

Angara wetlands

16 messages

salaruss <salaruss@gmail.com>

To: "planning@rochesterhills.org" <planning@rochesterhills.org>

To Whom It May Concern,

I would like to voice my concerns regarding the large development planned for this location. I would like to say that I have no objection to the type of development proposed, just the location. My concern is the destruction and removal of almost 300 trees, countless vegetation, small reptiles, and countless wildlife that new construction will destroy. The building on and around high quality wetlands and the impact on the wildlife and surrounding homes and communities will never be made whole again. The filling in of wetland A and wetland B, plus drilling through the current pond is inexcusable. **Profit before nature should never be part of the Rochester Hills community. Greed is an ugly thing**

I own property south of this proposed development and already see issues with flooding has had on surrounding property. The IDD community deserves the proper foundation on which to build their homes. They are investing a significant amount of money to provide for their loved ones.

As for the easement that has been obtained south of the construction site to drill through to connect the development, who is going to replace the damage that will be done? Will tiny saplings replace 100 plus old trees?

I am attaching a report that I obtained on the Egle website so planning and the IDD community can make a more informed decision. It looks like the one planning hasn't included the full report and pictures taken.

Sara Russ

 Auburn Angara Wetland Report 7.24.2024_v1 (2).pdf
10709K

Planning Dept Email <planning@rochesterhills.org>

To: salaruss <salaruss@gmail.com>

Cc: Chris McLeod <mcleodc@rochesterhills.org>

Wed, Oct 16, 2024 at 3:05 PM

Hello Sara -

Thank you for your comments, they will be provided to City Council for the Preliminary site condominium and Wetland Use permit requests, the Tree Removal Permit and the Natural Features Setback modification were approved last night by the Planning Commission.

The expected date for City Council is November 11th.

Jennifer MacDonald
Planning Specialist



**Planning & Economic
Development**

248-656-4660
rochesterhills.org

innovative by nature

[Quoted text hidden]

salaruss <salaruss@gmail.com>

To: Planning Dept Email <planning@rochesterhills.org>

Wed, Oct 16, 2024 at 3:46 PM

Thank you for returning my email. If I understand what this means it will, **minimize impacts from development on the natural feature** and help ensure the long-term health of the natural feature

Does this mean you will be putting in a retention pond to cover the damages? Or does it mean something else? I would appreciate it if you could clarify for me.
thank you

Sara Russ

[Quoted text hidden]

[Quoted text hidden]

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Planning Dept Email <planning@rochesterhills.org>

Thu, Oct 17, 2024 at 12:34 PM

Planning Dept Email <planning@rochesterhills.org>

To: saralruss <saralruss@gmail.com>

Re: Chris McLeod <mcleodc@rochesterhills.org>, Jennifer MacDonald <macdonaldj@rochesterhills.org>

Mon, Oct 21, 2024 at 8:34 AM

Hi Sara-

The City did thorough reviews of the wetlands and their associated natural features setbacks as a part of the many site plan reviews this development underwent. Our wetland consultant, who has been with the City for a significant amount of time and fully understands the City's stance on the environment, guided us through what impacts may be allowable and which would not be. Our consultants ultimately determined that the proposed impacts would be acceptable based on the latest set of plans. As a part of their review, they were also coordinating with the City's staff, including Engineering, to ensure that stormwater is captured from the proposed development. There is a proposed stormwater pond towards the rear (south end) of the site that will collect stormwater generated from the development and then it will be discharged into the wetland at the south end of the site at a rate that is deemed acceptable and after the stormwater has been cleaned. Again, this overall system has been reviewed in tandem with our environmental consultants and city engineering staff and has been found to be acceptable in its configuration.

Jennifer MacDonald
Planning Specialist



Planning & Economic Development

248-656-4660

rochesterhills.org

saralruss <saralruss@gmail.com>
To: Planning Dept Email <planning@rochesterhills.org>

Mon, Oct 21, 2024 at 12:43 **PM**

Thank you for getting back to me so soon. One more question is how wide is the easement going to be going through the south end to connect the sewer line? We are the house north of this and it looks very close to our property line with mature trees.

Sara Russ



--- Forwarded message -----

From: **Jason Boughton** <boughtonj@rochesterhills.org>
Date: Tue, Oct 22, 2024 at 7:29 AM
Subject: Sanitary Sewer Question for Angara Oaks
To: <saralruss@gmail.com>
Cc: Chris McLeod <mcleodc@rochesterhills.org>

Good Morning Sara

The Planning Department asked me to respond to your question with regards to the sanitary sewer installation. For the proposed sewer extension, there will be a 20 foot wide easement that exits the southern end of the Auburn Angara Oaks project, extends through the vacant property (15-32-201-007) to the south, then will head east, along the northern property line of 3270 Devondale to Devondale Road, but wholly on the 3270 Devondale property. This is currently the proposed route for the sewer extension and it is our understanding easements have already been secured from these 2 landowners. Full engineering review and permitting will be necessary to ensure that the proposed sewer line route is viable and can ultimately be approved. The sewer extension is proposed to be directionally drilled through these properties which should limit disturbances to these properties. With directional drilling, the need for trenching or excessive digging should be limited. An area where the sewer line switches from running north and south, to east and west will need to be excavated to install a manhole (and associated manhole structure). The sewer will generally be approximately 10 feet in depth. All the permitting processes will take a better part of a year. As the time comes for constructing the condominium, this would be the best time to do a quick video of your shared property line just in case it is needed if a dispute occurs. If you have any more questions with regards to the utilities please feel free to respond to me. Thank you and have a great day.



innovativetoinature

Jason Boughton

Engineering Utility Specialist
Department of Public Services

248-841-2490
rochesterhills.org

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July 24, 2024

Bruce Michael
Three Oaks Communities
P.O. Box 8307
Ann Arbor, MI 48107

**Re: Wetland Delineation Report – Angara Drive (Parcels 15-32-201-001; -002; -003; -004; -006)
City of Rochester Hills, Oakland County, Michigan**

Dear Mr. Michael:

At your request, Barr Engineering Co. (Barr), conducted a wetland delineation of the approximately 7.36-acre above-referenced property. The purpose of this report is to summarize the results of the wetland delineations conducted on May 30 and re-evaluated on July 9, 2024, and to provide a professional opinion as to potential Michigan Department of Environment, Great Lakes, and Energy (EGLE) and City of Rochester Hills jurisdiction over the identified wetland areas. Prior to the July 9 site visit, the City of Rochester Hills consultant, Kyle Hottinger of ASTI, Inc., was on site to address an action taken by a neighbor regarding the hydrology between the site and the neighboring property. A culvert drained this area of the site to the property to the northeast and that culvert had been blocked over the last winter season resulting in water ponding onto the site.

1.0 Area of Investigation Description

The Area of Investigation (AOI) is located west of Crooks Road and south of Auburn Road. The land cover within the AOI consists of mowed lawn, two houses and two garages, and a woodlot. The surrounding land use is comprised of residential development and vacant land.

1.1 Desktop Review

Barr conducted a desktop review to evaluate digital imagery for topography, soil types, and mapped wetlands within the AOI prior to the wetland delineation. As part of the desktop review, Barr staff reviewed resources such as the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS; Figure 1), Michigan Final Wetlands Inventory (MFWI; Figure 2), and aerial photography (Attachment 1).

A review of aerial photography shows evidence of past disturbance on parcel 15-32-201-006, the eastern most parcel of the site. It appears that from approximately 2014 to approximately 2019 the northern portion of this parcel was used as a landscaping storage and staging yard, and the previous owner brought in large cobble to establish a parking and storage area.

According to the WSS (Figure 1), the AOI includes well drained Fox sandy loam, till plain, 2 to 6 percent slopes (18B); somewhat poorly drained Thetford loamy fine sand, 0 to 3 percent slopes (35A); very poorly drained Granby loamy sand, 0 to 2 percent slopes (39); and well drained Urban land-Spinks complex, 0 to 8 percent slopes (62B). The Granby soil is the hydric (wetland) soil mapped within the AOI. Hydric soils are

soils that developed under prolonged periods of saturation or inundation and typically support wetland habitats in an undrained condition.

The MFWI (Figure 2) shows the AOI to contain wetland in the southeastern corner of the property as identified by the National Wetland Inventory (NWI) and Michigan Resource Inventory System (MIRIS) maps. It also shows the central and southwestern portions of the AOI to contain soil areas which include wetland soils.

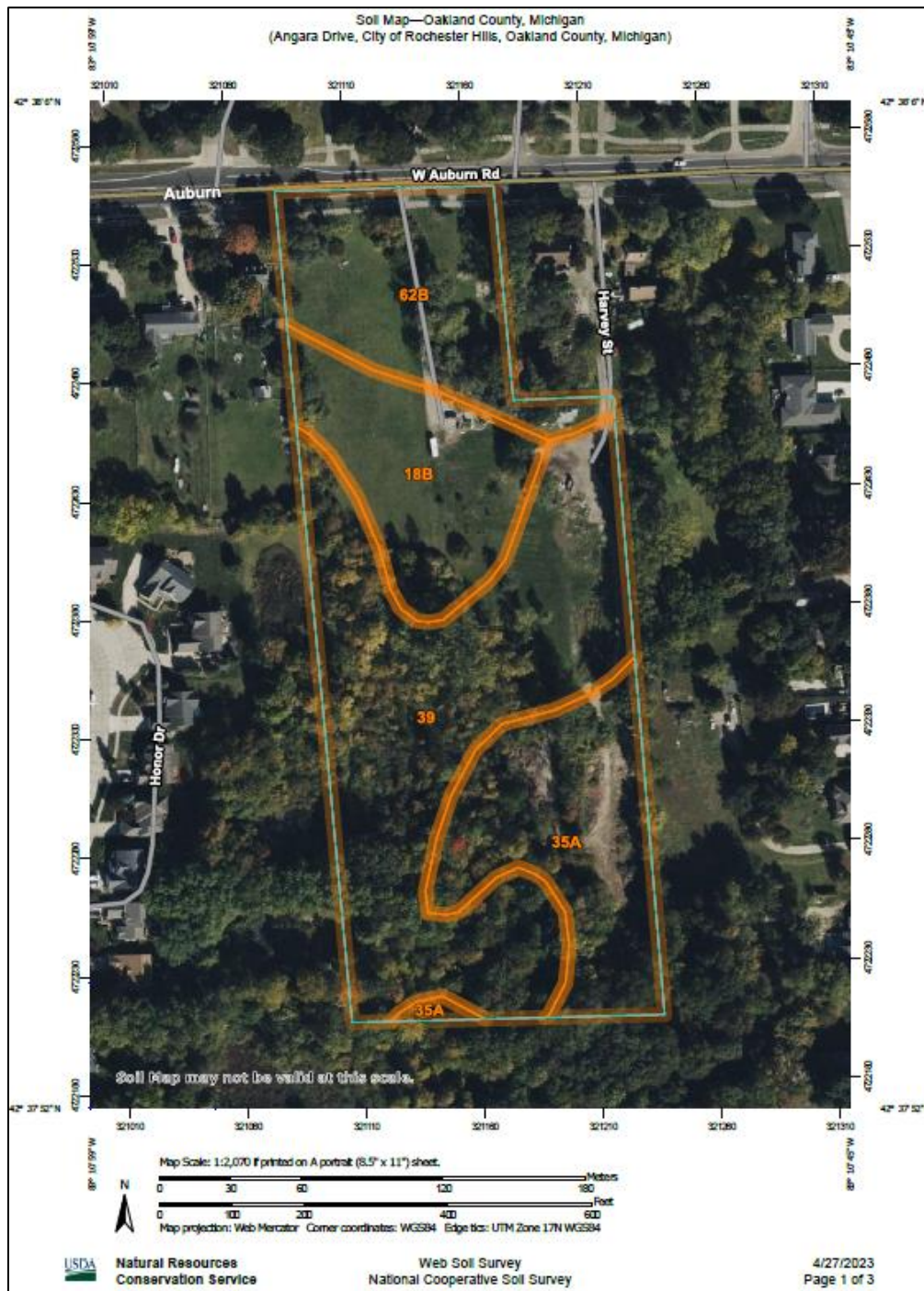


Figure 1. NRCS Web Soil Survey



Figure 2. Michigan Final Wetlands Inventory

1.2 Methodology

The wetland delineation was conducted in a manner consistent with the *Corps of Engineers Wetlands Delineation Manual (USACE 1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0, USACE 2010)*. The wetland delineation procedures outlined in these manuals require the evaluation of on-site vegetation, soils, and hydrologic characteristics.

The wetland boundaries were flagged in the field with alpha numerically labeled pink flagging tape and pin flags. The wetland boundaries were subsequently surveyed by Monument Engineering Group Associates, Inc. Site observations are described in the sections below.

1.3 Results

The AOI includes palustrine emergent (PEM), palustrine scrub-shrub (PSS), and palustrine forested (PFO) habitats. The on-site investigation identified two wetlands. These wetlands were labeled as Wetland A and Wetland B. The wetland and upland areas within the AOI are described below.

Vegetation, Soil, and Hydrology

Wetland A

Wetland A is a PEM/PSS wetland located within the central portion of the AOI. Wetland A continues off-site, both east and west of the AOI. The on-site portion of Wetland A is approximately **1.8** acres in size. The vegetation identified within the wetland included species such as lake sedge (*Carex lacustris*), skunk cabbage (*Symplocarpus foetidus*), common buckthorn (*Rhamnus cathartica*), and American elm (*Ulmus americana*). During the July 9th reevaluation of the wetlands, five (5) soil pits and data forms were completed at five (5) sampling points on the north edge of Wetland A, attached are data forms SP1 through SP5, along with a photolog showing the location of the sampling points. The eastern end of Wetland A exists on previously disturbed land and soil pits could not be dug due to the presence of large cobble at the surface. Hydric soil and primary and secondary wetland hydrology indicators were observed in other areas of Wetland A. The boundaries of this wetland were identified using flags A1 through A57.

Wetland B

Wetland B is a PFO wetland located in the southern portion of the AOI. Wetland B continues off-site south of the AOI. The on-site portion of Wetland B is approximately **0.2** acres in size. The vegetation identified within the wetland included species such as silver maple (*Acer saccharinum*). Hydric soil was assumed to be present within Wetland B. A soil pit was not dug because the soil surface was inundated by 6 inches of water. Primary and secondary wetland hydrology indicators were observed in Wetland B. The boundaries of this wetland were identified using flags B1 through B12.

Upland

The upland areas of the site were characterized by mowed lawn and scrub-shrub areas and woods. The upland areas of the site contained species such as white clover (*Trifolium repens*), dandelion (*Taraxacum officinale*), multiflora rose (*Rosa multiflora*), Japanese barberry (*Berberis thunbergia*), prickly ash (*Zanthoxylum americanum*), common buckthorn, Morrow's honeysuckle (*Lonicera morrowii*), black locust (*Robinia pseudoacacia*), and black cherry (*Prunus serotina*). Hydric soils and wetland hydrology indicators were not observed in the upland areas of the site.

The attached Site Survey depicts the location of the wetland areas encountered on the site. Wetland Determination Data Forms are attached for further detailed information on the wetland and upland areas within the AOI.

1.4 Conclusions

Based on observations of topography, vegetation, soil, and indicators of hydrology, Barr has determined that wetland habitat is present within the AOI. These wetland areas were identified as a PEM, PSS, and PFO wetland habitat types. According to Part 303, Wetlands Protection, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, wetlands regulated by the State of Michigan include wetlands that are:

1. Located within 500 feet of, or having a direct surface water connection to, an inland lake, pond, river, or stream; or
2. Greater than 5 acres in size; or
3. Located within 1,000 feet of, or having a direct surface water connection to, the Great Lakes or Lake St. Clair; or
4. A water of the United States as that term is used in section 502(7) of the Federal Water Pollution Control Act, 33 USC 1362; or

5. Known to have a documented presence of an endangered or threatened species under Part 365 of State of Michigan 1994 PA 451, as amended or the Federal Endangered Species Act of 1973, Public Law 93-205; or
6. Rare or imperiled.

Wetland A may be regulated under Part 303 because it continues off-site, beyond the limits of the AOI. The total size of Wetland A was not determined. If Wetland A is greater than 5 acres in size it would be regulated.

Wetland B may be regulated under Part 303 because it is part of a larger wetland complex that extends off-site and may be greater than 5 acres in total size. If Wetland B is greater than 5 acres in size it would be regulated.

The City of Rochester Hills regulates all wetlands regulated by EGLE and, in addition, regulates noncontiguous wetlands two acres in size or greater. The City of Rochester Hills also regulates noncontiguous wetlands less than two acres in size if the wetlands are deemed essential to the preservation of the natural resources of the city. Wetland A and Wetland B are likely to be regulated by the City of Rochester Hills because they appear to be greater than 2 acres in size.

Please be advised that EGLE, and the City of Rochester Hills, has regulatory authority regarding the wetland boundary location(s) and jurisdictional status of wetlands on this site. Barr's wetland determination was performed in general accordance with accepted procedures for conducting wetland determinations. Barr provides no warranty, guarantee, or other agreement in respect to the period of time for which this wetland determination will remain valid. Barr's conclusions reflect our professional opinion based on the site conditions within the AOI observed during the site visit. Discrepancies may arise between current and future wetland determinations and delineations due to changes in vegetation and/or hydrology as the result of land use practices or other environmental factors, whether on-site or on adjacent or nearby properties. We recommend our wetland boundary determination and jurisdictional opinion be reviewed by EGLE prior to undertaking any activity within any identified wetlands.

Thank you for the opportunity to provide this wetland delineation. If you have any questions, please contact me at your convenience at 810-247-1229 or Fthompson@barr.com.

Sincerely,

BARR ENGINEERING CO.



Fran Thompson
Ecologist

References

U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual*. Washington, DC.

USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*

Figure:

Site Survey

Attachments:

Attachment 1 – Historic Aerial Photography

Attachment 2 – USACE Wetland Determination Data Sheets

UTILITY CROSSING NOTE

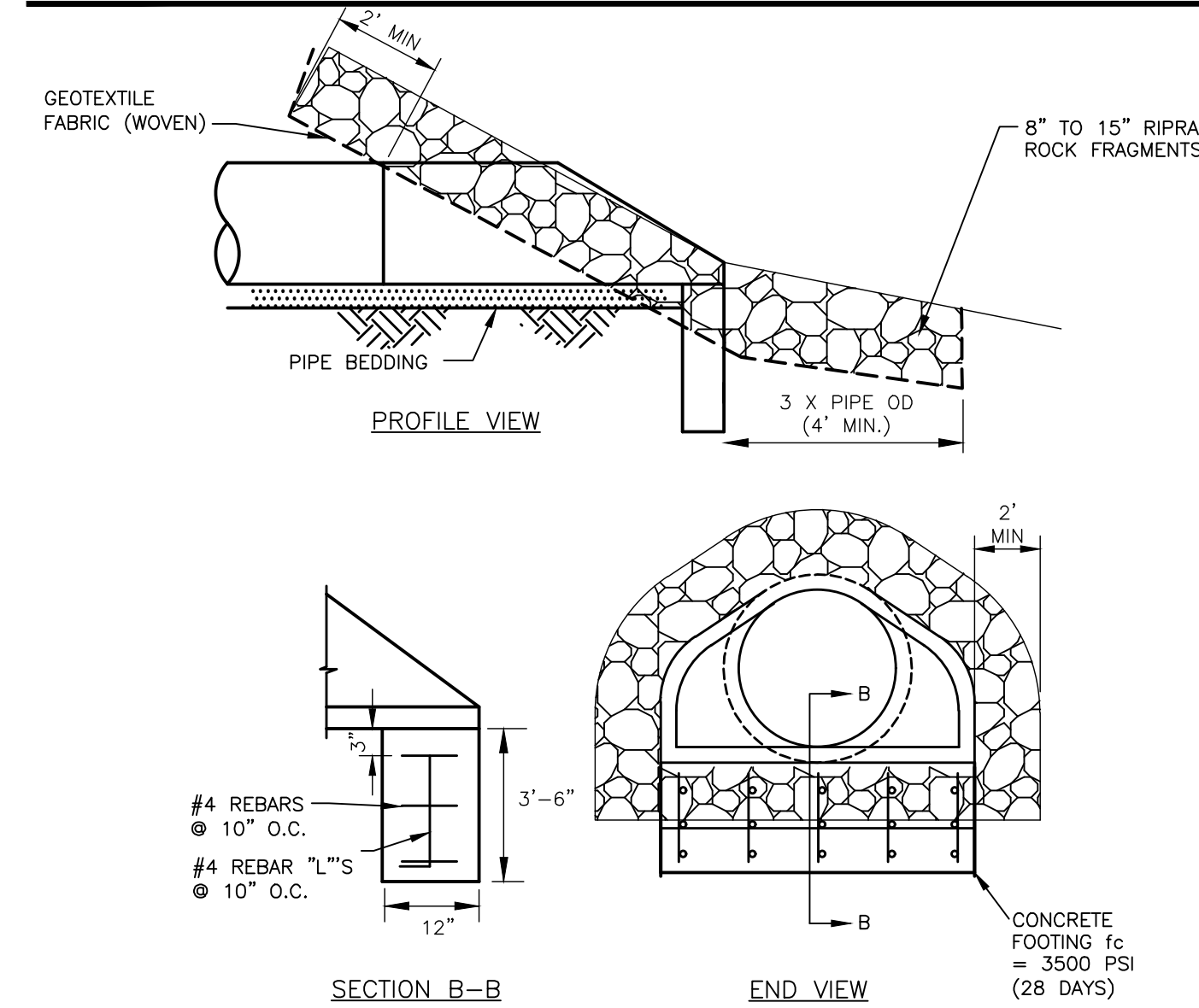
SANITARY SEWER CROSSING OF THE WETLAND B MUST BE SLEEVED TO PROTECT THE WETLAND. ALL OTHER WETLANDS TO BE CROSSED BY UTILITIES ARE PROPOSED TO BE FILLED. SEE PLAN FOR LOCATION.

UTILITY CROSSINGS			
WETLAND	SANITARY	WATERMAIN	STORM SEWER
WETLAND A	248 LF - 8" SEWER	245 LF - 8" WATER MAIN	247 LF - 36" STORM SEWER 125 LF - 12" STORM SEWER
WETLAND B	112 LF - 8" SEWER (DIRECTIONAL DRILL)	NA	12 INCH OUTLET W/ RIPRAP

25' NATURAL FEATURES SETBACK DISTURBANCES			
WETLAND	LENGTH OF 25' SETBACK	LENGTH OF DISRUPTION OF 25' SETBACK	REDUCTION
WETLAND A - DISTURBANCE 1	1,201 LF	632 LF	20,396 SF (PERMANENT)
WETLAND A - DISTURBANCE 2	1,201 LF	123 LF	2,704 SF (TEMP RESTORED)
WETLAND B	344 LF	344 LF	2,122 SF (PERMANENT) 3,318 SF (TEMP RESTORED)

WETLAND DISTURBANCES			
WETLAND	AREA OF WETLAND (ONSITE)	AREA OF DISRUPTION OF WETLAND	WETLAND VOLUME
WETLAND A - DISTURBANCE 1	78,062 SF	29,356 SF	5,522 CY (FILL)
WETLAND A - DISTURBANCE 2	78,062 SF	25 SF	<1 CY (FILL)
WETLAND B - DISTURBANCE 1	9,367 SF	361 SF	79 CY (FILL)
WETLAND B - DISTURBANCE 2	9,367 SF	69 SF	1 CY (CUT)

END SECTION DETAIL - WITH FOOTING



RIGHT OF WAY LINE LEGEND

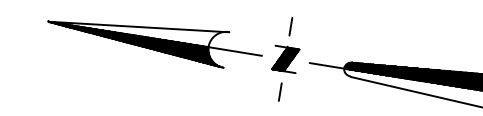
- EX. RIGHT OF WAY LINE/EASEMENT
- PR. RIGHT OF WAY LINE/EASEMENT

WETLAND NOTES

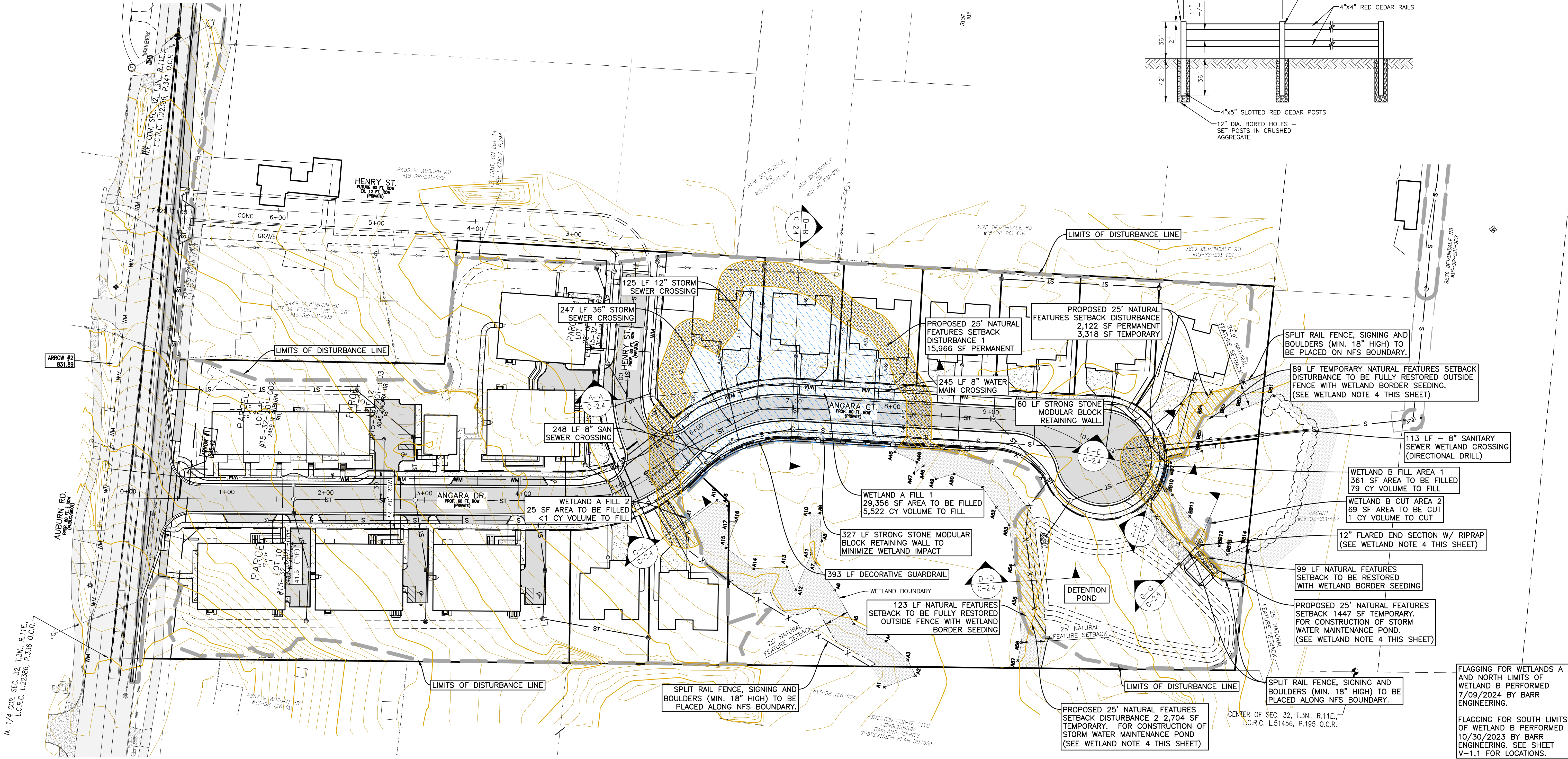
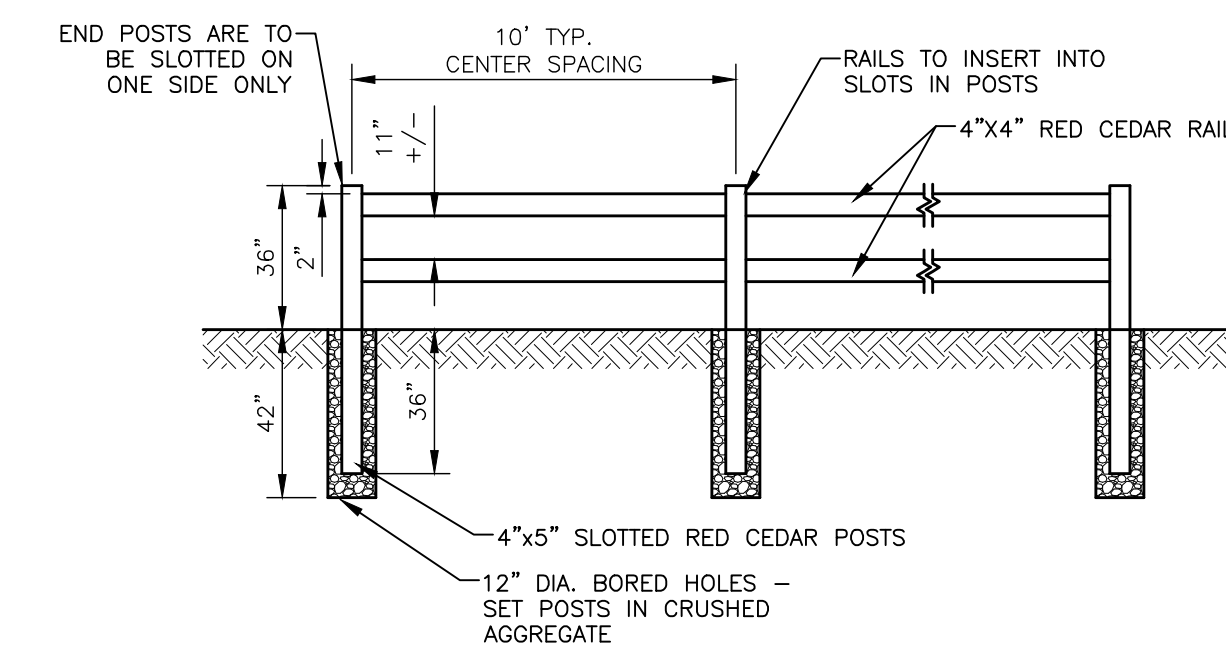
- MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY PERMIT WILL BE REQUIRED FOR FILLING IN THE WETLAND AS SHOWN ON THIS PLAN. OAKLAND COUNTY WATER RESOURCE COMMISSIONER PERMIT WILL BE REQUIRED FOR DISCHARGING THE STORM WATER EFFLUENT INTO THE LEUDER'S DRAIN.
- POST CONSTRUCTION, A CITY-APPROVED WETLAND SEED MIX COMPRISED OF NATIVE MICHIGAN SPECIES MUST BE INSTALLED IN ANY AREAS OF UNPLANNED IMPACTS TO WETLANDS, AS WELL AS ALONG THE WETLAND SIDE OF THE FINAL RETAINING WALL STRUCTURES.
- CITY APPROVED WETLAND SOIL AND SEED MIXTURE SHALL BE USED TO RESTORE ANY IMPACTS TO WETLANDS A AND B IDENTIFIED ON THIS PLAN.
- PRIOR TO ANY WORK BEING PERFORMED WITHIN THE WETLANDS OR NATURAL FEATURES SETBACKS ON THIS PROJECT:
 - THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CITY ENGINEER. WORK SHALL NOT COMMENCE UNTIL CONSENT HAS BEEN OBTAINED FROM THE CITY MAYOR.
 - WORK SHALL BE CONDUCTED USING BEST MANAGEMENT PRACTICES (BMP'S) TO ENSURE FLOW AND CIRCULATION PATTERNS AND CHEMICAL AND BIOLOGICAL CHARACTERISTICS OF THE WETLANDS ARE NOT IMPACTED.
 - THE WORK SHALL BE CONDUCTED SUCH THAT ALL IMPACTS TO THE AQUATIC ENVIRONMENT ARE MINIMIZED.

IMPACT LEGEND

- WETLAND FILL
- NATURAL FEATURES
- 25' SETBACK IMPACT



FENCE DETAIL - SPLIT RAIL - 2 RAIL



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CLIENT :

AUBURN ANGARA OAKS, LLC

14496 N SHELDON RD
SUITE 230
PLYMOUTH, MI 48170
BRUCE MICHAEL
(248) 703-4653

WETLAND PLAN

AUBURN ANGARA OAKS

PART OF SEC. 32, T3N, R11E
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

DATE	DESCRIPTION
04/28/2023	REVISIONS
08/23/2023	REVISED SITE PLAN SUBMITTAL
09/15/2023	REVISION TO MOOT
01/22/2024	REVISED SITE PLAN PER CITY AND MOOT
03/28/2024	REVISED SITE PLAN PER MOOT
05/15/2024	PRELIMINARY SITE PLAN TO CITY
07/23/2024	REVISED SITE PLAN / WETLAND FLAGS

ORIGINAL ISSUE DATE: 05/19/2022

PROJECT NO: 22-051

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DRAWN BY: MN

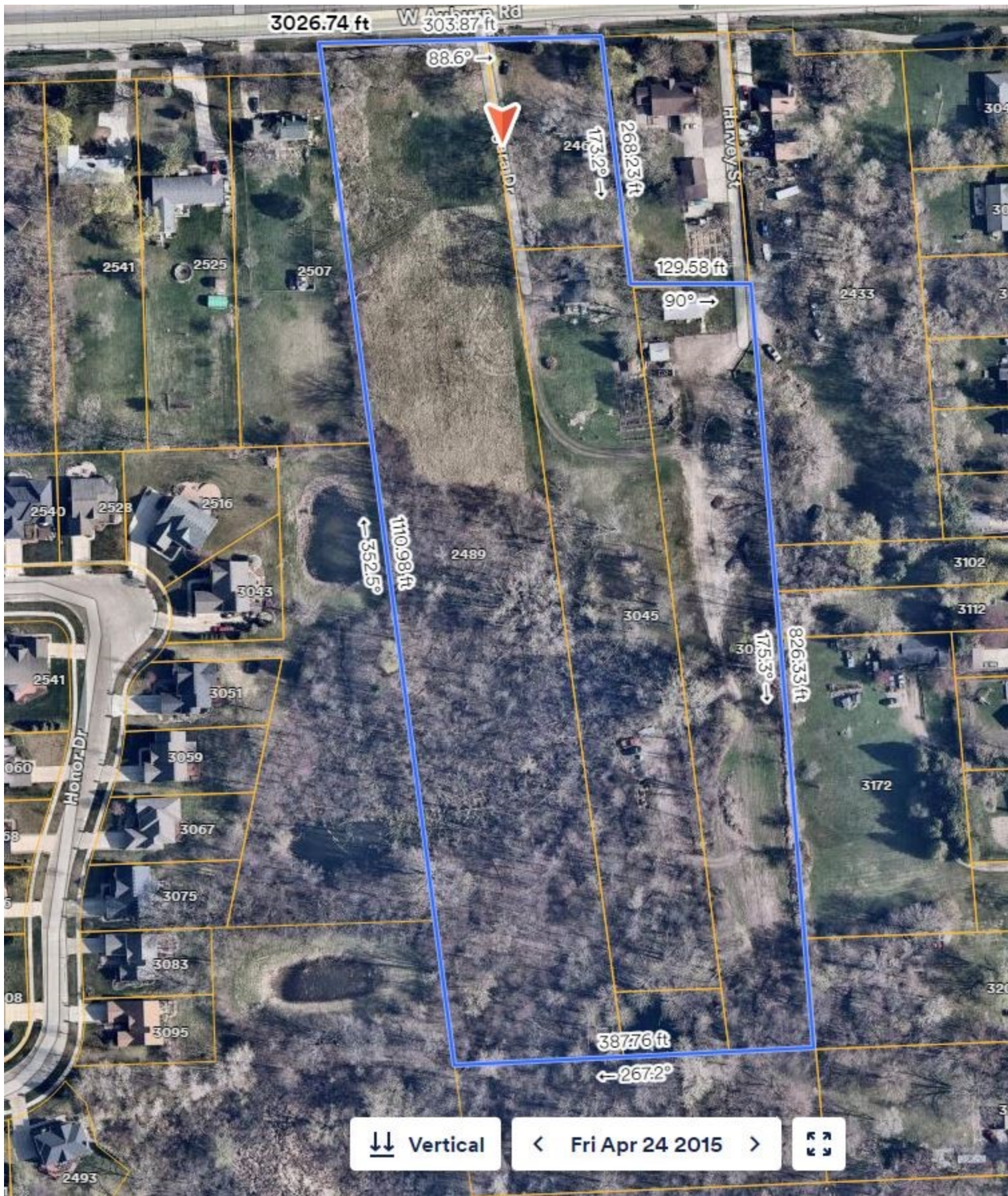
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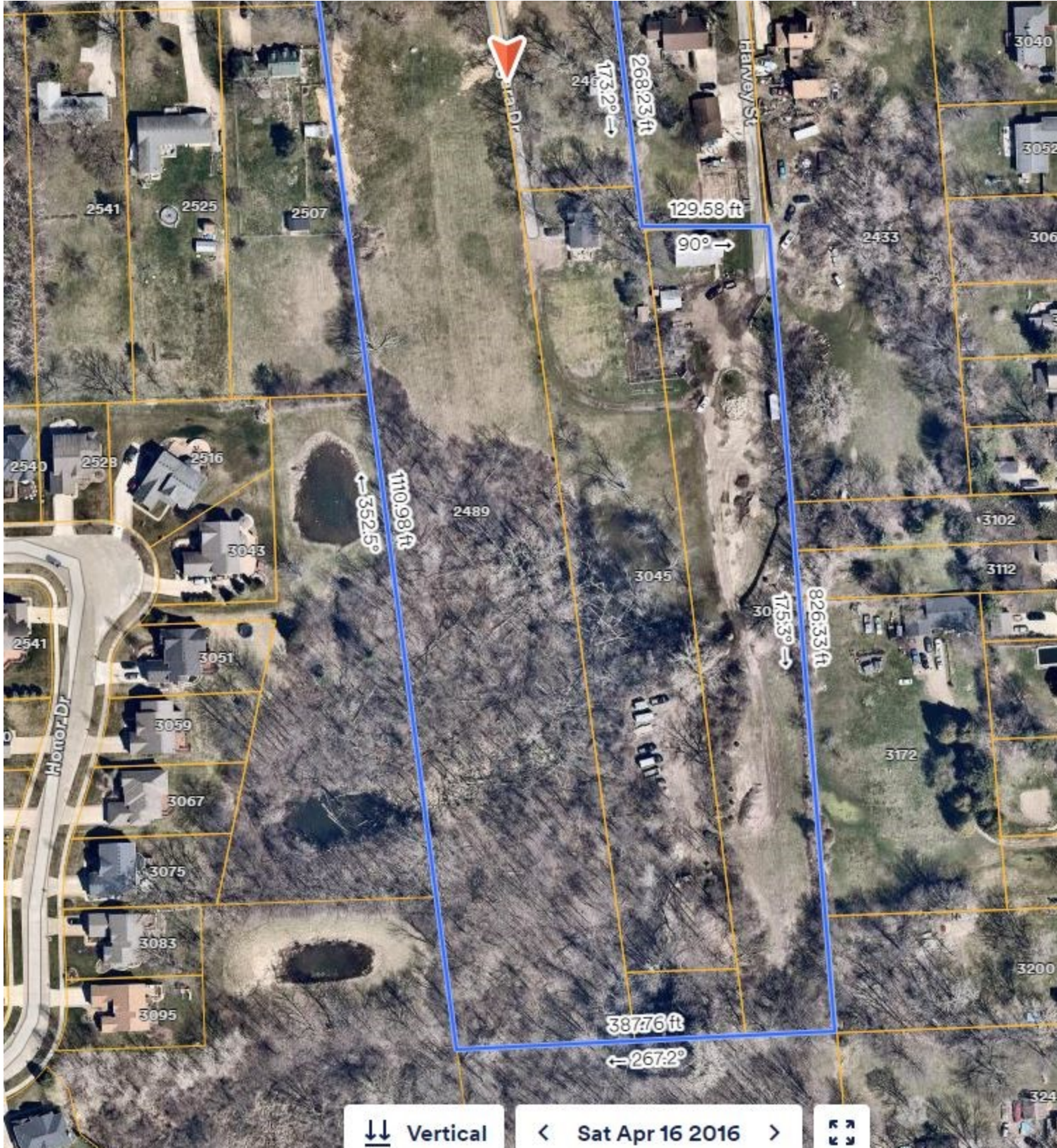
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C-23

NOT FOR CONSTRUCTION

Attachments 1

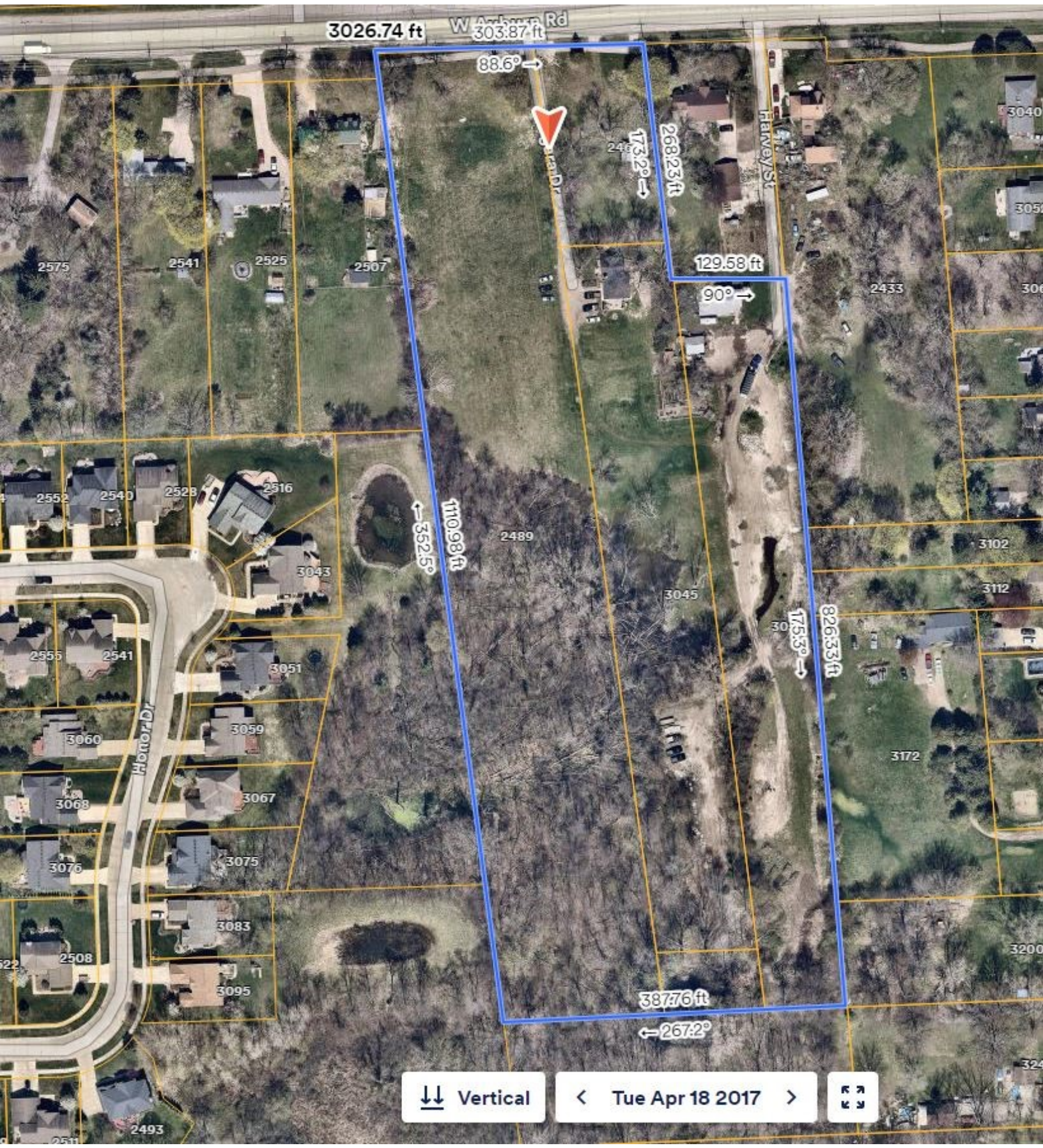




Vertical

Sat Apr 16 2016

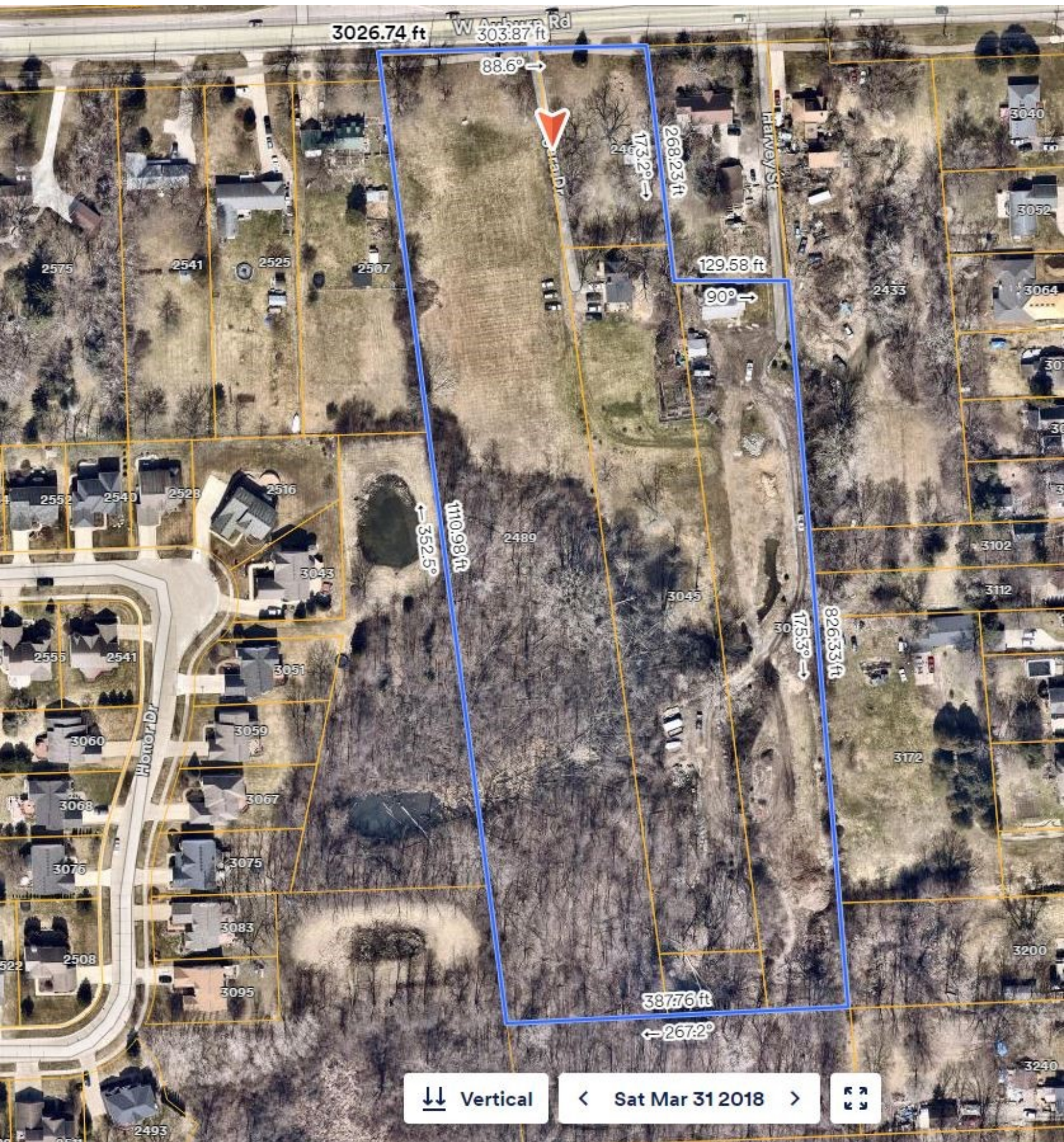


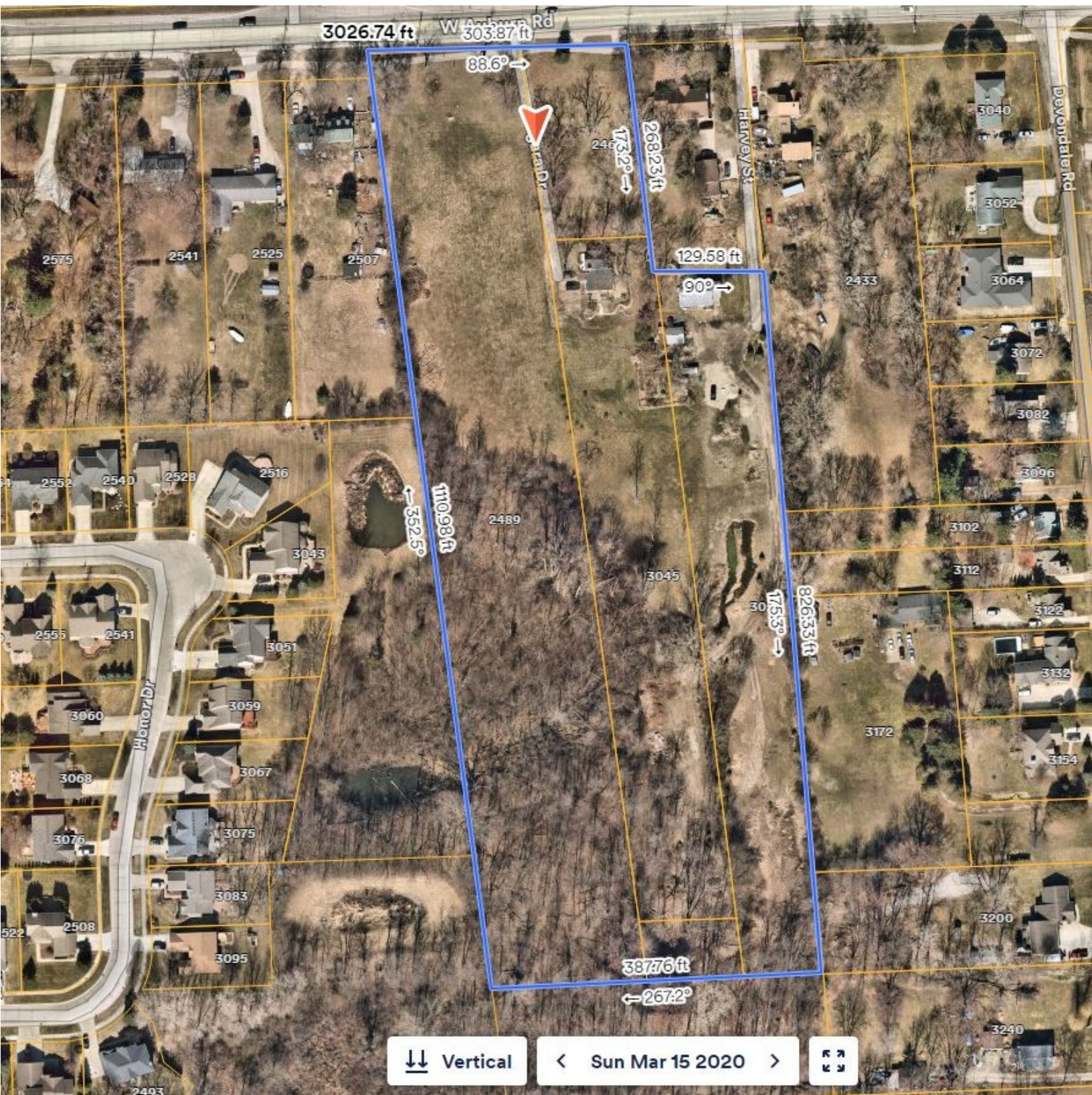


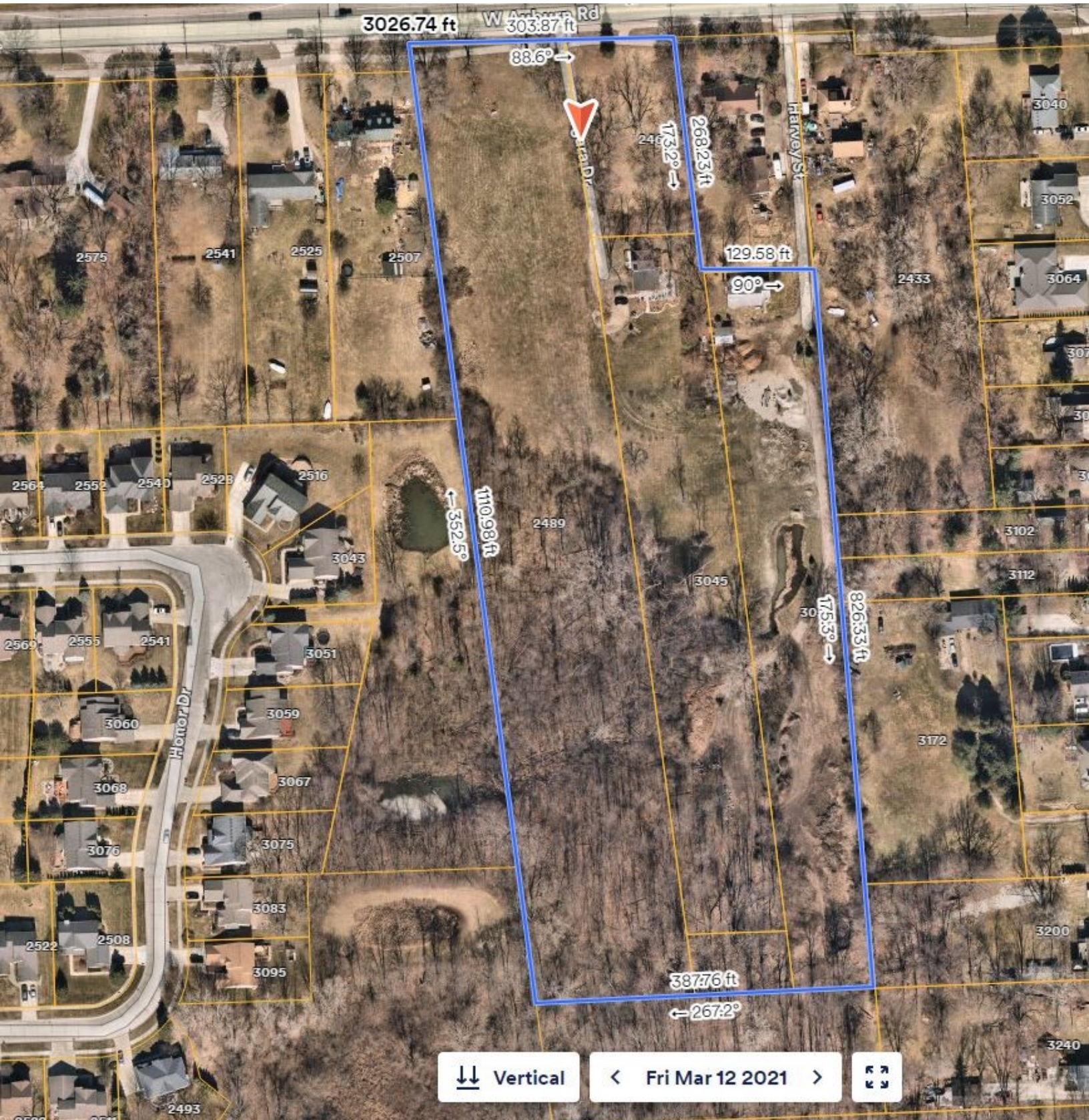
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Tue Apr 18 2017





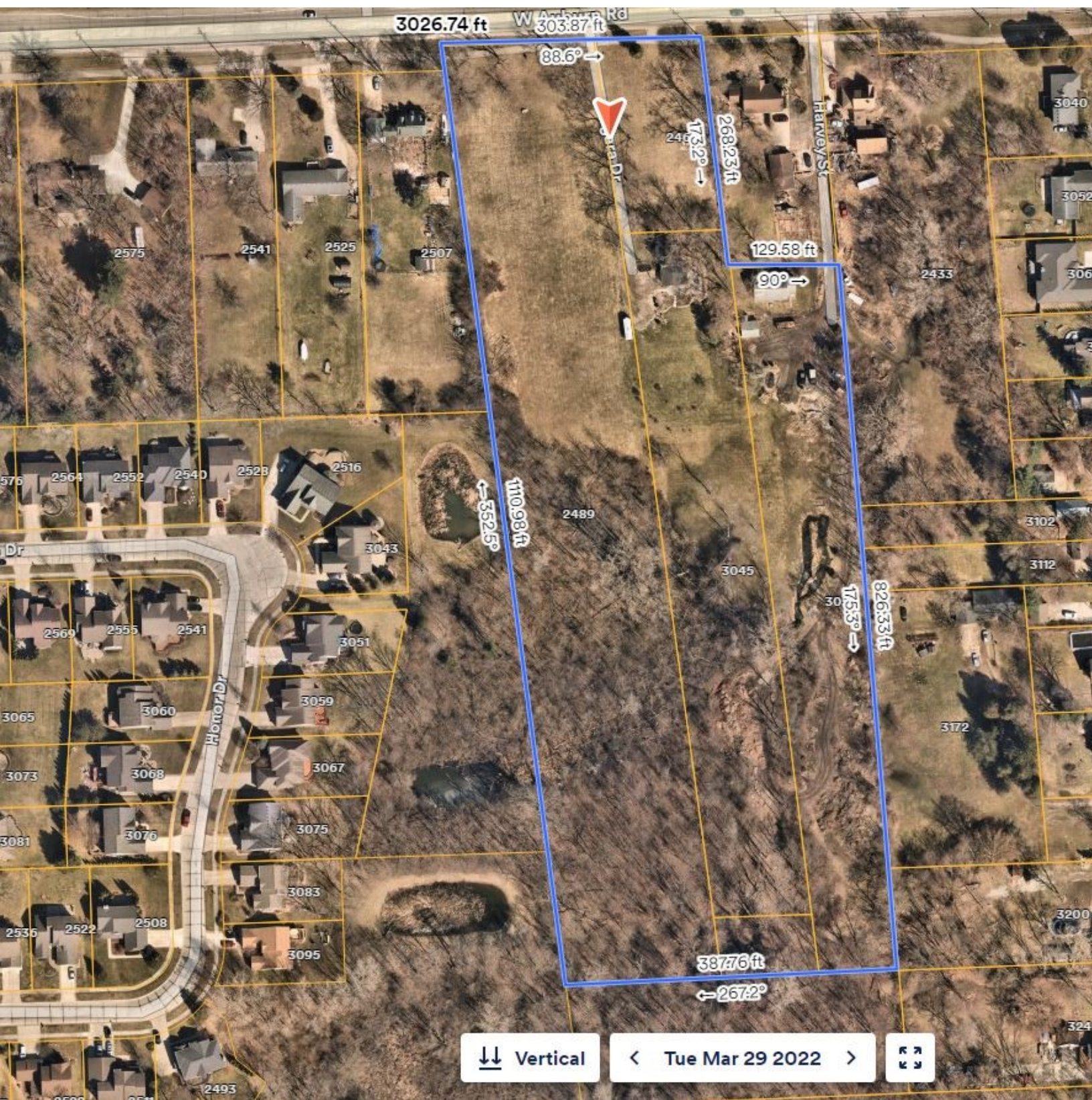




Vertical

< Fri Mar 12 2021 >

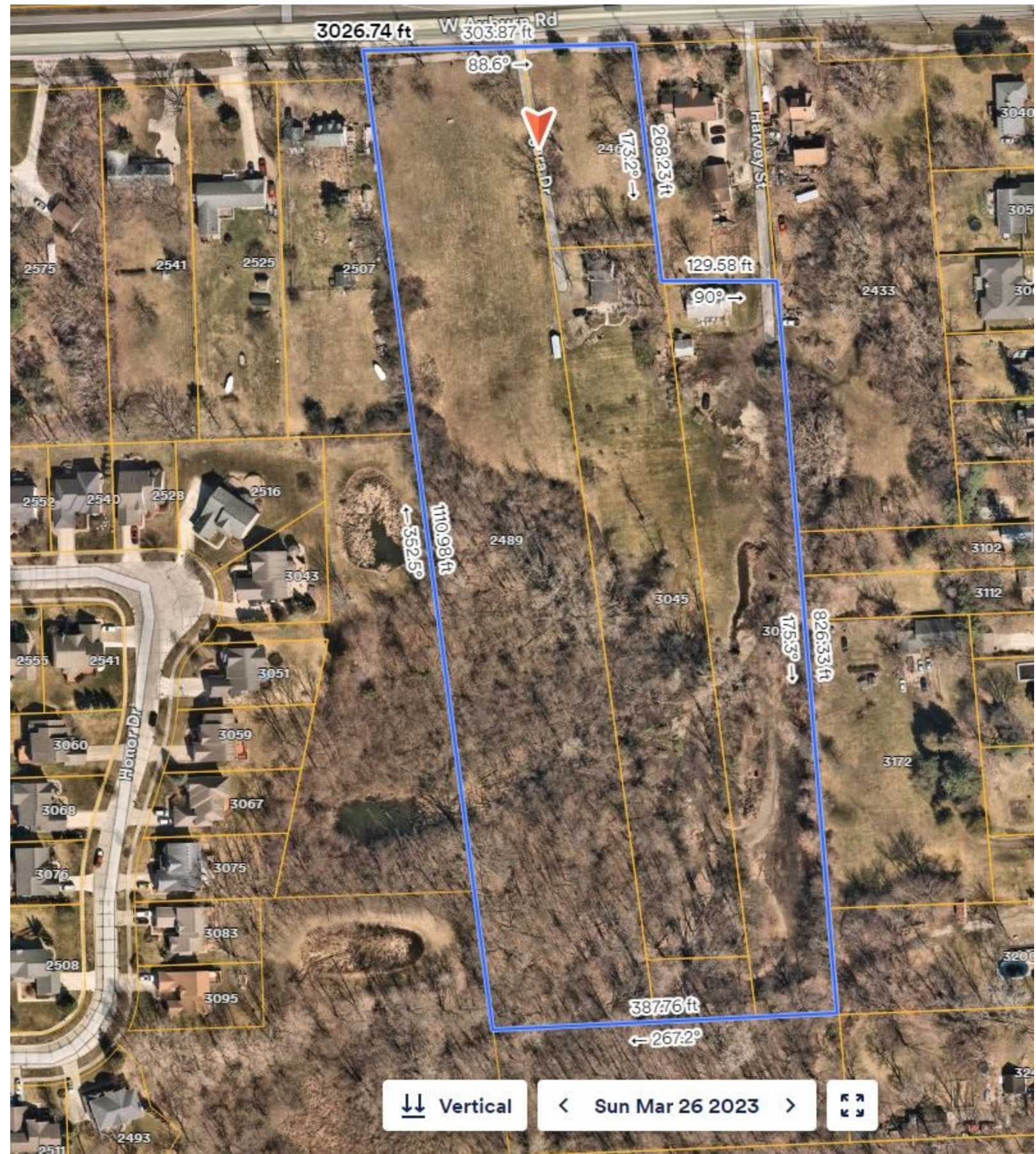


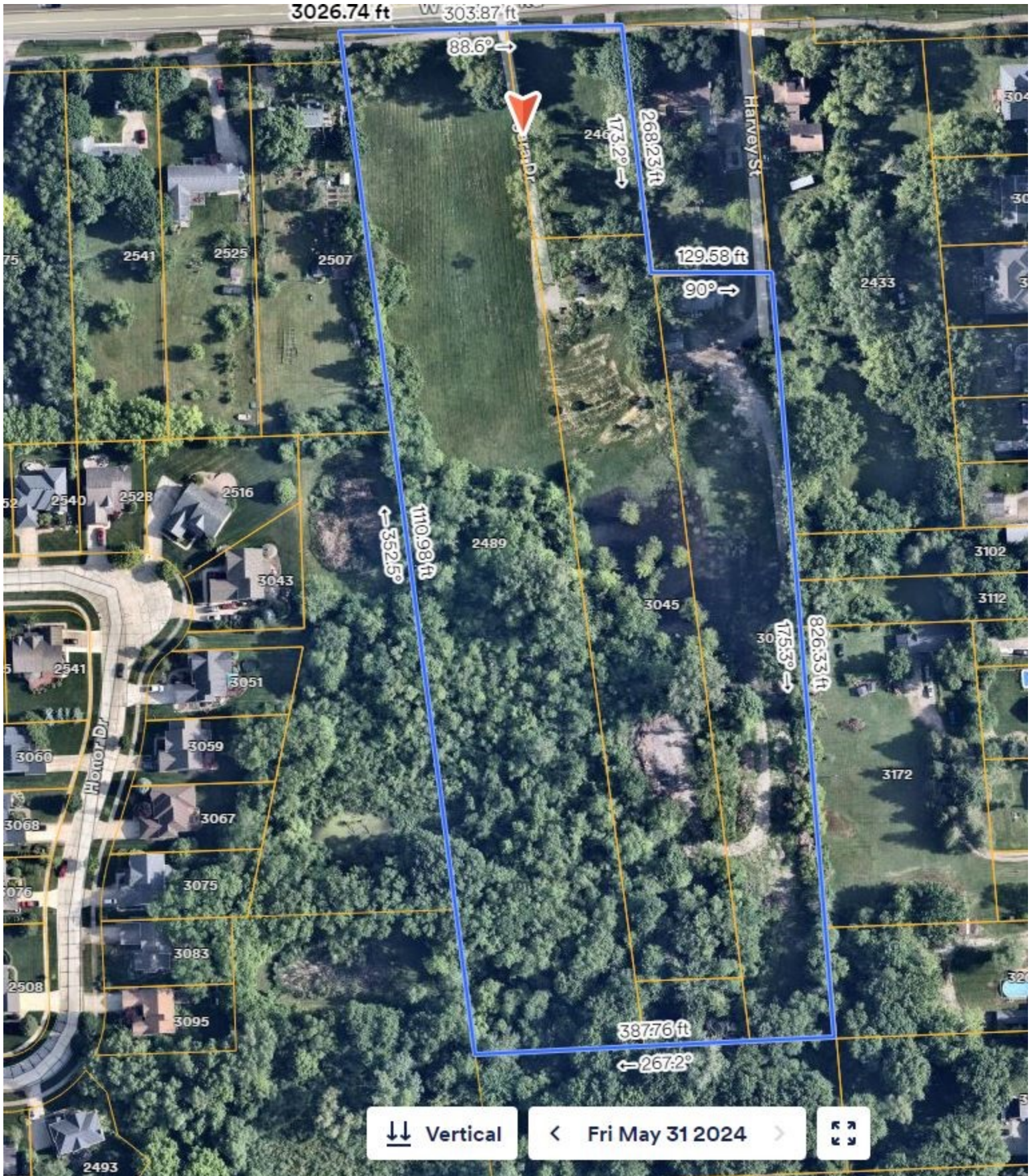


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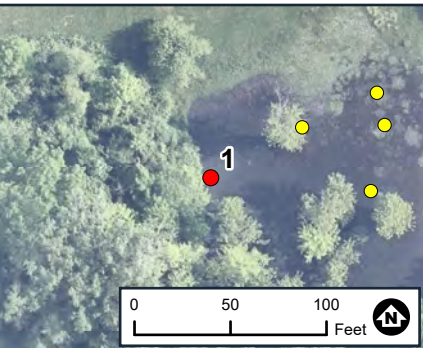
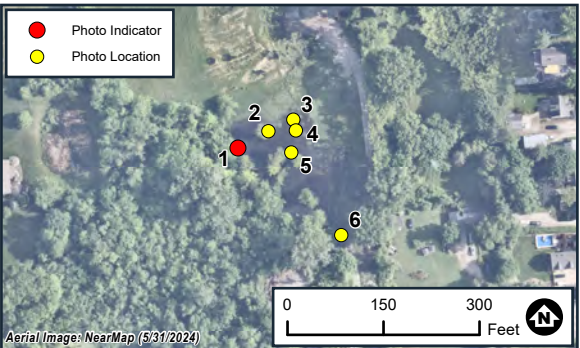
< Tue Mar 29 2022 >

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Attachment 2




Date: 7/9/2024

Sample Point ID:
SP1

Flag No:
A20

Note: Photo locations are approximate

Page 1 of 6
**THREE OAKS
AUBURN ANGARA**
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan



SP2 facing west



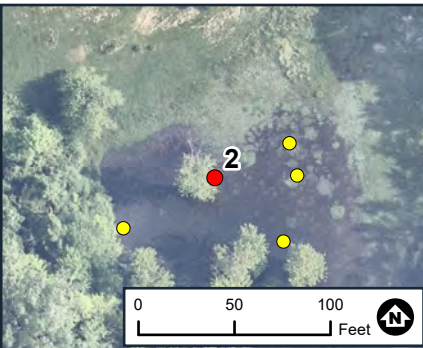
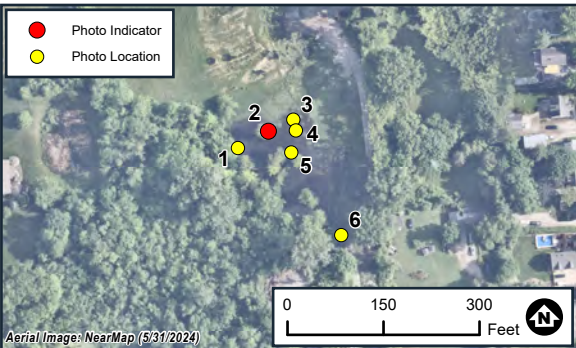
SP2 facing south



SP2 facing east



SP2 facing north



Date: 7/9/2024

Sample Point ID:
SP2

Flag No:
A27

Note: Photo locations are approximate

Page 2 of 6
THREE OAKS
AUBURN ANGARA
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan



SP3 facing east



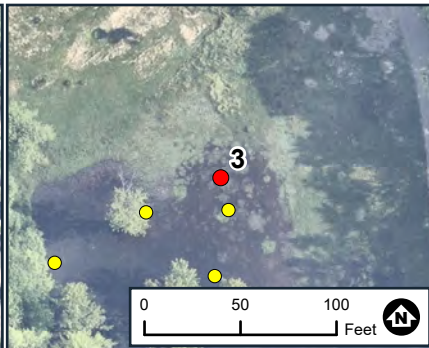
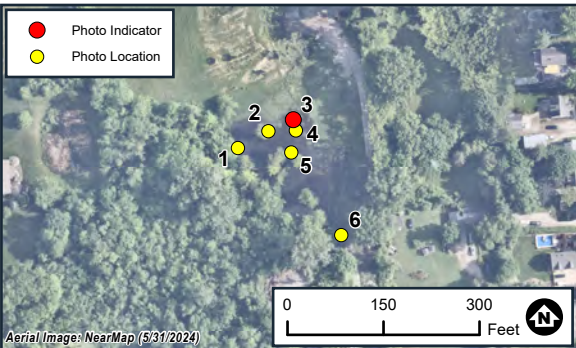
SP3 facing south



SP3 facing west



SP3 facing north



Date: 7/9/2024

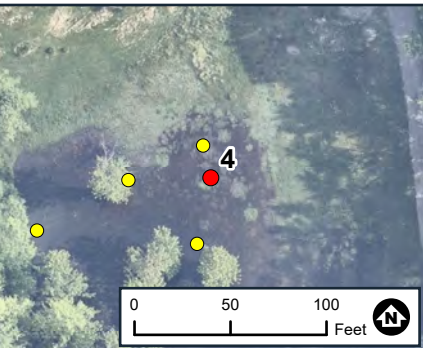
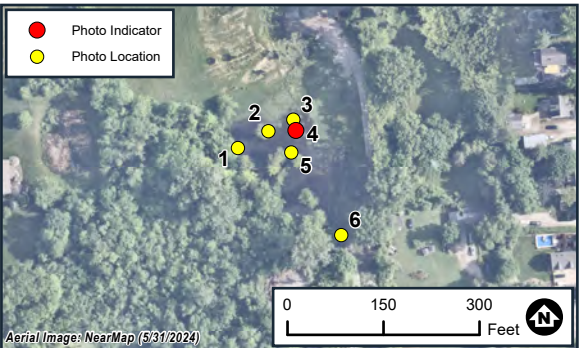
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SP3

Flag No:
A29

Note: Photo locations are approximate

Page 3 of 6
**THREE OAKS
AUBURN ANGARA**
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan





Date: 7/9/2024

Sample Point ID:
SP4

Flag No:
A30

Note: Photo locations are approximate

Page 4 of 6
**THREE OAKS
AUBURN ANGARA**
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan

SP5 facing west



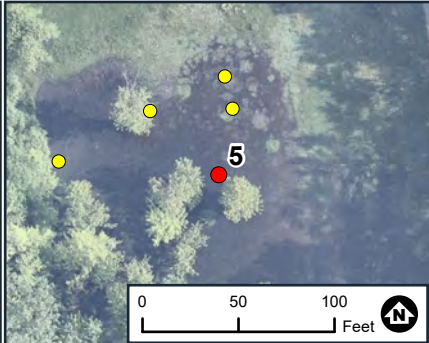
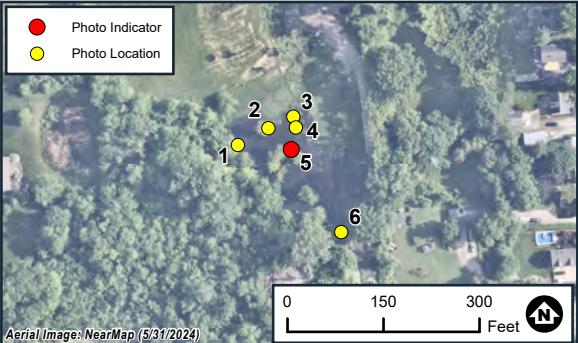
SP5 facing north



SP5 facing east



SP5 facing south



Date: 7/9/2024

Sample Point ID:
SP5

Flag No:
A30

Note: Photo locations are approximate

Page 5 of 6
**THREE OAKS
AUBURN ANGARA**
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan



WETLAND A east side of swale



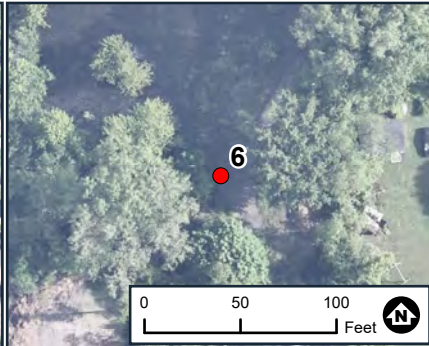
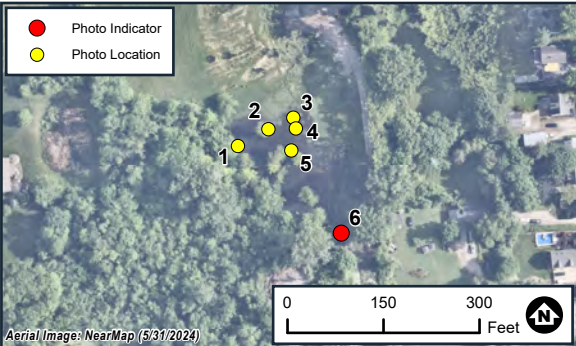
WETLAND A facing west



WETLAND A facing east



WETLAND A facing north



Date: 7/9/2024

Sample Point ID:
Overview

Flag No:
A

Page 6 of 6
THREE OAKS
AUBURN ANGARA
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan



Note: Photo locations are approximate

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 5/30/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: A56 UPL
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex
 Slope (%): 0-2 Lat: 42.63213 Long: -83.18170 Datum: NAD 83
 Soil Map Unit Name: Granby loamy sand NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: All three wetland criteria are not met. Sampling point is upland. This sampling point represents the upland areas adjacent to Wetlands A and B.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Prunus serotina</u>	35	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
2. <u>Robinia pseudoacacia</u>	30	Yes	FACU																	
3. _____																				
4. _____																				
5. _____																				
	65 =Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Rhamnus cathartica</u>	25	Yes	FAC	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>x 3 = <u>135</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td><u>515</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.68</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>45</u>	x 3 = <u>135</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>140</u> (A)	<u>515</u> (B)	Prevalence Index = B/A = <u>3.68</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>45</u>	x 3 = <u>135</u>																			
FACU species <u>95</u>	x 4 = <u>380</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>140</u> (A)	<u>515</u> (B)																			
Prevalence Index = B/A = <u>3.68</u>																				
2. <u>Lonicera morrowii</u>	15	Yes	FACU																	
3. <u>Berberis thunbergii</u>	5	No	FACU																	
4. _____																				
5. _____																				
	45 =Total Cover																			
Herb Stratum (Plot size: <u>5 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Rhamnus cathartica</u>	20	Yes	FAC	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Rosa multiflora</u>	10	Yes	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
	30 =Total Cover																			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
2. _____																				
	=Total Cover																			

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: A56 UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/2	100					Loamy/Clayey	
12-18	10YR 5/4	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 5/30/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: A56 WET
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 42.63231 Long: -83.18180 Datum: NAD 83
 Soil Map Unit Name: Granby loamy sand NWI classification: PEM/PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ulmus americana</u>	20	Yes	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
	20	=Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Rhamnus cathartica</u>	25	Yes	FAC	
2. <u>Cornus amomum</u>	10	Yes	FACW	
3. _____				
4. _____				
5. _____				
	35	=Total Cover		
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Carex lacustris</u>	20	Yes	OBL	
2. <u>Symplocarpus foetidus</u>	15	Yes	OBL	
3. <u>Glyceria striata</u>	5	No	OBL	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
	40	=Total Cover		
Woody Vine Stratum (Plot size: <u>NA</u>)				
1. _____				
2. _____				
		=Total Cover		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:
 Total % Cover of: Multiply by:
 OBL species 40 x 1 = 40
 FACW species 30 x 2 = 60
 FAC species 25 x 3 = 75
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column Totals: 95 (A) 175 (B)
 Prevalence Index = B/A = 1.84

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 5/30/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: B4 WET
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 42.63187 Long: -83.18106 Datum: NAD 83
 Soil Map Unit Name: Granby loamy sand NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: All three wetland criteria are met. Sampling point is wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>cer saccharinum</u>	80	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
80 =Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>2.00</u>	
Sapling/Shrub Stratum (Plot size: <u>NA</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ =Total Cover					
Herb Stratum (Plot size: <u>NA</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
_____ =Total Cover					
Woody Vine Stratum (Plot size: <u>NA</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ =Total Cover					

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: B4 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Sampling point was inundated with 6 inches of standing water. Due to the depressional landscape position, predominance of silver maple trees, and inundation of the sampling point with water, the soil is assumed to be hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): 6
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 7/9/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: SP1
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 42.6332694 Long: -83.1809722 Datum: WGS
 Soil Map Unit Name: Fox sandy loam, till plain, 2 to 6 percent slopes NWI classification: NONE

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Hydrology on site has been altered.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>ces saccharinum</u>	10	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
10 =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td><td align="center"><u>0</u></td> <td>x 1 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td><td align="center"><u>105</u></td> <td>x 2 =</td><td align="center"><u>210</u></td> </tr> <tr> <td>FAC species</td><td align="center"><u>5</u></td> <td>x 3 =</td><td align="center"><u>15</u></td> </tr> <tr> <td>FACU species</td><td align="center"><u>0</u></td> <td>x 4 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td><td align="center"><u>0</u></td> <td>x 5 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td><td align="center"><u>110</u> (A)</td> <td></td><td align="center"><u>225</u> (B)</td> </tr> <tr> <td align="right" colspan="4">Prevalence Index = B/A = <u>2.05</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>105</u>	x 2 =	<u>210</u>	FAC species	<u>5</u>	x 3 =	<u>15</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>110</u> (A)		<u>225</u> (B)	Prevalence Index = B/A = <u>2.05</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>105</u>	x 2 =	<u>210</u>																																	
FAC species	<u>5</u>	x 3 =	<u>15</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>110</u> (A)		<u>225</u> (B)																																	
Prevalence Index = B/A = <u>2.05</u>																																				
_____	_____	_____	_____																																	
_____	_____	_____	_____																																	
_____	_____	_____	_____																																	
_____	_____	_____	_____																																	
=Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
_____	_____	_____	_____																																	
_____	_____	_____	_____																																	
_____	_____	_____	_____																																	
=Total Cover																																				
Herb Stratum (Plot size: <u>5 ft</u>)																																				
1. <u>grostis stolonifera</u>	95	Yes	FACW																																	
2. <u>cer rubrum</u>	5	No	FAC																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
100 =Total Cover																																				
Woody Vine Stratum (Plot size: _____)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
_____	_____	_____	_____																																	
_____	_____	_____	_____																																	
=Total Cover																																				
Remarks: (Include photo numbers here or on a separate sheet.)																																				

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/2	100					Sandy	unmasked sand grains/ Salt Pepper

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 12
 Saturation Present? Yes No Depth (inches): 10
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					Mucky Loam/Clay	
2-6	10YR 5/2	80	10YR 6/8	20	C	M	Loamy/Clayey	Prominent redox concentrations
6-15	10YR 2/2	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input checked="" type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>9</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 7/9/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: SP 3
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): shoulder Local relief (concave, convex, none): convex
 Slope (%): 1-2 Lat: 42.63325278 Long: -83.18079722 Datum: WGS
 Soil Map Unit Name: Granby loamy sand NWI classification: NONE

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Sample Point taken north of Flag 30.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15 ft</u>)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
=Total Cover					
Herb Stratum	(Plot size: <u>5 ft</u>)				
1.	<u>leocharis oli acea</u>	25	Yes	OBL	
2.	<u>C perus esculentus</u>	20	Yes	FACW	
3.	<u>grostis stolonifera</u>	10	No	FACW	
4.	<u>S mph otrichum lateriflorum</u>	5	No	FACW	
5.	<u>Phalaris arundinacea</u>	5	No	FACW	
6.	_____	_____	_____	_____	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
9.	_____	_____	_____	_____	
10.	_____	_____	_____	_____	
65 =Total Cover					
Woody Vine Stratum	(Plot size: _____)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
=Total Cover					

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:
 Total % Cover of: Multiply by:
 OBL species 25 x 1 = 25
 FACW species 40 x 2 = 80
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column Totals: 65 (A) 105 (B)
 Prevalence Index = B/A = 1.62

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					Loamy/Clayey	
2-13	7.5YR 4/1	50	10YR 3/2	40			Loamy/Clayey	
			10YR 5/6	10	C	M		Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
Large gravel angular rock at 13 inches below the surface

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 7/9/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: SP4
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): back slope Local relief (concave, convex, none): concave
 Slope (%): 01 Lat: 42.6332222 Long: -83.1807778 Datum: WGS
 Soil Map Unit Name: Granby loamy sand NWI classification: NONE

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15 ft</u>)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
=Total Cover					
Herb Stratum	(Plot size: <u>5 ft</u>)				
1.	<u>grostis stolonifera</u>	60	Yes	FACW	
2.	<u>C perus esculentus</u>	5	No	FACW	
3.	<u>cer rubrum</u>	1	No	FAC	
4.	<u>Bidens frondosa</u>	1	No	FACW	
5.	<u>grostis gigantea</u>	5	No	FACW	
6.	_____	_____	_____	_____	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
9.	_____	_____	_____	_____	
10.	_____	_____	_____	_____	
72 =Total Cover					
Woody Vine Stratum	(Plot size: _____)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
=Total Cover					

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>71</u>	x 2 = <u>142</u>
FAC species <u>1</u>	x 3 = <u>3</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>72</u> (A)	<u>145</u> (B)
Prevalence Index = B/A = <u>2.01</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	10					Loamy/Clayey	
3-11	10YR 4/3	90	10YR 5/6	10	C	M	Loamy/Clayey	Distinct redox concentrations
11-15	7.5YR 5/2	70	7.5YR 5/6	30	C	M		Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 7/9/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: SP5
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): toe slope Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 42.6331833 Long: -83.1808972 Datum: WGS
 Soil Map Unit Name: Granby loamy sand NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>cer saccharinum</u>	30	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
30 =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td><td align="center"><u>20</u></td> <td>x 1 =</td><td align="center"><u>20</u></td> </tr> <tr> <td>FACW species</td><td align="center"><u>35</u></td> <td>x 2 =</td><td align="center"><u>70</u></td> </tr> <tr> <td>FAC species</td><td align="center"><u>0</u></td> <td>x 3 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td><td align="center"><u>0</u></td> <td>x 4 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td><td align="center"><u>0</u></td> <td>x 5 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td><td align="center"><u>55</u> (A)</td> <td></td><td align="center"><u>90</u> (B)</td> </tr> <tr> <td align="right" colspan="4">Prevalence Index = B/A = <u>1.64</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>20</u>	x 1 =	<u>20</u>	FACW species	<u>35</u>	x 2 =	<u>70</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>55</u> (A)		<u>90</u> (B)	Prevalence Index = B/A = <u>1.64</u>			
Total % Cover of:		Multiply by:																																		
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FACW species	<u>35</u>	x 2 =	<u>70</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>55</u> (A)		<u>90</u> (B)																																	
Prevalence Index = B/A = <u>1.64</u>																																				
=Total Cover																																				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
=Total Cover																																				
Herb Stratum (Plot size: <u>5 ft</u>)																																				
1. <u>Lud i ia palustris</u>	15	Yes	OBL	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2. <u>rostis stolonifera</u>	5	Yes	FACW																																	
3. <u>Lemna minor</u>	5	Yes	OBL																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
25 =Total Cover																																				
Woody Vine Stratum (Plot size: _____)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
=Total Cover																																				
Remarks: (Include photo numbers here or on a separate sheet.)																																				

SOIL

Sampling Point: SP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	100					Mucky Loam/Clay	
3-15	10YR 5/2	80	7.5YR 5/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 9
 Saturation Present? Yes No Depth (inches): 6
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample Point taken south at flag A31. Hydrology has been altered on site



Rochester Hills Planning Commission meeting October 15, 2024

1 message

Wycoff, Alec <alec@hfgllc.com>

Fri, Oct 11, 2024 at 10:47 AM

To: "planning@rochesterhills.org" <planning@rochesterhills.org>

Dear Deborah Brnabic and Rochester Hills Planning Commission,

My name is Alec Wycoff. I am writing to express my favorability of the requested one family residential detached condominium plan, wetland use permit, and tree removal permit that are included in the Tuesday, October 15, 2024, Planning Commission meeting. Should the requests be approved, my sister Nicie Wycoff will be a resident of one of the multi-unit condominium buildings.

I strongly believe that this Preliminary Site Plan and recommendation will satisfy the requirements of the Planning Commission. Furthermore, the additional housing is needed in Rochester Hills and will provide a long-term solution for my and others loved ones. The removed trees will be replaced on site as well as via the City's Tree Fund. I look forward to the approval of the mentioned requests and applaud the construction of additional housing in southwest Rochester Hills.

Sincerely,

Alec Wycoff



Alec Wycoff | Paraplanner



T: 248.482.2600 | F: 248.482.2601

2701 Cambridge Court, Suite 530 | Auburn Hills, MI 48326

alec@hfgllc.com | www.hfgllc.com | vCard   

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Herbert Financial Group

 **Request for Condominium Construction.pdf**
398K



Upcoming Planning Commission meeting dated October 15, 2024

HANA LEWIS <lewishana@yahoo.com>

Thu, Oct 10, 2024 at 11:57 AM

To: "planning@rochesterhills.org" <planning@rochesterhills.org>

Dear Rochester Hills Planning Commission,

I am writing to express my full support for the Auburn Oaks project, which is up for preliminary site plan approval by the Planning Commission on October 15. This neuro-inclusive neighborhood is thoughtfully designed to provide safe, sustainable, and integrated housing for adults with disabilities, while also welcoming residents from the broader community.

With backing from Rochester Housing Solutions, a 501(c)3 non-profit, the Oakland County Housing Trust Fund, and other local partners, Auburn Oaks promises to offer a remarkable level of family and community support. This initiative will create an exceptional living experience for both residents and the community as a whole.

Alongside Walton Oaks, which recently broke ground, Auburn Oaks will be among the most forward-thinking and inclusive developments in the country—an achievement that aligns perfectly with the City's vision for the future.

I strongly urge the Planning Commission to approve the preliminary site plan for Auburn Oaks.

Sincerely,

Hana Lewis



rochesterhousingsolutionsmi.org



Please Approve the Auburn Oaks Project

Joanne Avery <averyjma@gmail.com>
To: planning@rochesterhills.org

Fri, Oct 11, 2024 at 7:46 PM

Dear Rochester Hills Planning Commission,

I am writing to express my full support for the Auburn Oaks project, which is up for preliminary site plan approval by the Planning Commission on October 15. This neuro-inclusive neighborhood is thoughtfully designed to provide safe, sustainable, and integrated housing for adults with disabilities, while also welcoming residents from the broader community.

With backing from Rochester Housing Solutions, a 501(c)3 non-profit, the Oakland County Housing Trust Fund, and other local partners, Auburn Oaks promises to offer a remarkable level of family and community support. This initiative will create an exceptional living experience for both residents and the community as a whole.

Alongside Walton Oaks, which recently broke ground, Auburn Oaks will be among the most forward-thinking and inclusive developments in the country—an achievement that aligns perfectly with the City's vision for the future.

I strongly urge the Planning Commission to approve the preliminary site plan for Auburn Oaks.

Sincerely,

Joanne Avery



Auburn Oaks

Jowan S <jowans2004@yahoo.com>
To: planning@rochesterhills.org

Thu, Oct 10, 2024 at 1:05 PM

Dear Rochester Hills Planning Commission,

I am writing to express my full support for the Auburn Oaks project, which is up for preliminary site plan approval by the Planning Commission on October 15. This neuro-inclusive neighborhood is thoughtfully designed to provide safe, sustainable, and integrated housing for adults with disabilities, while also welcoming residents from the broader community.

With backing from Rochester Housing Solutions, a 501(c)3 non-profit, the Oakland County Housing Trust Fund, and other local partners, Auburn Oaks promises to offer a remarkable level of family and community support. This initiative will create an exceptional living experience for both residents and the community as a whole.

Alongside Walton Oaks, which recently broke ground, Auburn Oaks will be among the most forward-thinking and inclusive developments in the country—an achievement that aligns perfectly with the City's vision for the future.

I strongly urge the Planning Commission to approve the preliminary site plan for Auburn Oaks.

Sincerely,

Jowan Salem, Pharm.D.

[Sent from Yahoo Mail for iPhone](#)



Auburn Oaks Development

Larry Collette <lcollette@specialdreamsfarm.org>
To: "planning@rochesterhills.org" <planning@rochesterhills.org>
Cc: Larry Collette <lcollette@specialdreamsfarm.org>

Mon, Oct 14, 2024 at 11:06 AM

Dear Rochester Hills Planning Commission,

I am writing to express my full support for the Auburn Oaks project, which is up for preliminary site plan approval by the Planning Commission on October 15. This neuro-inclusive neighborhood is thoughtfully designed to provide safe, sustainable, and integrated housing for adults with disabilities, while also welcoming residents from the broader community.

With backing from Rochester Housing Solutions, a 501(c)3 non-profit, the Oakland County Housing Trust Fund, and other local partners, Auburn Oaks promises to offer a remarkable level of family and community support. This initiative will create an exceptional living experience for both residents and the community as a whole.

Alongside Walton Oaks, which recently broke ground, Auburn Oaks will be among the most forward-thinking and inclusive developments in the country—an achievement that aligns perfectly with the City's vision for the future.

I strongly urge the Planning Commission to approve the preliminary site plan for Auburn Oaks.

This is a project that the city of Rochester Hills will truly be proud of.

Respectfully

Larry, Mary, and Gregory Collette



Wetlands

1 message

Marge Huggard <mahuggard1021@gmail.com>

Tue, Oct 15, 2024 at 6:30 AM

To: planning@rochesterhills.org

Please maintain our wetlands for our wildlife and trees. I realize the desire for more housing : and expansion but we need to protect our community and the air/wetlands!

Marge Huggard
248-345-4980-

RAYMOND T. ROWE
DEBORAH ROWE
3280 Fairgrove Terrace
Rochester Hills, MI 48309

October 14, 2024

planning@rochesterhills.org

Dear Rochester Hills Planning Commission,

We are writing to express our full support for the Auburn Oaks project, which is up for preliminary site plan approval by the Planning Commission on October 15. This neuro-inclusive neighborhood is thoughtfully designed to provide safe, sustainable, and integrated housing for adults with disabilities, while also welcoming residents from the broader community. Our daughter, who is disabled, is looking forward to be a resident at that project.

With backing from Rochester Housing Solutions, a 501(c)3 non-profit, the Oakland County Housing Trust Fund, and other local partners, Auburn Oaks promises to offer a remarkable level of family and community support. This initiative will create an exceptional living experience for both residents and the community as a whole.

Alongside Walton Oaks, which recently broke ground, Auburn Oaks will be among the most forward-thinking and inclusive developments in the country—an achievement that aligns perfectly with the City's vision for the future.

We strongly urge the Planning Commission to approve the preliminary site plan for Auburn Oaks.

Very truly yours,

Raymond T. Rowe

Deborah Rowe



Auburn Oaks Development

Rosemary Rangi <rcrangi@yahoo.com>

Sun, Oct 13, 2024 at 11:36 AM

To: planning@rochesterhills.org

Cc: Rochester Solutions <rmihousingsolutions@gmail.com>

Planning committee-

As a longtime resident of Oakland County of fifty years, as well as a mother of an adult son who has an intellectual developmental disability, I ask for both your whole-hearted approval and support of the Auburn Oaks project.

I, like many other parents who have walked the road filled with challenges of having family member with special needs, have fears of what the future holds for our loved ones, once we are no longer here. This project, along with the Walton Oaks development, will provide an answer to address many of our concerns.

I am confident you will see, as both of these ground-breaking housing communities come to fruition, it will set both Rochester Hills and Oakland County, to be seen in a very positive and progressive light, not only in the State of Michigan, but in the United States as well.

I hope I can rely on your support of approval. Thank you.

Sincerely,

Rosemary Rangi



Qualified support for Angara Oaks project

Yazbeck, Thomas <yazbeckt@msu.edu>

Fri, Oct 11, 2024 at 4:17 PM

To: "planning@rochesterhills.org" <planning@rochesterhills.org>

Greetings, Rochester Hills Planning Department,

I am writing to express my support of the proposed Auburn Angara Oaks development which will be deliberated on by Planning Commission on the 15th. More development along west Auburn Rd is very welcome & it is crucial to have more attached housing options, especially for populations such as disabled people. I especially appreciate the important detail of connecting this development with Harvey St.

Unfortunately, I'm not so keen on devoting 99 parking spaces to this site when there are only about 2/3 that number of units. Although transportation options for non-drivers are (currently) limited in R. Hills, it still would be great to foster walkability & alternative mobility by reducing space for parking - space which could be put to better use. This is still a good project which I hope PC approves, but I would like to see parking provision reduced for future residential development.

Thomas Yazbeck
[1707 Devonwood Dr,](#)
[Rochester Hills](#)



Auburn Oaks Planning Commission Meeting

Harriet Stuart <hsstuart18@gmail.com>
To: planning@rochesterhills.org

Tue, Oct 15, 2024 at 11:06 AM

Dear Rochester Hills Planning Commission,

I am writing to express my full support for the Auburn Oaks project, which is up for preliminary site plan approval by the Planning Commission on October 15. This neuro-inclusive neighborhood is thoughtfully designed to provide safe, sustainable, and integrated housing for adults with disabilities, while also welcoming residents from the broader community.

With backing from Rochester Housing Solutions, a 501(c)3 non-profit, the Oakland County Housing Trust Fund, and other local partners, Auburn Oaks promises to offer a remarkable level of family and community support. This initiative will create an exceptional living experience for both residents and the community as a whole.

Alongside Walton Oaks, which recently broke ground, Auburn Oaks will be among the most forward-thinking and inclusive developments in the country—an achievement that aligns perfectly with the City's vision for the future.

I strongly urge the Planning Commission to approve the preliminary site plan for Auburn Oaks.

Sincerely,

Harriet Stuart



Auburn Oaks project

John & Leslie Bargiel <jnlbargiel79@aol.com>

Tue, Oct 15, 2024 at 11:34 AM

To: "planning@rochesterhills.org" <planning@rochesterhills.org>

Dear Rochester Hills Planning Commission,

We want to share our full support for the Auburn Oaks project, which is up for preliminary site plan approval by the Planning Commission on October 15. This neuro-inclusive neighborhood is thoughtfully designed to provide safe, sustainable, and integrated housing for adults with disabilities, while also welcoming residents from the broader community.

With backing from Rochester Housing Solutions, a 501(c)3 non-profit, the Oakland County Housing Trust Fund, and other local partners, Auburn Oaks promises to offer a remarkable level of family and community support. This initiative will offer an exceptional living experience for both residents and the community as a whole.

Alongside Walton Oaks, which recently broke ground, Auburn Oaks will be among the most forward-thinking and inclusive developments in the country—an achievement that aligns perfectly with the City's vision for the future.

I strongly urge the Planning Commission to approve the preliminary site plan for Auburn Oaks.

Sincerely,

Leslie and John Bargiel



Auburn Oaks Planning Commission Meeting

Michael Stuart <mlstuart4@gmail.com>
To: planning@rochesterhills.org

Tue, Oct 15, 2024 at 11:00 AM

Dear Rochester Hills Planning Commission,

I am writing to express my full support for the Auburn Oaks project, which is up for preliminary site plan approval by the Planning Commission on October 15. This neuro-inclusive neighborhood is thoughtfully designed to provide safe, sustainable, and integrated housing for adults with disabilities, while also welcoming residents from the broader community.

With backing from Rochester Housing Solutions, a 501(c)3 non-profit, the Oakland County Housing Trust Fund, and other local partners, Auburn Oaks promises to offer a remarkable level of family and community support. This initiative will create an exceptional living experience for both residents and the community as a whole.

Alongside Walton Oaks, which recently broke ground, Auburn Oaks will be among the most forward-thinking and inclusive developments in the country—an achievement that aligns perfectly with the City's vision for the future.

I strongly urge the Planning Commission to approve the preliminary site plan for Auburn Oaks.

Sincerely,

Michael Stuart



rochesterhousingsolutionsmi.org



Oct. 15 Planning Commission meeting

Sophia Lada <sophialada28@gmail.com>

Tue, Oct 15, 2024 at 3:07 PM

To: "planning@rochesterhills.org" <planning@rochesterhills.org>

Good afternoon,

My name is Sophia Lada. I am writing to express my favorability of the requested one family residential detached condominium plan, wetland use permit, and tree removal permit that are included in the Tuesday, October 15, 2024, Planning Commission meeting. Should the requests be approved, my sister-in-law Nicole Wycoff will be a resident of one of the multi-unit condominium buildings.

I strongly believe that this Preliminary Site Plan and recommendation will satisfy the requirements of the Planning Commission. Furthermore, the additional housing is needed in Rochester Hills and will provide a long-term solution for my and others loved ones. The removed trees will be replaced on site as well as via the City's Tree Fund. I look forward to the approval of the mentioned requests and applaud the construction of additional housing in southwest Rochester Hills.

Sincerely,

Sophia Lada



Auburn Angara Oaks

THERESA POUNDERS <thepounders@comcast.net>

Tue, Oct 15, 2024 at 11:43 AM

To: "planning@rochesterhills.org" <planning@rochesterhills.org>

I would like to voice my concerns regarding the large development planned for this location. First, I would like to say that I have no objection to the type of development proposed, just the location. I think the IDD community would be the ultimate neighbors. My concern is the destruction and removal of 279 trees, building on and around high quality wetlands and the impact on the wildlife and surrounding homes and communities. I own property next to this proposed development and already have had issues with flooding on the southwest end of my property. The IDD community deserves the proper foundation on which to build their homes. They are investing a significant amount of time and money provide for their loved ones. They deserve better than this! I am attaching a report that I obtained on the Egle website so planning and the IDD community can make a more informed decision. It looks like the one planning has didn't include the full report and pictures taken,

Thanks,
Theresa Pounders

 **Auburn Angara Wetland Report 7.24.2024_v1 (3).pdf**
10709K

July 24, 2024

Bruce Michael
Three Oaks Communities
P.O. Box 8307
Ann Arbor, MI 48107

**Re: Wetland Delineation Report – Angara Drive (Parcels 15-32-201-001; -002; -003; -004; -006)
City of Rochester Hills, Oakland County, Michigan**

Dear Mr. Michael:

At your request, Barr Engineering Co. (Barr), conducted a wetland delineation of the approximately 7.36-acre above-referenced property. The purpose of this report is to summarize the results of the wetland delineations conducted on May 30 and re-evaluated on July 9, 2024, and to provide a professional opinion as to potential Michigan Department of Environment, Great Lakes, and Energy (EGLE) and City of Rochester Hills jurisdiction over the identified wetland areas. Prior to the July 9 site visit, the City of Rochester Hills consultant, Kyle Hottinger of ASTI, Inc., was on site to address an action taken by a neighbor regarding the hydrology between the site and the neighboring property. A culvert drained this area of the site to the property to the northeast and that culvert had been blocked over the last winter season resulting in water ponding onto the site.

1.0 Area of Investigation Description

The Area of Investigation (AOI) is located west of Crooks Road and south of Auburn Road. The land cover within the AOI consists of mowed lawn, two houses and two garages, and a woodlot. The surrounding land use is comprised of residential development and vacant land.

1.1 Desktop Review

Barr conducted a desktop review to evaluate digital imagery for topography, soil types, and mapped wetlands within the AOI prior to the wetland delineation. As part of the desktop review, Barr staff reviewed resources such as the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS; Figure 1), Michigan Final Wetlands Inventory (MFWI; Figure 2), and aerial photography (Attachment 1).

A review of aerial photography shows evidence of past disturbance on parcel 15-32-201-006, the eastern most parcel of the site. It appears that from approximately 2014 to approximately 2019 the northern portion of this parcel was used as a landscaping storage and staging yard, and the previous owner brought in large cobble to establish a parking and storage area.

According to the WSS (Figure 1), the AOI includes well drained Fox sandy loam, till plain, 2 to 6 percent slopes (18B); somewhat poorly drained Thetford loamy fine sand, 0 to 3 percent slopes (35A); very poorly drained Granby loamy sand, 0 to 2 percent slopes (39); and well drained Urban land-Spinks complex, 0 to 8 percent slopes (62B). The Granby soil is the hydric (wetland) soil mapped within the AOI. Hydric soils are

soils that developed under prolonged periods of saturation or inundation and typically support wetland habitats in an undrained condition.

The MFWI (Figure 2) shows the AOI to contain wetland in the southeastern corner of the property as identified by the National Wetland Inventory (NWI) and Michigan Resource Inventory System (MIRIS) maps. It also shows the central and southwestern portions of the AOI to contain soil areas which include wetland soils.

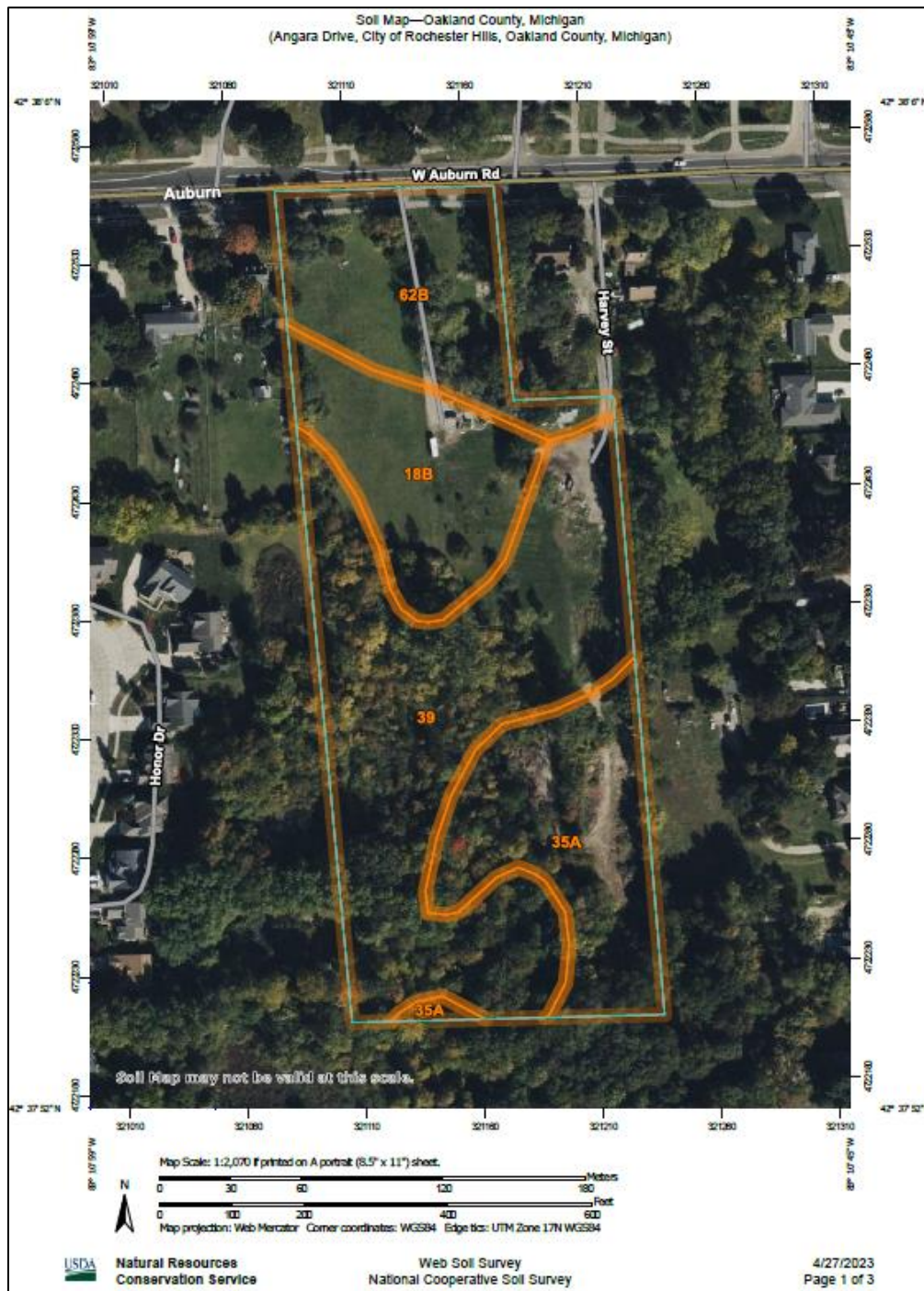


Figure 1. NRCS Web Soil Survey



Figure 2. Michigan Final Wetlands Inventory

1.2 Methodology

The wetland delineation was conducted in a manner consistent with the *Corps of Engineers Wetlands Delineation Manual (USACE 1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0, USACE 2010)*. The wetland delineation procedures outlined in these manuals require the evaluation of on-site vegetation, soils, and hydrologic characteristics.

The wetland boundaries were flagged in the field with alpha numerically labeled pink flagging tape and pin flags. The wetland boundaries were subsequently surveyed by Monument Engineering Group Associates, Inc. Site observations are described in the sections below.

1.3 Results

The AOI includes palustrine emergent (PEM), palustrine scrub-shrub (PSS), and palustrine forested (PFO) habitats. The on-site investigation identified two wetlands. These wetlands were labeled as Wetland A and Wetland B. The wetland and upland areas within the AOI are described below.

Vegetation, Soil, and Hydrology

Wetland A

Wetland A is a PEM/PSS wetland located within the central portion of the AOI. Wetland A continues off-site, both east and west of the AOI. The on-site portion of Wetland A is approximately **1.8** acres in size. The vegetation identified within the wetland included species such as lake sedge (*Carex lacustris*), skunk cabbage (*Symplocarpus foetidus*), common buckthorn (*Rhamnus cathartica*), and American elm (*Ulmus americana*). During the July 9th reevaluation of the wetlands, five (5) soil pits and data forms were completed at five (5) sampling points on the north edge of Wetland A, attached are data forms SP1 through SP5, along with a photolog showing the location of the sampling points. The eastern end of Wetland A exists on previously disturbed land and soil pits could not be dug due to the presence of large cobble at the surface. Hydric soil and primary and secondary wetland hydrology indicators were observed in other areas of Wetland A. The boundaries of this wetland were identified using flags A1 through A57.

Wetland B

Wetland B is a PFO wetland located in the southern portion of the AOI. Wetland B continues off-site south of the AOI. The on-site portion of Wetland B is approximately **0.2** acres in size. The vegetation identified within the wetland included species such as silver maple (*Acer saccharinum*). Hydric soil was assumed to be present within Wetland B. A soil pit was not dug because the soil surface was inundated by 6 inches of water. Primary and secondary wetland hydrology indicators were observed in Wetland B. The boundaries of this wetland were identified using flags B1 through B12.

Upland

The upland areas of the site were characterized by mowed lawn and scrub-shrub areas and woods. The upland areas of the site contained species such as white clover (*Trifolium repens*), dandelion (*Taraxacum officinale*), multiflora rose (*Rosa multiflora*), Japanese barberry (*Berberis thunbergia*), prickly ash (*Zanthoxylum americanum*), common buckthorn, Morrow's honeysuckle (*Lonicera morrowii*), black locust (*Robinia pseudoacacia*), and black cherry (*Prunus serotina*). Hydric soils and wetland hydrology indicators were not observed in the upland areas of the site.

The attached Site Survey depicts the location of the wetland areas encountered on the site. Wetland Determination Data Forms are attached for further detailed information on the wetland and upland areas within the AOI.

1.4 Conclusions

Based on observations of topography, vegetation, soil, and indicators of hydrology, Barr has determined that wetland habitat is present within the AOI. These wetland areas were identified as a PEM, PSS, and PFO wetland habitat types. According to Part 303, Wetlands Protection, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, wetlands regulated by the State of Michigan include wetlands that are:

1. Located within 500 feet of, or having a direct surface water connection to, an inland lake, pond, river, or stream; or
2. Greater than 5 acres in size; or
3. Located within 1,000 feet of, or having a direct surface water connection to, the Great Lakes or Lake St. Clair; or
4. A water of the United States as that term is used in section 502(7) of the Federal Water Pollution Control Act, 33 USC 1362; or

5. Known to have a documented presence of an endangered or threatened species under Part 365 of State of Michigan 1994 PA 451, as amended or the Federal Endangered Species Act of 1973, Public Law 93-205; or
6. Rare or imperiled.

Wetland A may be regulated under Part 303 because it continues off-site, beyond the limits of the AOI. The total size of Wetland A was not determined. If Wetland A is greater than 5 acres in size it would be regulated.

Wetland B may be regulated under Part 303 because it is part of a larger wetland complex that extends off-site and may be greater than 5 acres in total size. If Wetland B is greater than 5 acres in size it would be regulated.

The City of Rochester Hills regulates all wetlands regulated by EGLE and, in addition, regulates noncontiguous wetlands two acres in size or greater. The City of Rochester Hills also regulates noncontiguous wetlands less than two acres in size if the wetlands are deemed essential to the preservation of the natural resources of the city. Wetland A and Wetland B are likely to be regulated by the City of Rochester Hills because they appear to be greater than 2 acres in size.

Please be advised that EGLE, and the City of Rochester Hills, has regulatory authority regarding the wetland boundary location(s) and jurisdictional status of wetlands on this site. Barr's wetland determination was performed in general accordance with accepted procedures for conducting wetland determinations. Barr provides no warranty, guarantee, or other agreement in respect to the period of time for which this wetland determination will remain valid. Barr's conclusions reflect our professional opinion based on the site conditions within the AOI observed during the site visit. Discrepancies may arise between current and future wetland determinations and delineations due to changes in vegetation and/or hydrology as the result of land use practices or other environmental factors, whether on-site or on adjacent or nearby properties. We recommend our wetland boundary determination and jurisdictional opinion be reviewed by EGLE prior to undertaking any activity within any identified wetlands.

Thank you for the opportunity to provide this wetland delineation. If you have any questions, please contact me at your convenience at 810-247-1229 or Fthompson@barr.com.

Sincerely,

BARR ENGINEERING CO.



Fran Thompson
Ecologist

References

U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual*. Washington, DC.

USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*

Figure:

Site Survey

Attachments:

Attachment 1 – Historic Aerial Photography

Attachment 2 – USACE Wetland Determination Data Sheets

UTILITY CROSSING NOTE

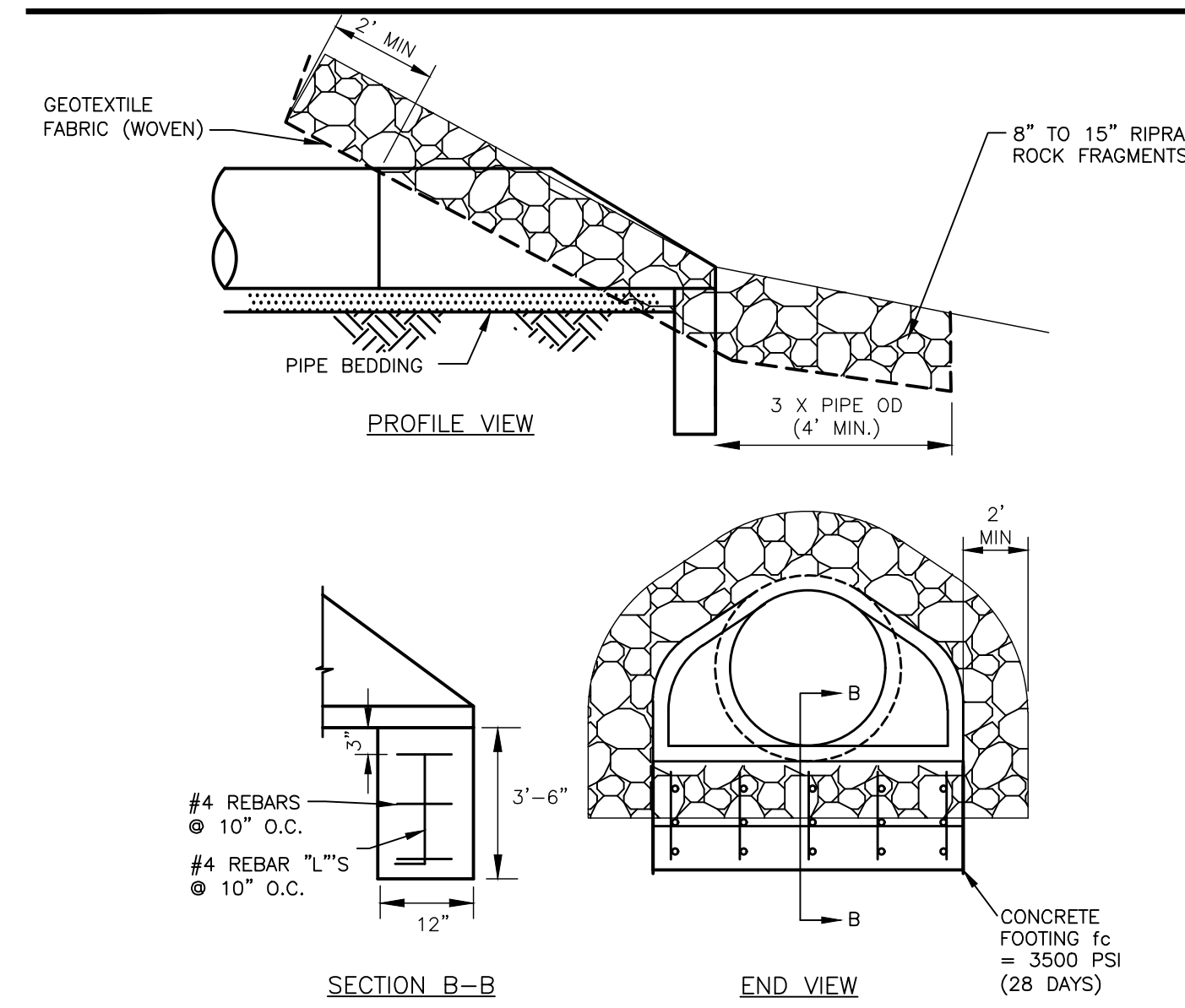
SANITARY SEWER CROSSING OF THE WETLAND B MUST BE SLEEVED TO PROTECT THE WETLAND. ALL OTHER WETLANDS TO BE CROSSED BY UTILITIES ARE PROPOSED TO BE FILLED. SEE PLAN FOR LOCATION.

UTILITY CROSSINGS			
WETLAND	SANITARY	WATERMAIN	STORM SEWER
WETLAND A	248 LF - 8" SEWER	245 LF - 8" WATER MAIN	247 LF - 36" STORM SEWER 125 LF - 12" STORM SEWER
WETLAND B	112 LF - 8" SEWER (DIRECTIONAL DRILL)	NA	12 INCH OUTLET W/ RIPRAP

25' NATURAL FEATURES SETBACK DISTURBANCES			
WETLAND	LENGTH OF 25' SETBACK	LENGTH OF DISRUPTION OF 25' SETBACK	REDUCTION
WETLAND A - DISTURBANCE 1	1,201 LF	632 LF	20,396 SF (PERMANENT)
WETLAND A - DISTURBANCE 2	1,201 LF	123 LF	2,704 SF (TEMP RESTORED)
WETLAND B	344 LF	344 LF	2,122 SF (PERMANENT) 3,318 SF (TEMP RESTORED)

WETLAND DISTURBANCES			
WETLAND	AREA OF WETLAND (ONSITE)	AREA OF DISRUPTION OF WETLAND	WETLAND VOLUME
WETLAND A - DISTURBANCE 1	78,062 SF	29,356 SF	5,522 CY (FILL)
WETLAND A - DISTURBANCE 2	78,062 SF	25 SF	<1 CY (FILL)
WETLAND B - DISTURBANCE 1	9,367 SF	361 SF	79 CY (FILL)
WETLAND B - DISTURBANCE 2	9,367 SF	69 SF	1 CY (CUT)

END SECTION DETAIL - WITH FOOTING



RIGHT OF WAY LINE LEGEND

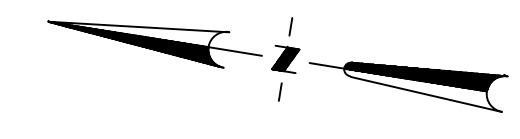
- EX. RIGHT OF WAY LINE/EASEMENT
- PR. RIGHT OF WAY LINE/EASEMENT

WETLAND NOTES

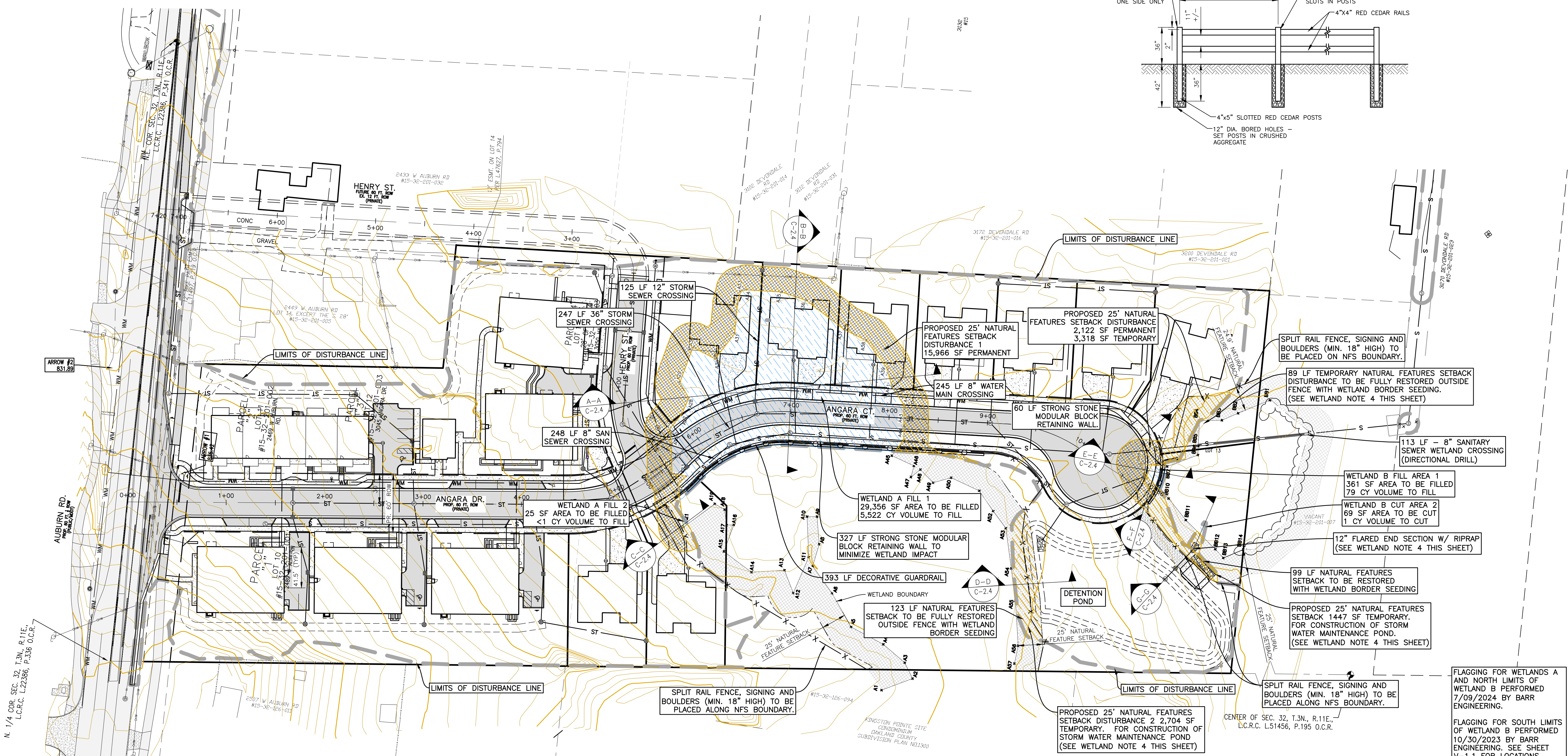
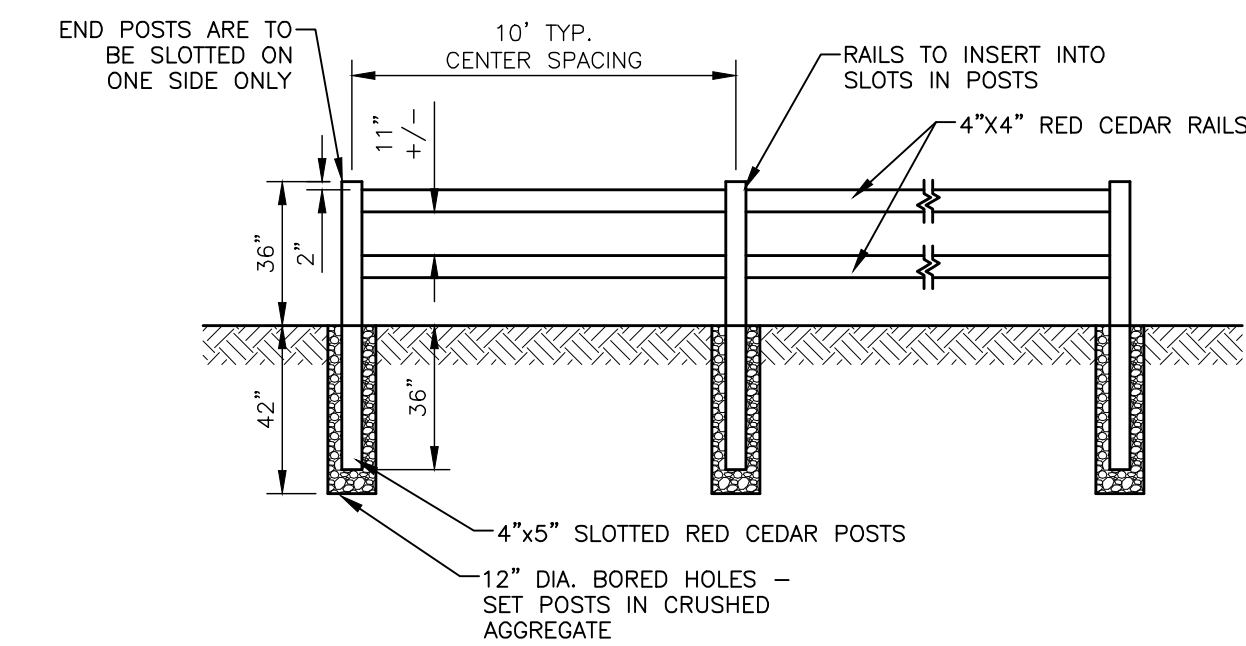
- MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY PERMIT WILL BE REQUIRED FOR FILLING IN THE WETLAND AS SHOWN ON THIS PLAN. OAKLAND COUNTY WATER RESOURCE COMMISSIONER PERMIT WILL BE REQUIRED FOR DISCHARGING THE STORM WATER EFFLUENT INTO THE LEUDER'S DRAIN.
- POST CONSTRUCTION, A CITY-APPROVED WETLAND SEED MIX COMPRISED OF NATIVE MICHIGAN SPECIES MUST BE INSTALLED IN ANY AREAS OF UNPLANNED IMPACTS TO WETLANDS, AS WELL AS ALONG THE WETLAND SIDE OF THE FINAL RETAINING WALL STRUCTURES.
- CITY APPROVED WETLAND SOIL AND SEED MIXTURE SHALL BE USED TO RESTORE ANY IMPACTS TO WETLANDS A AND B IDENTIFIED ON THIS PLAN.
- PRIOR TO ANY WORK BEING PERFORMED WITHIN THE WETLANDS OR NATURAL FEATURES SETBACKS ON THIS PROJECT:
 - THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CITY ENGINEER. WORK SHALL NOT COMMENCE UNTIL CONSENT HAS BEEN OBTAINED FROM THE CITY MAYOR.
 - WORK SHALL BE CONDUCTED USING BEST MANAGEMENT PRACTICES (BMP'S) TO ENSURE FLOW AND CIRCULATION PATTERNS AND CHEMICAL AND BIOLOGICAL CHARACTERISTICS OF THE WETLANDS ARE NOT IMPACTED.
 - THE WORK SHALL BE CONDUCTED SUCH THAT ALL IMPACTS TO THE AQUATIC ENVIRONMENT ARE MINIMIZED.

IMPACT LEGEND

- WETLAND FILL
- NATURAL FEATURES
- 25' SETBACK IMPACT



FENCE DETAIL - SPLIT RAIL - 2 RAIL



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ENGINEER
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www.missdig.org

CLIENT :

AUBURN ANGARA OAKS, LLC

14496 N SHELDON RD
SUITE 230
PLYMOUTH, MI 48170
BRUCE MICHAEL
(248) 703-4653

WETLAND PLAN

AUBURN ANGARA OAKS

PART OF SEC. 32, T3N, R11E
CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MI

DATE	DESCRIPTION
04/28/2023	REVISED SITE PLAN SUBMITTAL
09/27/2023	REVISED SITE PLAN SUBMITTAL
09/15/2023	REVISED TO MOOT
01/22/2024	REVISED SITE PLAN PER CITY AND MOOT
03/28/2024	REVISED SITE PLAN PER MOOT
05/15/2024	PRELIMINARY SITE PLAN TO CITY
07/23/2024	REVISED SITE PLAN / WETLAND FLAGS

ORIGINAL ISSUE DATE: 05/19/2022

PROJECT NO: 22-051

SCALE: 1" = 50'

FIELD: REICHT

DRAWN BY: MN

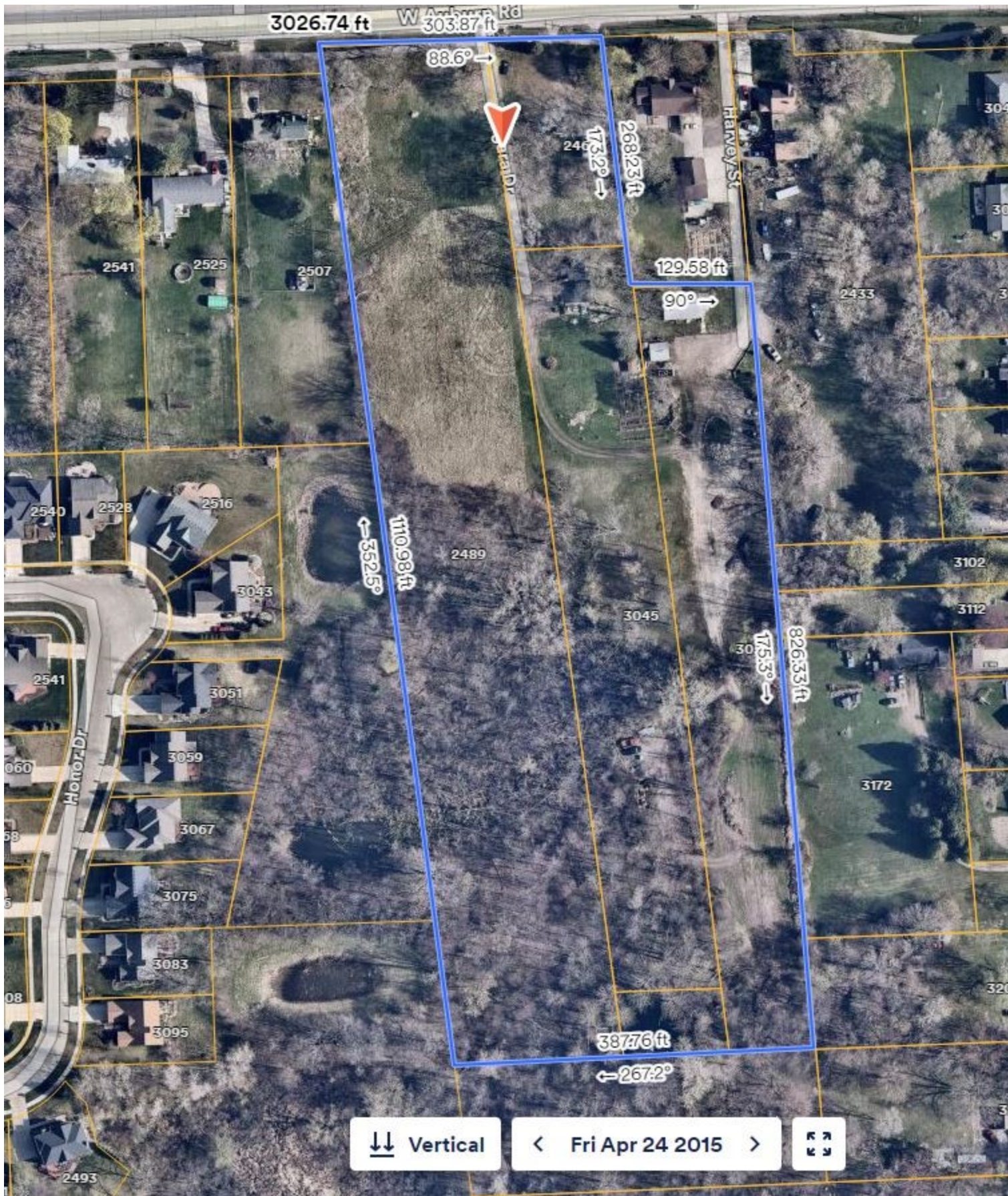
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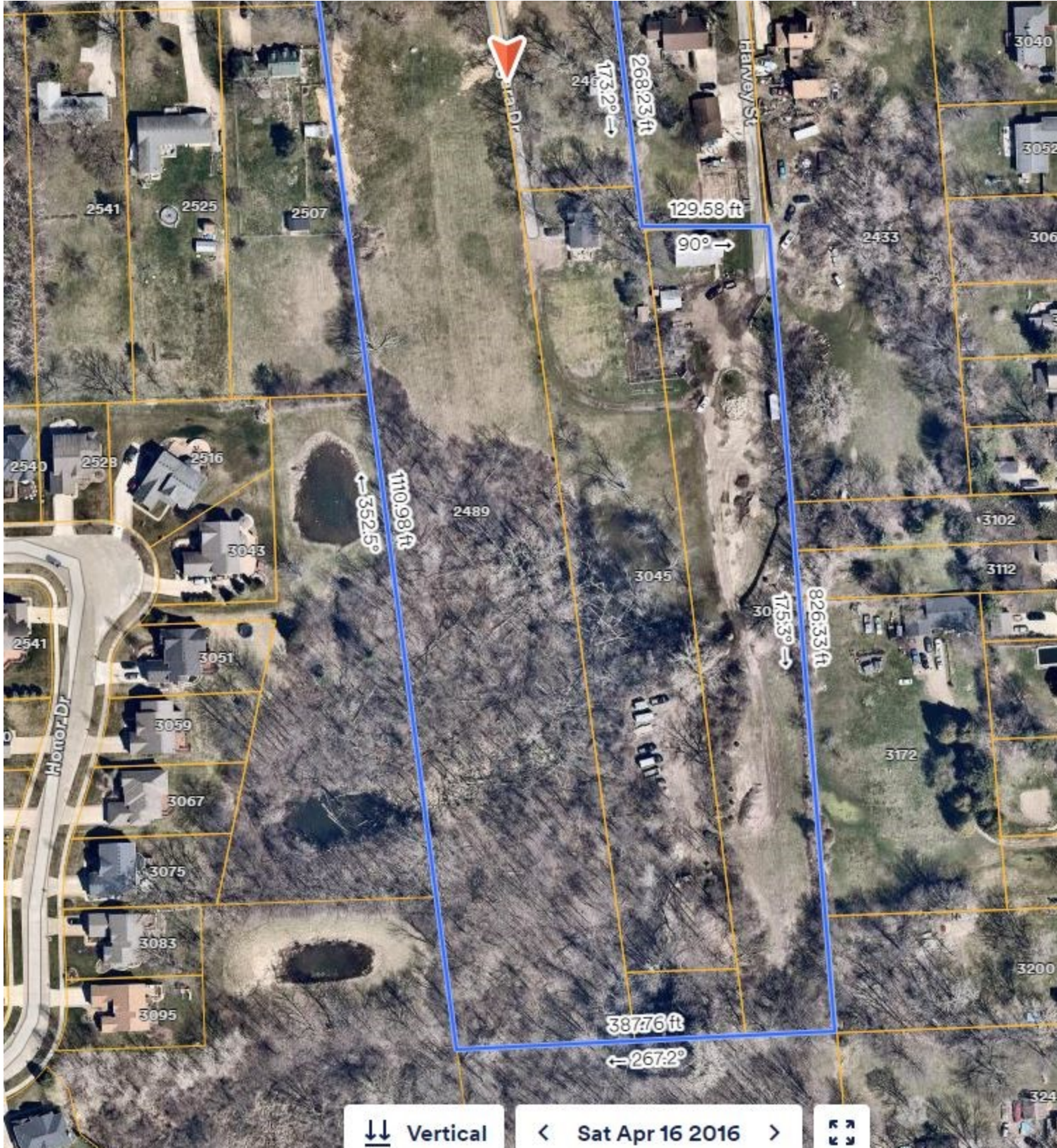
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C-23

NOT FOR CONSTRUCTION

Attachments 1

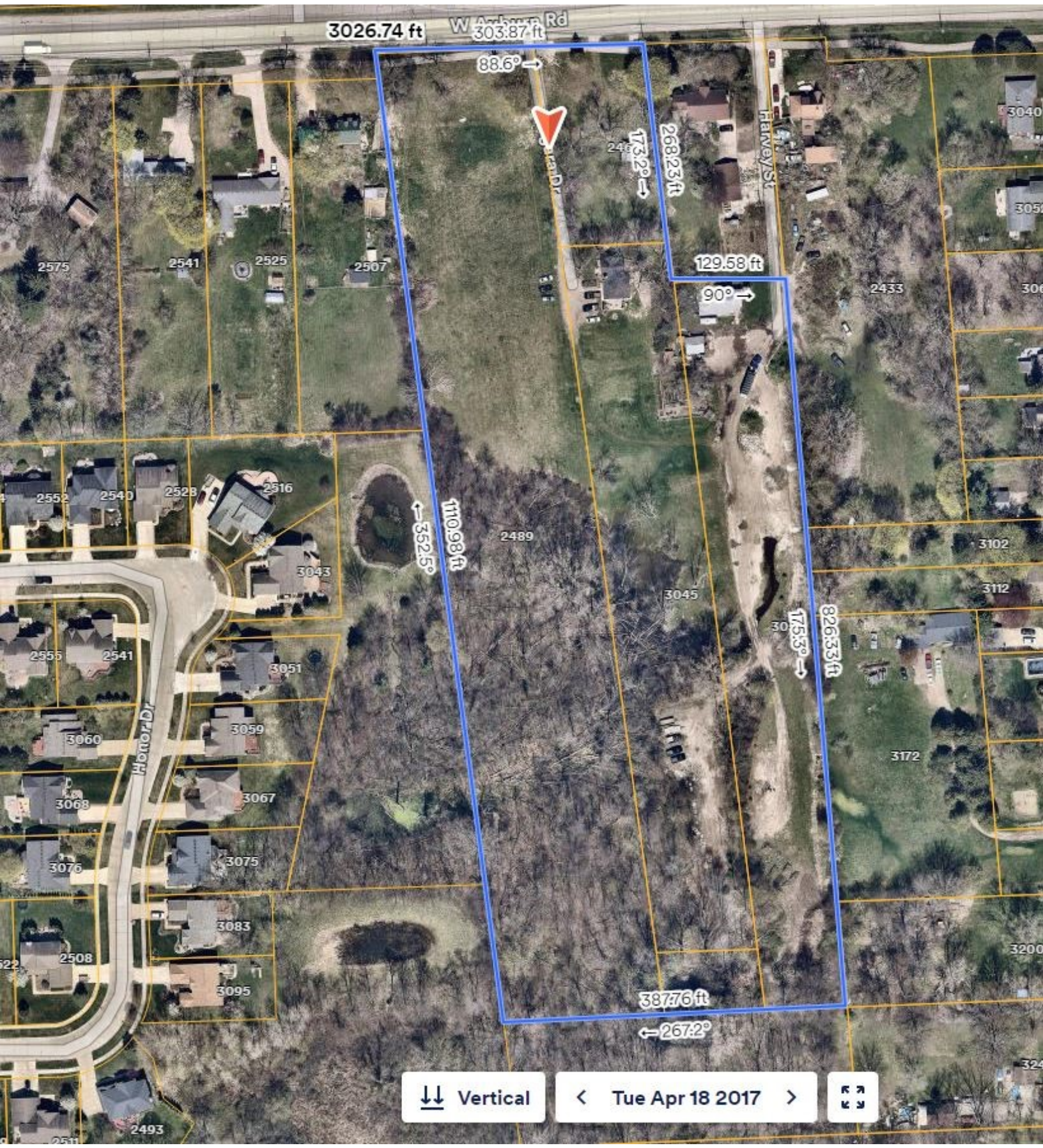


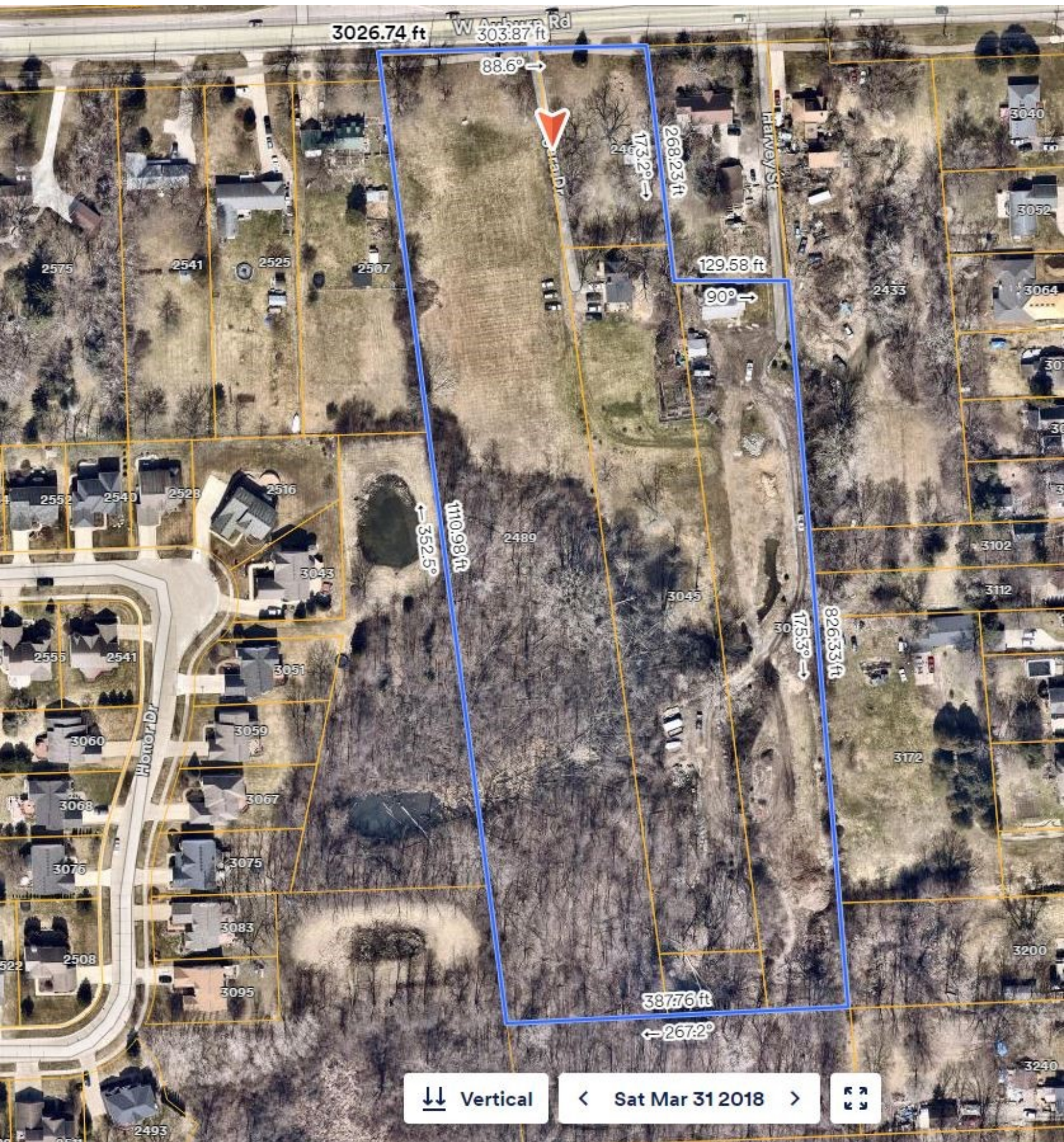


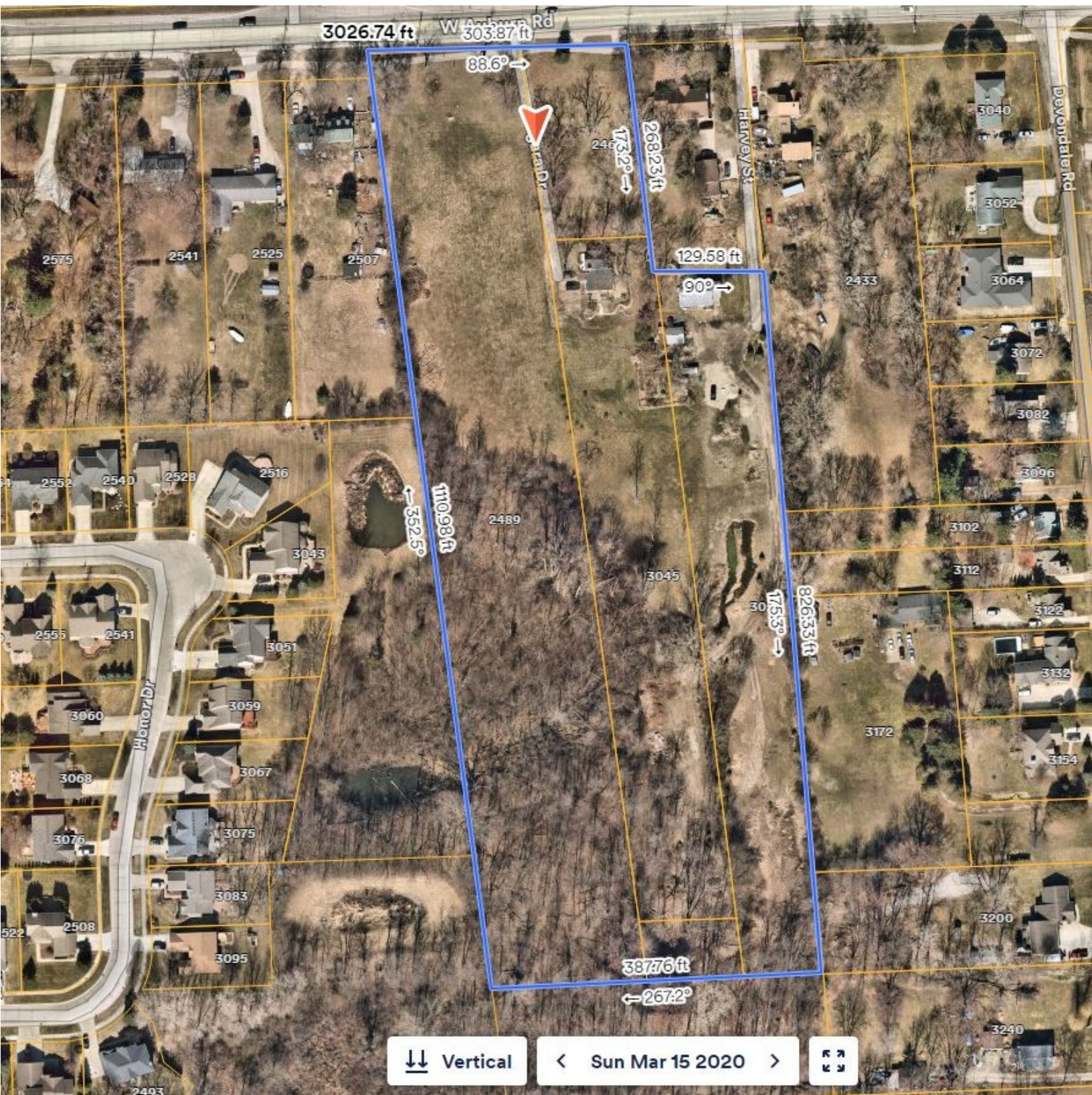
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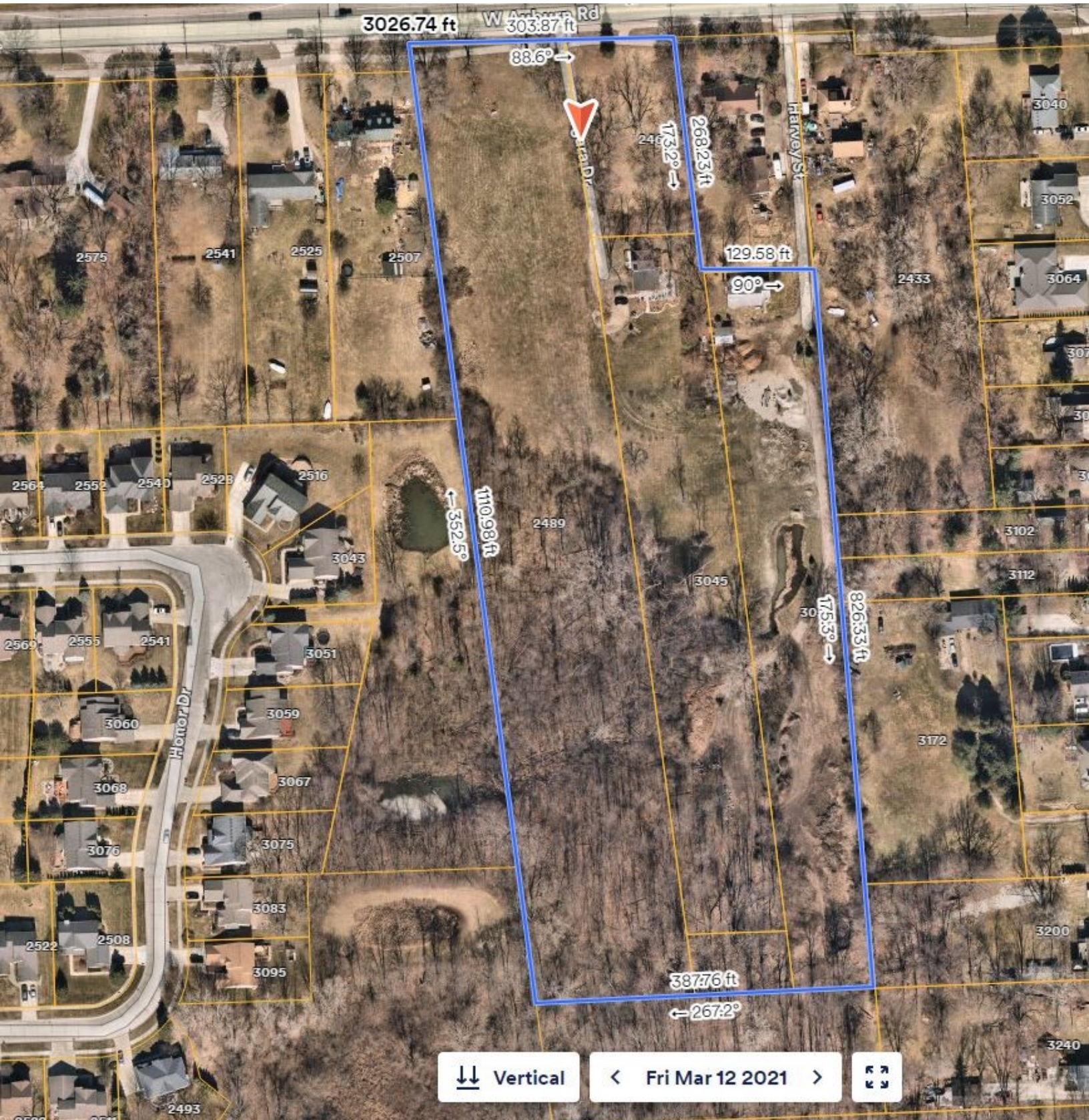
Sat Apr 16 2016

Navigation icons





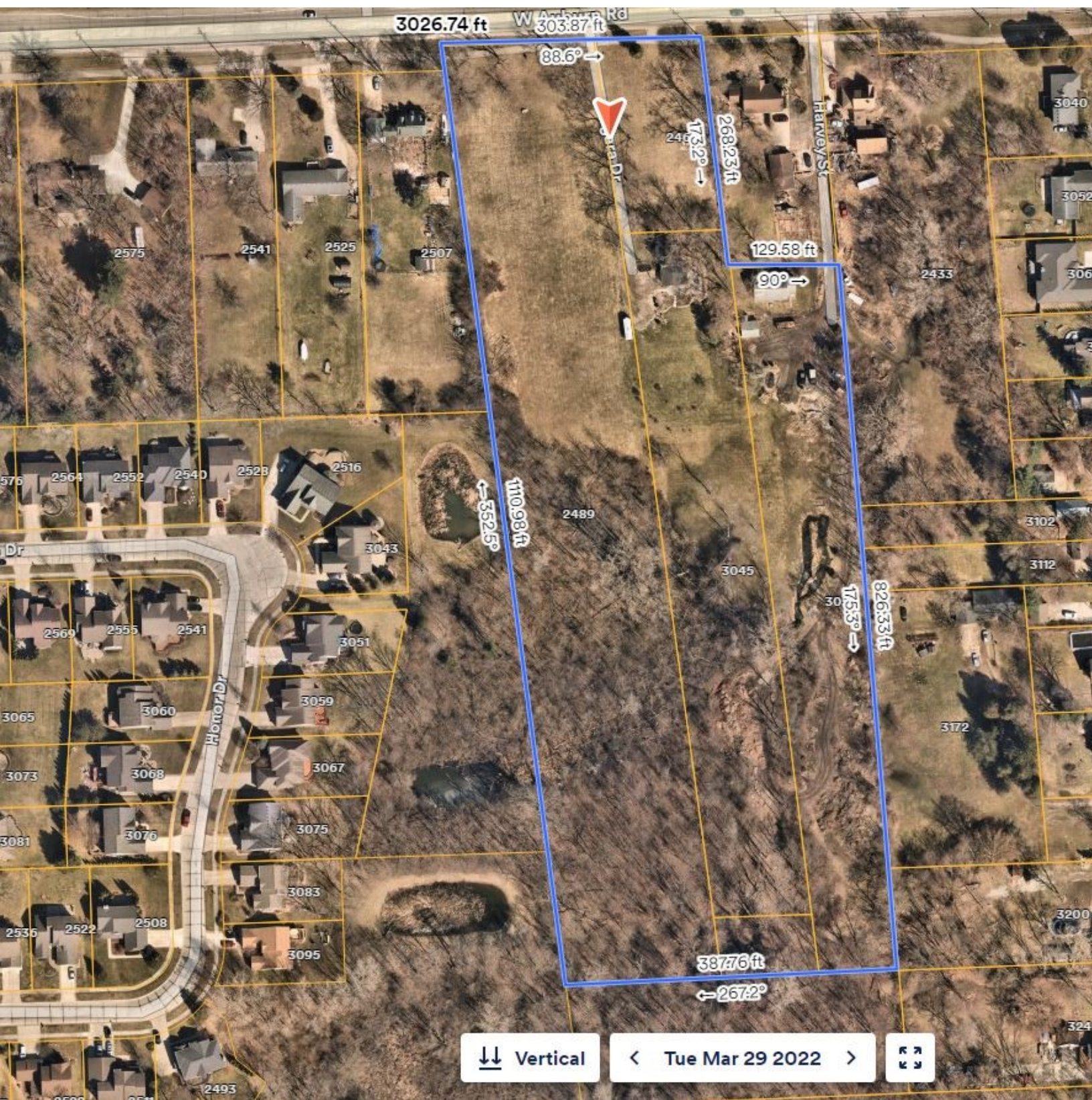




Vertical

< Fri Mar 12 2021 >

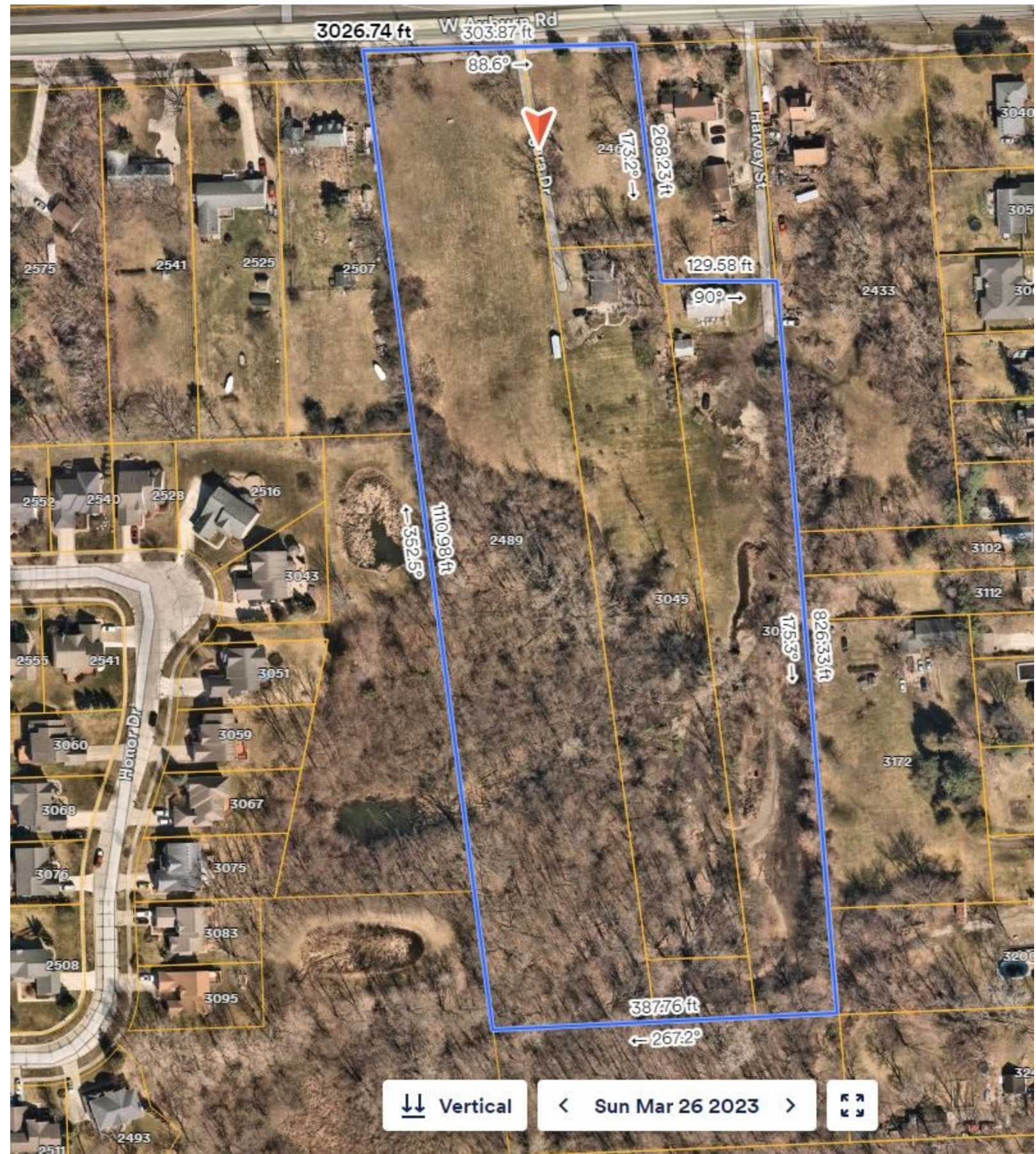


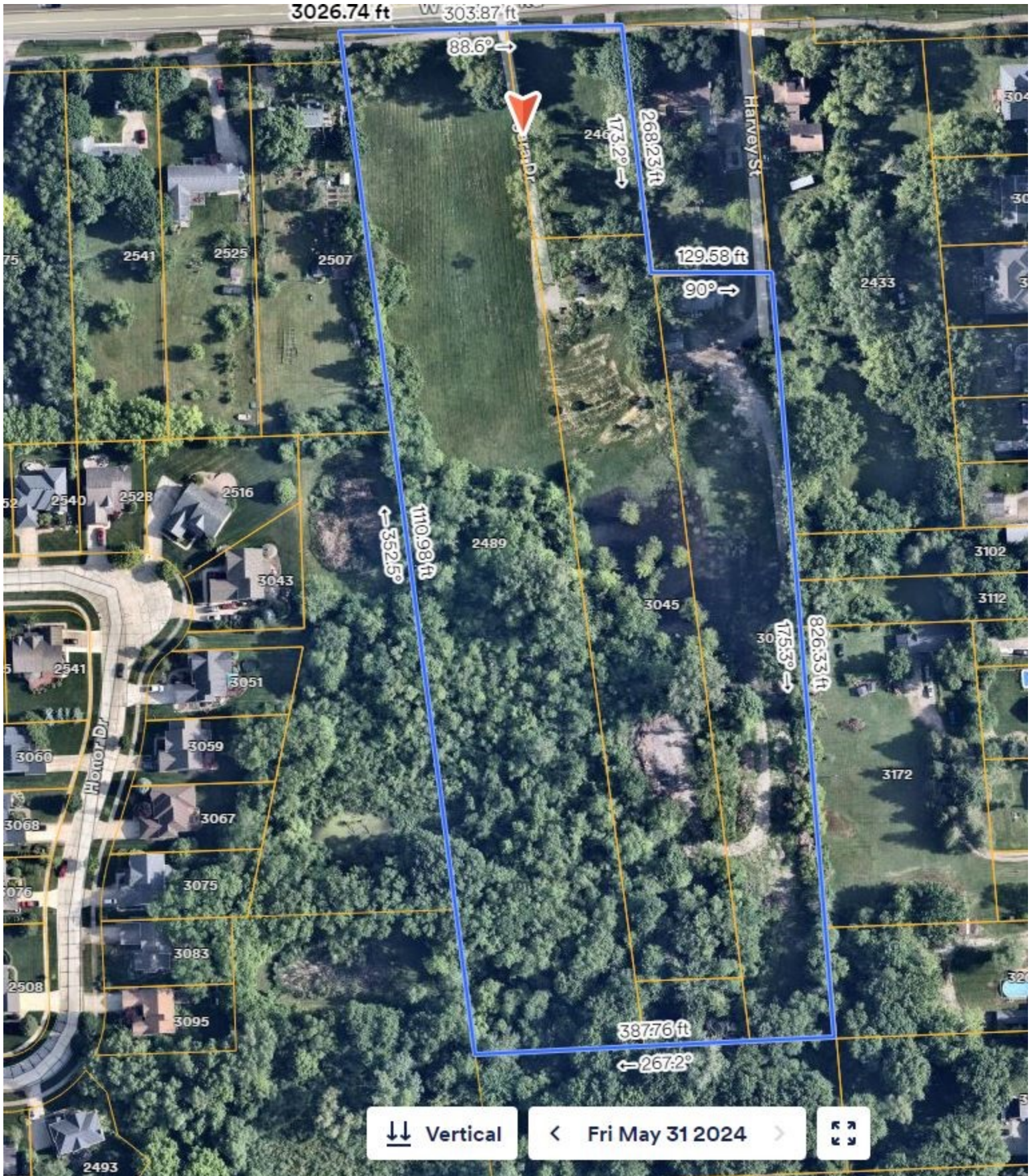


↓ Vertical

< Tue Mar 29 2022 >

↻



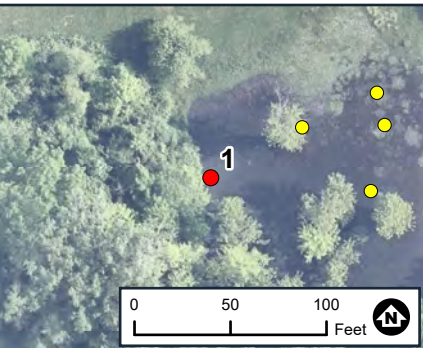
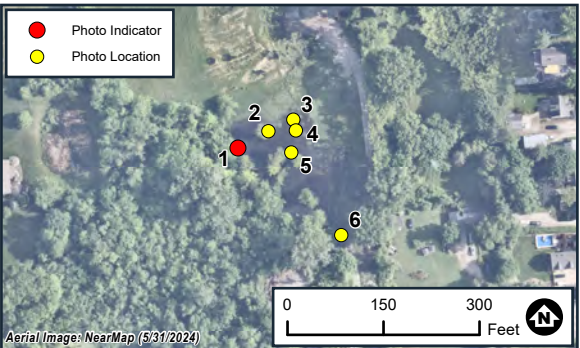


Vertical

< Fri May 31 2024 >



Attachment 2



Date: 7/9/2024

Sample Point ID:
SP1

Flag No:
A20

Note: Photo locations are approximate

Page 1 of 6
**THREE OAKS
AUBURN ANGARA**
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan

SP2 facing west



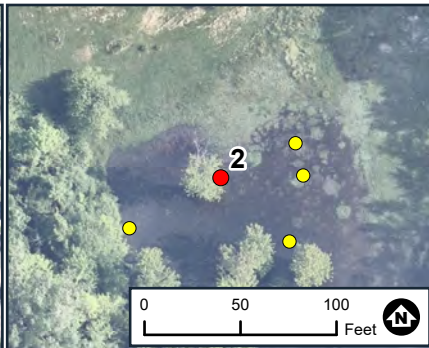
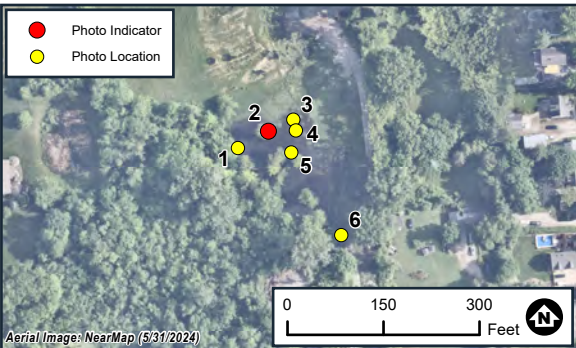
SP2 facing south



SP2 facing east



SP2 facing north



Date: 7/9/2024

Sample Point ID:
SP2

Flag No:
A27

Note: Photo locations are approximate

Page 2 of 6
THREE OAKS
AUBURN ANGARA
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan



SP3 facing east



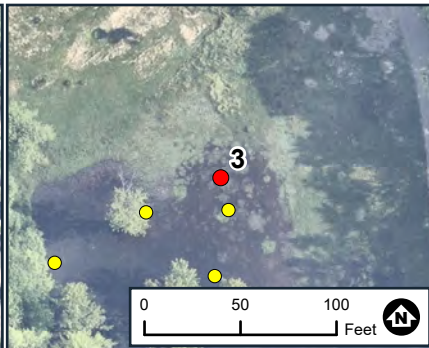
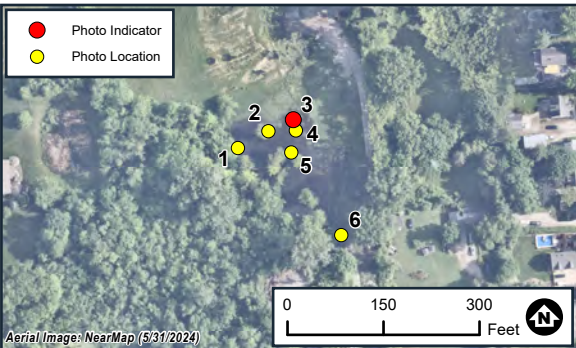
SP3 facing south



SP3 facing west



SP3 facing north



Date: 7/9/2024

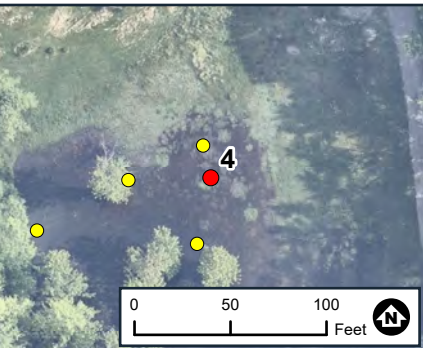
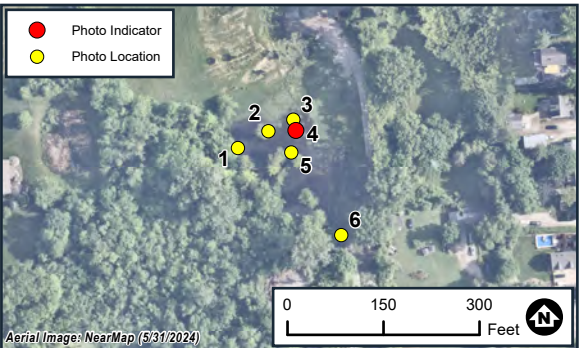
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SP3

Flag No:
A29

Note: Photo locations are approximate

Page 3 of 6
**THREE OAKS
AUBURN ANGARA**
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan





Date: 7/9/2024

Sample Point ID:
SP4

Flag No:
A30

Note: Photo locations are approximate

Page 4 of 6
**THREE OAKS
AUBURN ANGARA**
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan

SP5 facing west



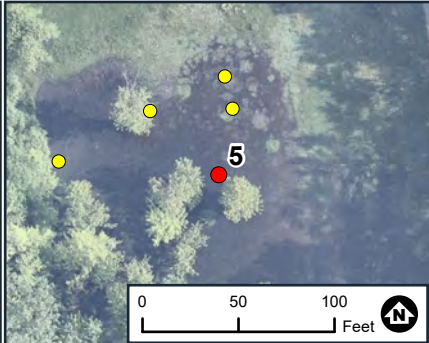
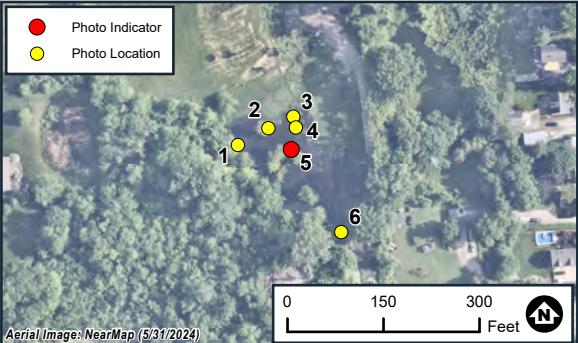
SP5 facing north



SP5 facing east



SP5 facing south



Date: 7/9/2024

Sample Point ID:
SP5

Flag No:
A30

Note: Photo locations are approximate

Page 5 of 6
**THREE OAKS
AUBURN ANGARA**
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan



WETLAND A east side of swale



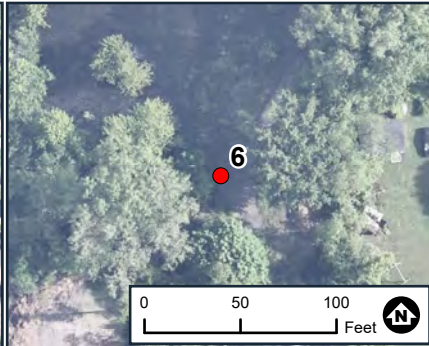
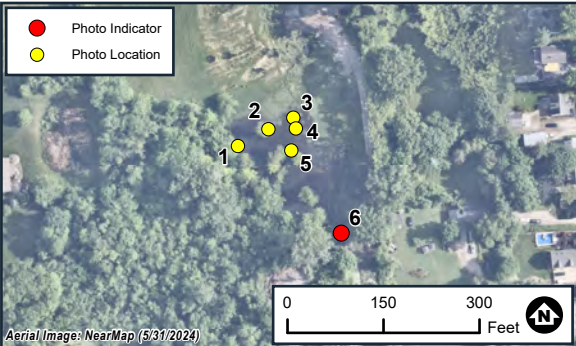
WETLAND A facing west



WETLAND A facing east



WETLAND A facing north



Date: 7/9/2024

Sample Point ID:
Overview

Flag No:
A

Page 6 of 6
THREE OAKS
AUBURN ANGARA
Photo Locations
Three Oaks Communities, LLC
Rochester Hills, Michigan



Note: Photo locations are approximate

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 5/30/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: A56 UPL
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex
 Slope (%): 0-2 Lat: 42.63213 Long: -83.18170 Datum: NAD 83
 Soil Map Unit Name: Granby loamy sand NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: All three wetland criteria are not met. Sampling point is upland. This sampling point represents the upland areas adjacent to Wetlands A and B.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>Prunus serotina</u>	35	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
2. <u>Robinia pseudoacacia</u>	30	Yes	FACU																	
3. _____																				
4. _____																				
5. _____																				
	65 =Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:																
1. <u>Rhamnus cathartica</u>	25	Yes	FAC	<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>x 3 = <u>135</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td><u>515</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.68</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>45</u>	x 3 = <u>135</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>140</u> (A)	<u>515</u> (B)	Prevalence Index = B/A = <u>3.68</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>45</u>	x 3 = <u>135</u>																			
FACU species <u>95</u>	x 4 = <u>380</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>140</u> (A)	<u>515</u> (B)																			
Prevalence Index = B/A = <u>3.68</u>																				
2. <u>Lonicera morrowii</u>	15	Yes	FACU																	
3. <u>Berberis thunbergii</u>	5	No	FACU																	
4. _____																				
5. _____																				
	45 =Total Cover																			
Herb Stratum (Plot size: <u>5 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:																
1. <u>Rhamnus cathartica</u>	20	Yes	FAC	___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Rosa multiflora</u>	10	Yes	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
	30 =Total Cover																			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?																
1. _____				Yes <u> </u> No <u>X</u>																
2. _____																				
	=Total Cover																			

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: A56 UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/2	100					Loamy/Clayey	
12-18	10YR 5/4	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOIL

Sampling Point: A56 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/2	100					Loamy/Clayey	
10-16	10YR 4/1	80	10YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators:						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Dark Surface (S7)			<input type="checkbox"/> Very Shallow Dark Surface (F22)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Mucky Mineral (F1)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> 2 cm Muck (A10)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)			<input checked="" type="checkbox"/> Depleted Matrix (F3)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			<input type="checkbox"/> Redox Depressions (F8)					
Restrictive Layer (if observed):						Hydric Soil Present?		
Type: _____						Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Depth (inches): _____								
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		
Field Observations:			
Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>1</u>
Water Table Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	_____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	_____
Wetland Hydrology Present?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 5/30/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: B4 WET
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 42.63187 Long: -83.18106 Datum: NAD 83
 Soil Map Unit Name: Granby loamy sand NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: All three wetland criteria are met. Sampling point is wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1.	<u>Acer saccharinum</u>	<u>80</u>	<u>Yes</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		<u>80</u>	=Total Cover																		
Sapling/Shrub Stratum	(Plot size: <u>NA</u>)																				
1.	_____	_____	_____	_____	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>80</u></td> <td>x 2 = <u>160</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td><u>160</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>80</u>	x 2 = <u>160</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>80</u> (A)	<u>160</u> (B)	Prevalence Index = B/A = <u>2.00</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>80</u>	x 2 = <u>160</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>0</u>	x 4 = <u>0</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>80</u> (A)	<u>160</u> (B)																				
Prevalence Index = B/A = <u>2.00</u>																					
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		_____	=Total Cover																		
Herb Stratum	(Plot size: <u>NA</u>)																				
1.	_____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
6.	_____	_____	_____	_____																	
7.	_____	_____	_____	_____																	
8.	_____	_____	_____	_____																	
9.	_____	_____	_____	_____																	
10.	_____	_____	_____	_____																	
		_____	=Total Cover																		
Woody Vine Stratum	(Plot size: <u>NA</u>)																				
1.	_____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																
2.	_____	_____	_____	_____																	
		_____	=Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																					

SOIL

Sampling Point: B4 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Sampling point was inundated with 6 inches of standing water. Due to the depressional landscape position, predominance of silver maple trees, and inundation of the sampling point with water, the soil is assumed to be hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): 6
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 7/9/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: SP1
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 42.6332694 Long: -83.1809722 Datum: WGS
 Soil Map Unit Name: Fox sandy loam, till plain, 2 to 6 percent slopes NWI classification: NONE

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Hydrology on site has been altered.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Aces saccharinum</u>	10	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
10 =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td><td align="center"><u>0</u></td> <td>x 1 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td><td align="center"><u>105</u></td> <td>x 2 =</td><td align="center"><u>210</u></td> </tr> <tr> <td>FAC species</td><td align="center"><u>5</u></td> <td>x 3 =</td><td align="center"><u>15</u></td> </tr> <tr> <td>FACU species</td><td align="center"><u>0</u></td> <td>x 4 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td><td align="center"><u>0</u></td> <td>x 5 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td><td align="center"><u>110</u> (A)</td> <td></td><td align="center"><u>225</u> (B)</td> </tr> <tr> <td align="right" colspan="4">Prevalence Index = B/A = <u>2.05</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>105</u>	x 2 =	<u>210</u>	FAC species	<u>5</u>	x 3 =	<u>15</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>110</u> (A)		<u>225</u> (B)	Prevalence Index = B/A = <u>2.05</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>105</u>	x 2 =	<u>210</u>																																	
FAC species	<u>5</u>	x 3 =	<u>15</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>110</u> (A)		<u>225</u> (B)																																	
Prevalence Index = B/A = <u>2.05</u>																																				
_____	_____	_____	_____																																	
_____	_____	_____	_____																																	
_____	_____	_____	_____																																	
_____	_____	_____	_____																																	
=Total Cover				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
=Total Cover																																				
Herb Stratum (Plot size: <u>5 ft</u>)																																				
1. <u>Agrostis stolonifera</u>	95	Yes	FACW																																	
2. <u>Acer rubrum</u>	5	No	FAC																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
100 =Total Cover																																				
Woody Vine Stratum (Plot size: _____)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
=Total Cover																																				
Remarks: (Include photo numbers here or on a separate sheet.)																																				

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/2	100					Sandy	unmasked sand grains/ Salt Pepper

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 12
 Saturation Present? Yes No Depth (inches): 10
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 7/9/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: SP2
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): toe slope Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 42.63213 Long: -83.18170 Datum: WGS
 Soil Map Unit Name: Fox sandy loam, till plain, 2 to 6 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: Sample Point taken at flag A27. Hydrology has been altered on site	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Acer saccharinum</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>15</u> =Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>95</u> x 2 = <u>190</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>105</u> (A) <u>210</u> (B) Prevalence Index = B/A = <u>2.00</u>	
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)					
1. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>		Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>5</u> =Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	
Herb Stratum (Plot size: <u>5 ft</u>)					
1. <u>Agrostis stolonifera</u>	<u>80</u>	<u>Yes</u>	<u>FACW</u>		Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
2. <u>Juncus articulatus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>85</u> =Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
	_____	_____	_____		
_____ =Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					Mucky Loam/Clay	
2-6	10YR 5/2	80	10YR 6/8	20	C	M	Loamy/Clayey	Prominent redox concentrations
6-15	10YR 2/2	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 9
 Saturation Present? Yes No Depth (inches): 5
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 7/9/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: SP 3
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): shoulder Local relief (concave, convex, none): convex
 Slope (%): 1-2 Lat: 42.63325278 Long: -83.18079722 Datum: WGS
 Soil Map Unit Name: Granby loamy sand NWI classification: NONE

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Sample Point taken north of Flag 30.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1.	_____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
		=Total Cover			
Sapling/Shrub Stratum	(Plot size: <u>15 ft</u>)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>25</u> x 1 = <u>25</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>65</u> (A) <u>105</u> (B) Prevalence Index = B/A = <u>1.62</u>
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
		=Total Cover			
Herb Stratum	(Plot size: <u>5 ft</u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	<u>Eleocharis olivacea</u>	25	Yes	OBL	
2.	<u>Cyperus esculentus</u>	20	Yes	FACW	
3.	<u>Agrostis stolonifera</u>	10	No	FACW	
4.	<u>Symphotrichum lateriflorum</u>	5	No	FACW	
5.	<u>Phalaris arundinacea</u>	5	No	FACW	
6.	_____	_____	_____	_____	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
9.	_____	_____	_____	_____	
		65 =Total Cover			
Woody Vine Stratum	(Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
		=Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: SP 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					Loamy/Clayey	
2-13	7.5YR 4/1	50	10YR 3/2	40			Loamy/Clayey	
			10YR 5/6	10	C	M		Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
Large gravel angular rock at 13 inches below the surface

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 7/9/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: SP4
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): back slope Local relief (concave, convex, none): concave
 Slope (%): 01 Lat: 42.6332222 Long: -83.1807778 Datum: WGS
 Soil Map Unit Name: Granby loamy sand NWI classification: NONE

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15 ft</u>)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
=Total Cover					
Herb Stratum	(Plot size: <u>5 ft</u>)				
1.	<u>Agrostis stolonifera</u>	<u>60</u>	Yes	FACW	
2.	<u>Cyperus esculentus</u>	<u>5</u>	No	FACW	
3.	<u>Acer rubrum</u>	<u>1</u>	No	FAC	
4.	<u>Bidens frondosa</u>	<u>1</u>	No	FACW	
5.	<u>Agrostis gigantea</u>	<u>5</u>	No	FACW	
6.	_____	_____	_____	_____	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
9.	_____	_____	_____	_____	
10.	_____	_____	_____	_____	
<u>72</u> =Total Cover					
Woody Vine Stratum	(Plot size: _____)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
=Total Cover					

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>71</u>	x 2 = <u>142</u>
FAC species <u>1</u>	x 3 = <u>3</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>72</u> (A)	<u>145</u> (B)
Prevalence Index = B/A = <u>2.01</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	10					Loamy/Clayey	
3-11	10YR 4/3	90	10YR 5/6	10	C	M	Loamy/Clayey	Distinct redox concentrations
11-15	7.5YR 5/2	70	7.5YR 5/6	30	C	M		Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Auburn Angara Oaks City/County: Rochester Hills/Oakland Co. Sampling Date: 7/9/2024
 Applicant/Owner: Three Oaks Communities State: MI Sampling Point: SP5
 Investigator(s): Fran Thompson, Barr Engineering Co. Section, Township, Range: S32, T3N, R11E
 Landform (hillside, terrace, etc.): toe slope Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 42.6331833 Long: -83.1808972 Datum: WGS
 Soil Map Unit Name: Granby loamy sand NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Acer saccharinum</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>30</u> =Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td><td align="center"><u>20</u></td> <td>x 1 =</td><td align="center"><u>20</u></td> </tr> <tr> <td>FACW species</td><td align="center"><u>35</u></td> <td>x 2 =</td><td align="center"><u>70</u></td> </tr> <tr> <td>FAC species</td><td align="center"><u>0</u></td> <td>x 3 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td><td align="center"><u>0</u></td> <td>x 4 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td><td align="center"><u>0</u></td> <td>x 5 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td><td align="center"><u>55</u> (A)</td> <td></td><td align="center"><u>90</u> (B)</td> </tr> <tr> <td align="right" colspan="4">Prevalence Index = B/A = <u>1.64</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>20</u>	x 1 =	<u>20</u>	FACW species	<u>35</u>	x 2 =	<u>70</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>55</u> (A)		<u>90</u> (B)	Prevalence Index = B/A = <u>1.64</u>			
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Prevalence Index = B/A = <u>1.64</u>																																				
=Total Cover																																				
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
=Total Cover																																				
Herb Stratum (Plot size: <u>5 ft</u>)																																				
1. <u>Ludwigia palustris</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2. <u>Agrostis stolonifera</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																																	
3. <u>Lemna minor</u>	<u>5</u>	<u>Yes</u>	<u>OBL</u>																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>25</u> =Total Cover																																				
Woody Vine Stratum (Plot size: _____)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
=Total Cover																																				
Remarks: (Include photo numbers here or on a separate sheet.)																																				

SOIL

Sampling Point: SP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/1	100					Mucky Loam/Clay	
3-15	10YR 5/2	80	7.5YR 5/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

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- Saturation (A3)
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- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 9
 Saturation Present? Yes No Depth (inches): 6
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample Point taken south at flag A31. Hydrology has been altered on site