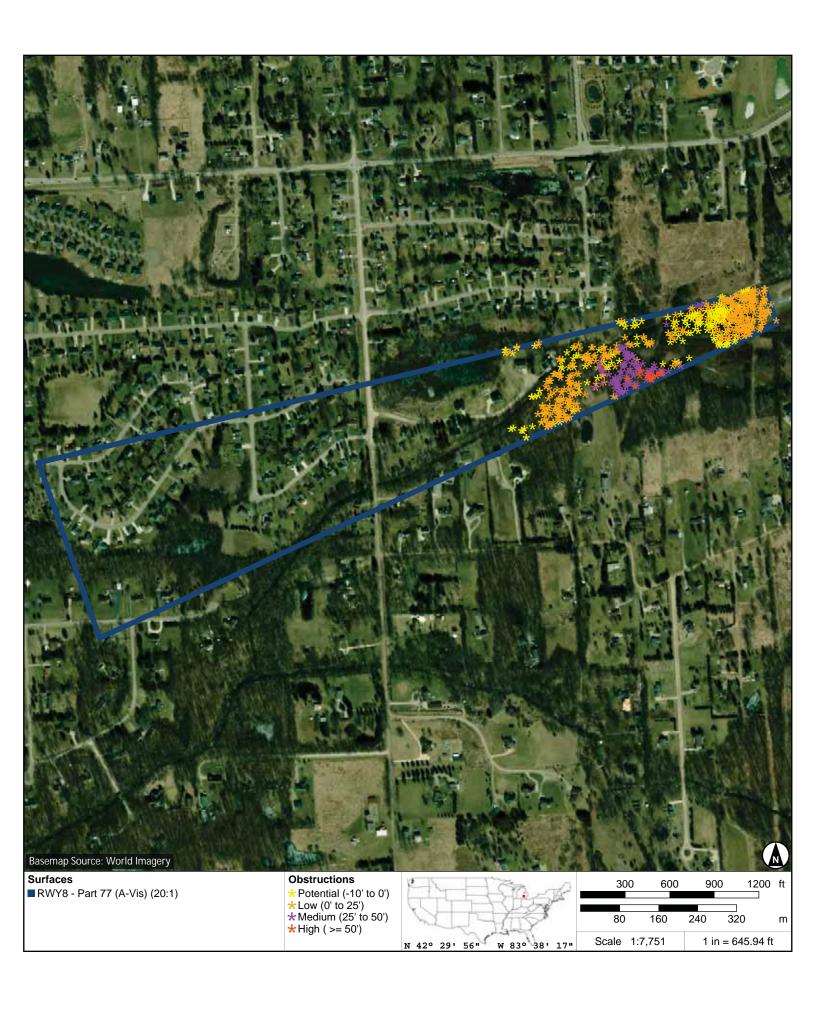
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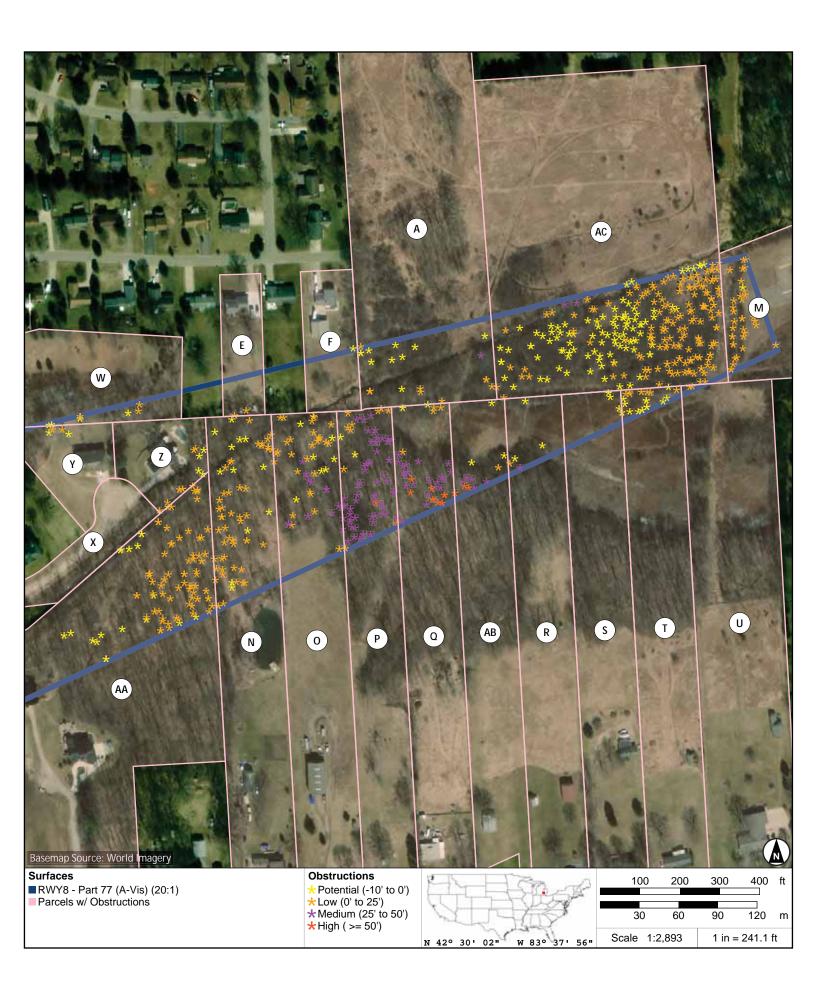
Mead&Hunt

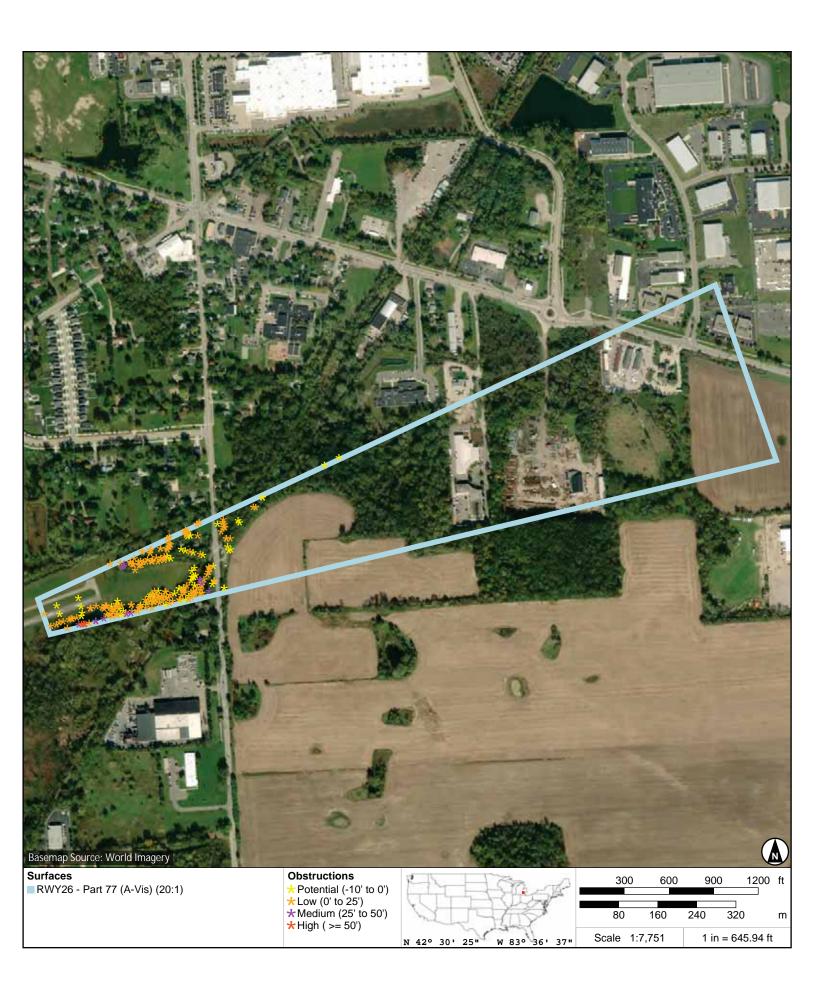
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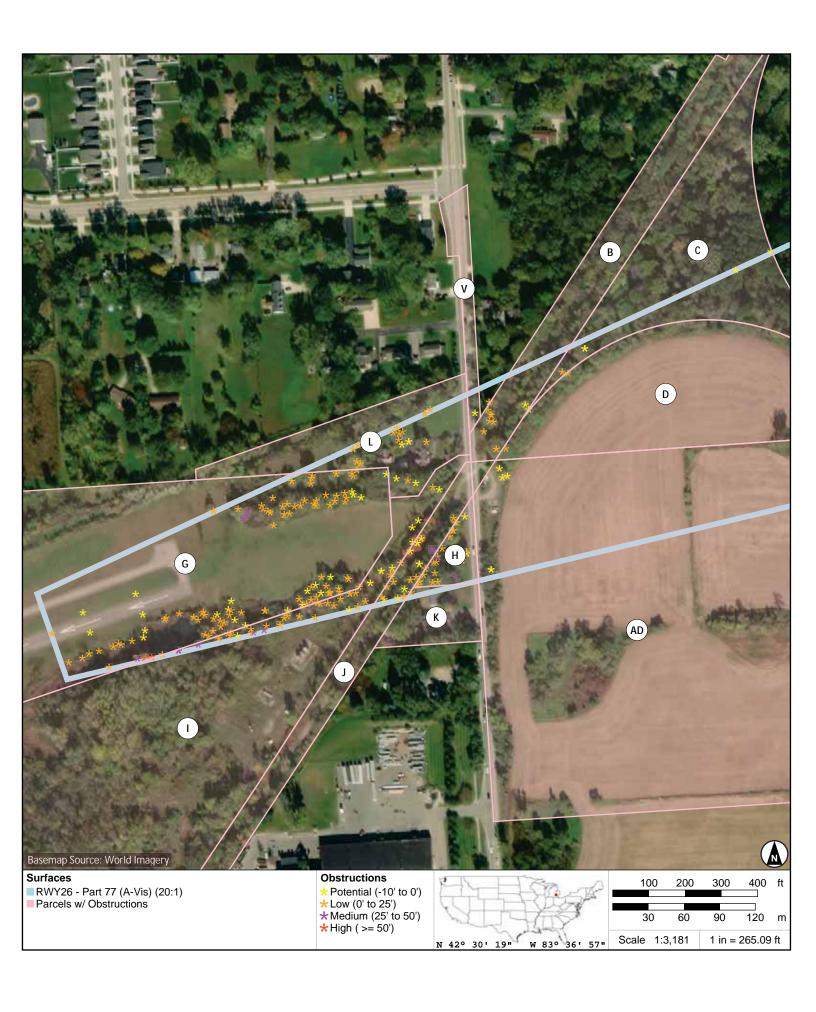


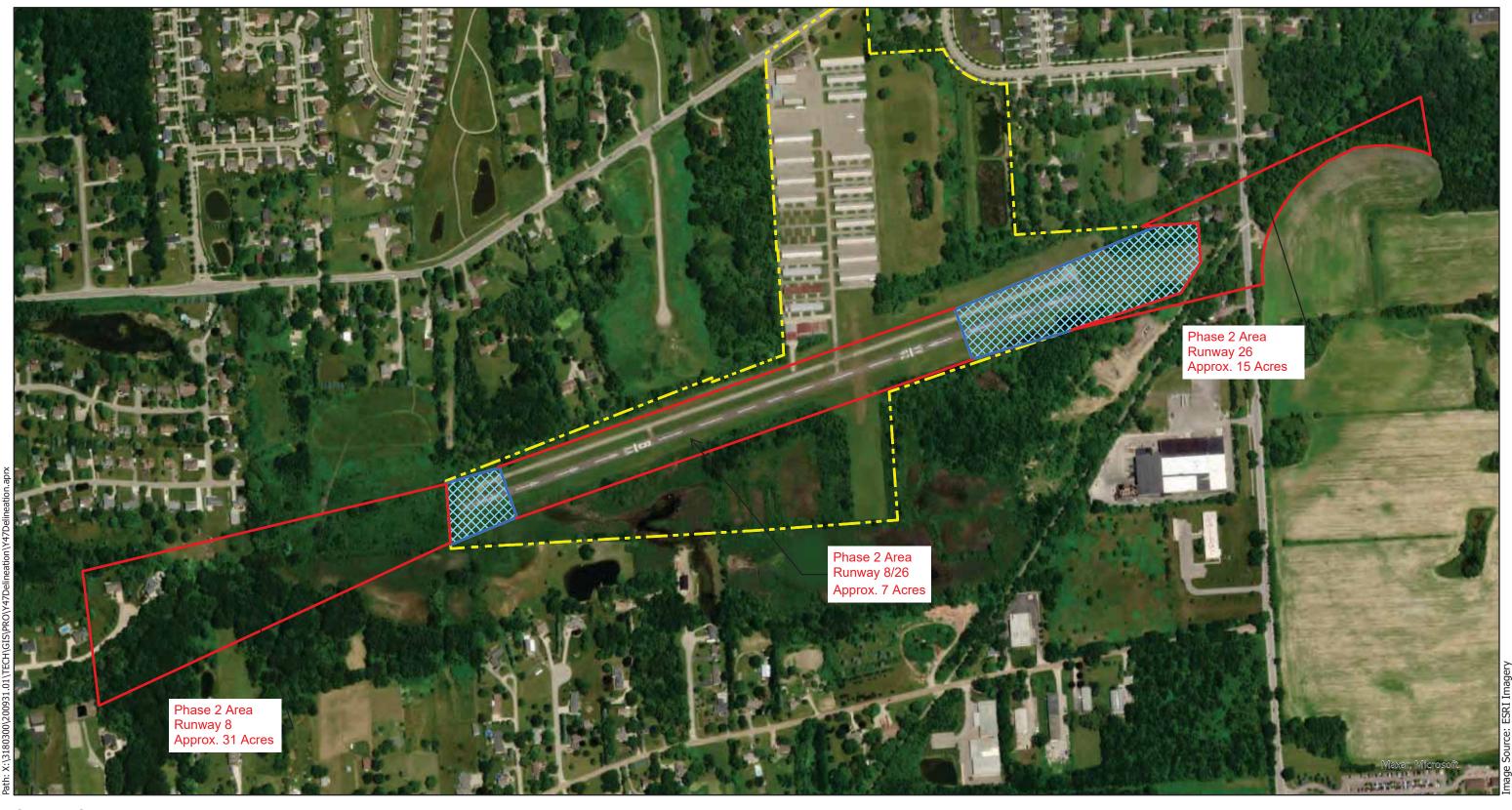












Oakland Southwest Phase 2 Areas

Oakland Southwest Airport (Y47) New Hudson, Michigan

110 220 440 660 880

Legend

Airport Property Boundary

Previous Delineation Area (2022)

Phase 2 Area

Project Location

T1N, R7E Section 9
City of New Hudson
Oakland County, MI
LRR Subregion: M
USACE Regional Supplement: Midwest
Area of Interest: Approx. 27 acres
USGS Quads: Kent Lake and Milford