



**AGENDA**  
CHARTER TOWNSHIP OF MERIDIAN  
ENVIRONMENTAL COMMISSION –  
REGULAR MEETING  
July 2, 2025 7:00 PM

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1. CALL MEETING TO ORDER
2. ROLL CALL
3. PRESENTATION
4. CITIZENS ADDRESS AGENDA ITEMS AND NON-AGENDA ITEMS
5. COMMUNICATIONS
6. APPROVAL OF AGENDA
7. APPROVAL OF THE MINUTES –June 4, 2025 REGULAR MEETING
8. NEW BUSINESS
  - A. Wetland Use Permit #25-02
9. UNFINISHED BUSINESS
10. REPORTS AND ANNOUNCEMENTS
  - A. Staff
  - B. Liaisons:
    - Township Board
    - Planning Commission
    - Land Preservation Advisory Board
    - Brownfield Redevelopment Authority
    - Parks Commission
  - C. Teams:
    - Energy Team
    - Green Team
    - Food & Composting Team
    - Green Burial Team
  - D. Haslett/Okemos High School
11. COMMENTS FROM THE PUBLIC
12. OTHER MATTERS AND COMMISSIONER COMMENTS
13. ADJOURNMENT

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Individuals with disabilities requiring auxiliary aids or services should contact the Meridian Township Board by contacting: Township Manager Tim Dempsey, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4258 - Ten Day Notice is Required.

Meeting Location: 5151 Marsh Road, Okemos, MI 48864 Township Hall

Providing a safe and welcoming, sustainable, prime community.



CHARTER TOWNSHIP OF MERIDIAN  
REGULAR MEETING ENVIRONMENTAL COMMISSION –**DRAFT**-  
5151 Marsh Road, Okemos MI 48864-1198  
517.853.4000, Township Hall Room  
WEDNESDAY, JUNE 4<sup>TH</sup>, 2025, 7:00PM

PRESENT: Commissioners Laura Belisle, Tom Frazier, John Sarver, Richard Miksicek,  
Cynthia Peterson, Harrison Batten and Trustee Nickolas Lentz

ABSENT: Chair Bill McConnell

STAFF: Deputy Township Manager Dan Opsommer, Project Engineer Jack Hughes

1. CALL MEETING TO ORDER

Vice Chair Lee called the June 4<sup>th</sup>, 2025, Township Environmental Commission meeting to order at 7:00 pm.

2. ROLL CALL

Project Engineer Hughes called the roll of the Commission.

3. PRESENTATION

None this month.

4. CITIZENS ADDRESS AGENDA ITEMS AND NON-AGENDA ITEMS

No public comment.

5. COMMUNICATIONS

Meridian Township was able to submit the *2025 Green Communities Challenge* application in time for consideration. Staff thanked the Commission for their timely reminder. Michigan Green Communities plans to announce the results in June.

6. APPROVAL OF AGENDA

Vice Chair Lee proposed to approve the agenda.

**Without objection, the adopted agenda was approved unanimously.**

7. APPROVAL OF MINUTES

May 7<sup>th</sup> 2025, Regular Meeting Minutes were approved as amended with a few minor corrections.

**Without objection, the minutes for the May 7<sup>th</sup> meeting, as amended, were approved unanimously.**

8. NEW BUSINESS

None at this time.

9. UNFINISHED BUSINESS

A. 2025 Green Grant Award Recommendations

The following organizations had their requested grant amounts approved in previous meetings: Girl Scout Troop, Montessori Radmoor School, Pine Creek Condo Association, YMCA Parkwood Branch

Two grants await a final decision:

Cornell Woods Homeowners Association

Original Request of \$5,000 to \$7,000 for native planting areas, specifically focused on a green space in the northeast corner of their lot area.

They agreed to open their bioswale to the public, particularly for school groups from Cornell Elementary and Okemos Public Schools to use the site for educational purposes. They are on board with installing educational signage explaining the project and local species. They were not keen on reducing the size of their footprint to create a drainage retention area for the township's benefit, so the plan remains focused on native species.

Recommendation from staff is to award the full requested amount of \$7,000.

Mid-Michigan Land Conservancy

Initially requested \$5,000, but reduced it to \$2,500 in their completed application for Native plantings throughout Meridian. This is a continuation of similar grants they have received and successfully executed in previous years. While there are minor discrepancies in their final report regarding the exact number, they planted between 600 to 900 trees. Given that their previous Green Grant was for only \$700, their investment in plantings alone (not including labor) far exceeds the grant amount. This makes them potentially the most impactful recipient in terms of return on investment among all Green Grant recipients. The recommendation from staff is to proceed with awarding the \$2,500 grant, as the project is deemed to be in good hands and consistent with prior successful initiatives.

With all 2025 Green Grant applications now finalized, including the reduced request from the Mid-Michigan Land Conservancy, the total recommended grant awards come to approximately \$18K. This figure falls within the allocated budget of \$20K, leaving a small surplus. As a result, staff is recommending that the Environmental Commission approve and fully fund every Green Grant project for the amounts requested by the applicants.

A question was raised about ensuring the suitability of native species for planting sites to maximize growth success. It was suggested that the Environmental Commission work with the Township, possibly Emma Campbell, to review species lists.

The idea of conducting site visits to past Green Grant project locations was proposed and well-received. These visits would help assess the health of trees and plantings, confirm signage presence, and inform future project planning based on success rates and challenges.

Concerns were voiced about the long-term guarantee of trees planted on private property, particularly if property ownership changes. It was acknowledged that while current owners are enthusiastic, it's difficult to enforce the continued presence of trees over time. There are no "claw back" provisions in the agreements, as such clauses would be difficult to enforce legally.

The possibility of geo-locating planted trees was discussed to better track their location and quantity. While beneficial, current Township staff resources prioritize civil infrastructure mapping over Green Grant plantings. It was suggested that grant recipients, specifically the Mid-Michigan Land Conservancy for their tree planting project, could be asked to collect and provide this data. This would be a simple task for them and would allow the Township to import it into their GIS database.

The commission discussed the need for greater clarity on the Green Grant program's overall impact, especially concerning plantings on private land and their benefit to the broader community. The current model is reactive, relying on applications from HOAs, the YMCA, and other associations, where labor is almost entirely volunteer. This limits the Township's control over long-term project outcomes, especially on private property where trees might be removed.

It was agreed to have past Green Grant recipients present to the commission on their completed projects and to look into conducting site visits to past project locations to assess performance and long-term impact. A broader discussion will be held before the next grant cycle to review the program's history, its objectives, and how it aligns with other funding sources and the overall Climate Sustainability Plan. This will help inform potential revisions or pivots in the program's direction to maximize community benefit and long-term impact.

**Without objection, a motion to approve full funding of the Mid-Michigan Land Conservancy and Cornell Woods HOA Green Grants, was approved unanimously.**

## 10. REPORTS AND ANNOUNCEMENTS

### A. Staff

None at this time.

### B. Liaisons

Trustee Lentz provided an update from the Township Board.

The Township Board has begun setting its 2026 Township Goals. Unlike previous years, where environmental consciousness might have been a specific "actionable goal" there's a compelling argument to shift this to a "value statement" for 2026. This means that instead of a checkable item, environmentalism would be an overarching principle guiding all Township activities. This approach acknowledges that while specific projects (like achieving 100% green energy for Township buildings by 2035) are actionable goals, sustained environmentalism is a broader value.

The Tri-County Regional Planning Commission has completed a feasibility study for a regional lime recalcination project. This project would involve the ELMWSA Treatment Facility (used by Meridian Township) and nine other facilities sending their water-softening waste to be "recalcinated." This process has several environmental and economic benefits.

The Tri-County Annual Report indicates a positive trend for non-motorized transport and transit infrastructure. The amount of money recommended by Tri-County and applied for in grants for these areas has tripled over the last ten years. This is seen as an encouraging sign, reflecting increased engagement in regional surveys, even though recommendations don't always guarantee immediate results.

The Township Board voted to approve a ballot initiative regarding the Senior and Community Center, which will appear on the August ballot this year. More information, including financial details, estimated costs based on home taxable value, ballot language, and early voting information, is available on the newly launched website.

The 2026 budget has not yet been approved. This year, the Township has flipped its process, starting with setting goals before finalizing the budget. This aims to ensure the budget aligns with the Township's objectives. Staff-level work on the budget is just beginning, and it will be presented to the Board in late August for adoption in September. The Environmental Commission expects to discuss Climate Sustainability Funding to address any roll-forward of previous funding.

As Chair McConnell was absent, the update from the Planning Commission was skipped.

Commissioner Lee provided an update from the Land Preservation Advisory Board. New educational signage funded by the Climate Sustainability Fund has been installed at five or six different parks. These signs include QR codes that link to the Township's wetland ordinance. There was a suggestion to invite Emma Campbell to present on the Township's wetland education efforts given the funding provided. Additionally, a couple of controlled burns at Davis Foster and Red Cedar Glen reportedly went well.

Commissioner Sarver provided an update from the Brownfield Redevelopment Authority. On May 8th, the primary topic of discussion was the proposed changes to the Tax Increment Financing (TIF) Affordable Housing policies and procedures. The Authority had no issues with the proposed changes. That same night, the Township Board approved the changes to the Brownfield Program, which now includes the TIF Affordable Housing option.

Commissioner Miksicek provided an update from the Parks Commission. The meeting began with a presentation from Sue and Dave Patton on the Meridian Cleaning Initiative. This program, similar to one discussed previously, gathers produce and food from local vendors and the Meridian Township Farmers Market to deliver to local food pantries and kitchens. The Pattons reported impressive results from their efforts. Director Wisinski presented the May Stewardship and Parks and Recreation calendars. She also provided an update on the Parks and Recreation budget for the prior two months.

A significant item was the update on the Red Cedar Multi-Jurisdictional Water Trail Program, which was presented to the Board of Trustees on April 29th. This program appears very promising, aiming to improve water quality and enhance opportunities for paddling and recreation on the Red Cedar River.

#### C. Teams

Commissioner Sarver provided an update from the Energy Team.

Commissioner Frazier provided an update from the Green Team.

No news from the Food Composting Team.

No news from the Green Burial Committee.

D. Haslett/Okemos High School

Commissioner Batten provided an update from the High Schools with input from Commissioner Peterson.

E. Other

No reports.

11. COMMENTS FROM THE PUBLIC

No public comment.

12. OTHER MATTERS AND COMMISSIONER COMMENTS

Commission discussed moving the July meeting as many travel that first week. However enough members plan to be in town this year to hold the regularly scheduled meeting.

13. ADJOURNMENT

The meeting adjourned at 8:15pm.



**To:** Environmental Commission

**From:** Timothy R. Schmitt, AICP, Community Planning and Development Director

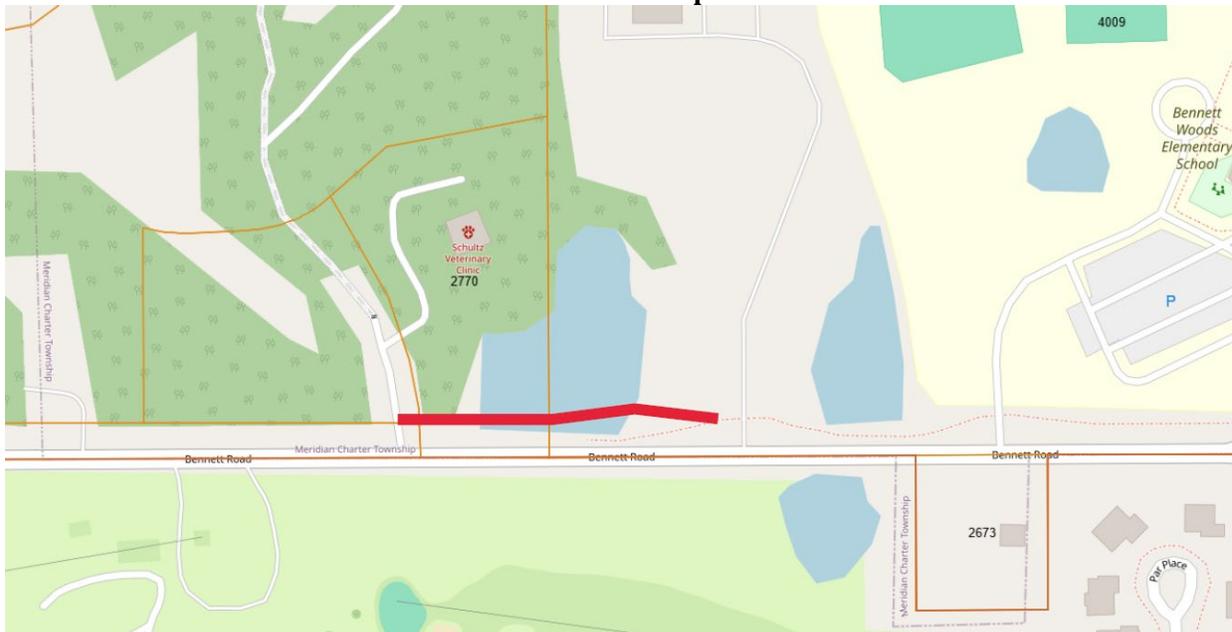
**Date:** June 26 2025

**Re:** Wetland Use Permit #25-02 – Meridian Township Public Works – Construct a Boardwalk across a regulated wetlands along Bennett Road between the Schultz Veterinary Clinic and Bennett Woods Elementary

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The Meridian Township Department of Public Works has requested a wetland use permit to impact approximately 28.36 square feet / 0.00065 acres, located on the north side of Bennett Road between the Schultz Veterinary Clinic and Bennett Woods Elementary. The eight-foot-wide boardwalk will fill in an existing pathway gap along the north side of Bennett Road.

#### Location Map



The project entails installation of the eight-foot-wide boardwalk and a 7' wide concrete pathway on either end of the boardwalk that connects into the existing pathway network. The Silverleaf subdivision west of this boardwalk is currently being constructed. The construction of the boardwalk and the filling of the pathway gap will provide a safe route to school for the students who reside in the Silverleaf subdivision. A wetland use permit is required for proposed permanent impacts that the boardwalk piles will have on the wetland. The activity is being reviewed administratively by the Community Planning and Development Director, under Section 22-155. As part of that process, the Environmental Commission is asked to review the request, prior to any approvals.

The Township's wetland consultant Fishbeck, Thompson, Carr, & Huber, Inc. (FTCH) performed the wetland delineation in May 2023. Additionally, the Department of Environment, Great Lakes, and Energy is reviewing the project and has sent the project out for public notice. This project will be presented to the Township Planning Commission during their July meeting. Lastly, the project will also be presented to the Township Zoning Board of Appeals for a request to cross the Hoskins Drain.

The Wetland Protection Ordinance requires wetland mitigation at a minimum ratio of 1.5 to 1 in order to satisfy the Township requirement of no net loss of wetlands. The Township has substantial additional wetlands from the construction of the Phase II MSU to Lake Lansing Trail, which will be used to offset the impact of this project. Public Works Staff will be able to address this question with the Environmental Commission.

### **Staff Analysis**

There are eleven general criteria provided in the Wetland Protection Ordinance, Section 22-157(2) of the Code of Ordinances, that must be considered when deciding whether to grant a wetland use permit. These include (paraphrased):

- a. The relative extent of public and private need for the proposed activity.
- b. Availability of prudent and feasible alternatives.
- c. Extent and permanence of beneficial or detrimental effects from the activity.
- d. Probable impact of the proposal in relation to the cumulative effect by other activities in the watershed.
- e. Probable impact on recognized historic, cultural, scenic, ecological, or recreational values, as well as on public health and safety or fish and wildlife.
- f. Economic value of the proposed land change.
- g. The size and quality of the wetland being considered.
- h. The findings of necessity for the proposed activity by other agencies.
- i. Amount of wetland remaining in the general area and proximity to a waterway.
- j. Proximity to any water body.
- k. Extent to which upland soil erosion adjacent to the wetland is controlled.

The Township's environmental consultant has reviewed the wetland use permit application and found no major issues. Staff is recommending issuance of Wetland Use Permit #25-02 subject to the following conditions:

1. Specific identification of the wetland mitigation from Phase II of the MSU to Lake Lansing project that will be used to provide a minimum mitigation ratio of 1.5 to 1 for the 28.36 square feet / 0.00065 acres.

### **Environmental Commission Options**

The Environmental Commission has the option to recommend approval, approval with conditions, or denial of Wetland Use Permit #25-02. A motion to recommend approval in accordance with the conditions proposed by Staff is provided.

- **Motion to recommend approval of Wetland Use Permit #25-02 to fill 28.36 square feet / 0.00065 acres of regulated wetland to construct a pedestrian/bicycle boardwalk pathway located on the north side of Bennett Road between the Schultz Veterinary Clinic and Bennett Woods Elementary.**

**Attachments**

1. Application materials for WUP 25-02

June 13, 2023  
Project No. 231002

Tim Schmitt  
Charter Township of Meridian  
5151 Marsh Road  
Okemos, MI 48864-1198

**Wetland Delineation in Vicinity of Schultz Veterinarian Clinic  
2770 Bennett Road/4009 Hulett Road  
Charter Township of Meridian, Ingham County, Michigan**

On May 18, 2023, Fishbeck staff conducted a field investigation and delineated wetlands on Parcel No. 33-02-29-300-014, located at 2770 Bennett Road, and Parcel No. 33-02-02-451-002, located at 4009 Hulett Road, Charter Township of Meridian (Township), Michigan (the Site). The area of investigation is located in the southwest quarter of Section 29 of Town 4 North, Range 1 West, and was limited to the south, east, and north sides of Meridian Township Wetland 29-21, as requested by the Township. The Site is bound by forested land and Schultz Veterinary Clinic to the north and west, Bennett Woods Elementary School to the east, and Bennett Road to the south (Figure 1). The results of the investigation are included in this report.

The wetland delineation was conducted in a manner consistent with the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2). The wetland identification and delineation procedures outlined in this manual requires evaluation of site vegetation, soils, and hydrologic characteristics. Dominant wetland vegetation, hydric soil, and wetland hydrology must all be present for an area to be classified as a wetland. Hydrophytic vegetation decisions are based on the wetland indicator status of species that are dominant in the plant community. Species with indicator statuses of obligate wetland (OBL), facultative wetland (FACW), and facultative (FAC) are considered wetland species, while species with indicator statuses of facultative upland (FACU) and upland (UPL) are considered upland species. FAC species are also commonly present in upland plant communities.

## Literature Review

The Township wetland map for Section 29 indicates the area of investigation contains Township Wetland 29-21, an approximately 2.75-acre forested and shrub scrub wetland. According to the U.S. Department of Agriculture Natural Resources Conservation Service *Web Soil Survey*, Colwood-Brookston loams (80% hydric rating) is mapped in the vicinity of this wetland. The adjacent area contains Marlette fine sandy loam, 2% to 6% slopes (2% hydric rating) and Owosso-Marlette sandy loams, 2% to 6% slopes (0% hydric rating) (Attachment 1).

The National Wetlands Inventory (NWI) Map indicates a complex of freshwater forested and shrub scrub wetland is present in generally the same areas mapped with hydric soils (Attachment 2). The NWI Map indicates this wetland extends south across Bennett Road.

The Meridian Township Southwest Drain Map (Attachment 3), obtained online from the Ingham County Drain Commissioner's Public Access Site on May 19, 2023, indicates the Hoskins Drain (H6200) extends through the Site's wetland, traversing from south to north and northeast. It is mapped as an open drain.

## Site Investigation

The Site sloped down into a bowl-like depression that contained cattail marsh, noted as Wetland A on Figure 2. Wetland was verified at Sampling Point SP-A. The surface 12 inches of a soil pit dug to a depth of 14 inches contained very dark gray (10YR 3/1), mucky silt loam, confirming Hydric Soil Indicator F1 (loamy mucky mineral). Soil was saturated at the surface and groundwater was encountered at a depth of 2 inches, confirming wetland hydrology.

The dominant vegetation at SP-A consisted of *Typha latifolia* (broadleaf cattail, OBL) and *Salix nigra* (black willow, OBL). Fishbeck also observed *Phalaris arundinacea* (reed canary grass, FACW) and *Cirsium arvense* (Canada thistle, FACU).

Upland vegetation was confirmed on the adjacent embankment at Sampling Point SP-B. The surface 5 inches of a soil pit dug to a depth of 12 inches contained dark grayish brown (10YR 4/2) silt loam underlain by 7 inches of dark yellowish brown (10YR 3/4) silt loam. The soil pit was dry in its entirety. No hydric soil or wetland hydrology indicators were observed at SP-B.

Fishbeck confirmed dominant upland vegetation at Sampling Point SP-B. Dominant species included *Pinus strobus* (eastern white pine, FACU), *Morus alba* (white mulberry, FACU), *Acer platanoides* (Norway maple, UPL), *Prunus serotina* (black cherry, FACU), *Cirsium arvense* (Canada thistle, FACU), and *Cirsium discolor* (field thistle, UPL).

A U.S. Army Corps of Engineers Wetland Determination Data Form was completed to describe site vegetation, soil, and hydrology at each sampling location (Attachment 4). Photographs of wetland determination sampling points and associated plant communities are included in Attachment 5.

Fishbeck flagged the wetland boundary with pink ribbon on the north, east, south, and southwest sides of Wetland A, as requested by the Township. Wetland boundary flags were labelled A1 through A24. The points were surveyed with a handheld GPS unit with submeter accuracy. The delineated wetland boundary is noted on Figure 2. Due to incomplete delineation of Wetland A, the size of this wetland is not known. However, based on aerial imagery interpretation, Wetland A appears to be approximately 2 acres in size.

Fishbeck did not observe an open drain channel as indicated on the County Drain Map. Stormwater likely drains into Wetland A via a road culvert under Bennett Road and outlets to a buried pipe at the northeast end of Wetland A. However, Fishbeck did not observe these structures due to dense vegetation.

## Conclusions

According to Michigan's Natural Resources and Environmental Protection Act (NREPA), Act 451, Section 30301(d), wetlands "contiguous to the Great Lakes or Lake St. Clair, an inland lake or pond, or a river or stream" or "more than 5 acres in size" are regulated by the State of Michigan. Contiguous is defined as being within 500 feet of an inland lake, pond, river, or stream. A stream is defined as having a defined bed, banks, and evidence of flow. A pond is defined as an area of "natural or permanent artificial" open water with "more than one acre, but less than five acres" in size. In addition, the Township regulates wetlands greater than 2 acres in size which are not contiguous to a water body and wetlands between 0.25 acre and 2 acres in size that are determined to be essential to the preservation of the natural resources of the Township.

Wetland A is less than 5 acres in size. No regulating water features (i.e., river, stream, lake, or pond) were identified within 500 feet of this wetland. However, if the Hoskins Drain is present as indicated in the County

Drain Map, this drain provides a hydraulic connection from Wetland A to Herron Creek, and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) may deem Wetland A regulated under Part 303 of NREPA.

Wetland A is close to 2 acres in size. If it is greater than 2 acres, it is regulated by the Township's wetland ordinance. If it is 2 acres or less, a determination of essentiality is needed to determine whether it is regulated by the Township. It is Fishbeck's opinion that the determination of essentiality would confirm the wetland is regulated by the Township due to its stormwater and wildlife habitat functions.

A wetland use permit would be required from EGLE for the following activities within regulated wetlands:

- Placing fill or permitting the placement of fill in the wetland.
- Dredging, removing, or permitting the removal of soil or minerals from the wetland.
- Constructing, operating, or maintaining any use or development in the wetland.
- Draining surface water from the wetland.

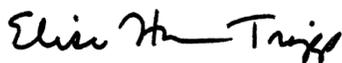
A wetland use permit would be required from the Township for the following activities within wetlands regulated by the Township:

- Placing fill or permitting the placement of fill in the wetland.
- Dredging, removing, or permitting the removal of soil or minerals from the wetland.
- Constructing, operating, or maintaining any use or development in the wetland.
- Draining surface water from the wetland.
- Discharging water into the wetland.

In addition, the Township requires that all structures and grading activities during site development be set back 40 feet from the delineated wetland boundary and a natural vegetation strip be maintained within 20 feet of the wetland boundary.

If you have any questions regarding this letter, the wetland permitting process, or any other wetland-related issues, please contact me at 616.464.3738 or [ehtripp@fishbeck.com](mailto:ehtripp@fishbeck.com).

Sincerely,



**Elise Hansen Tripp, PWS**  
Senior Wetland Scientist

Attachments

By email

Copy: Keith Chapman – Meridian Township

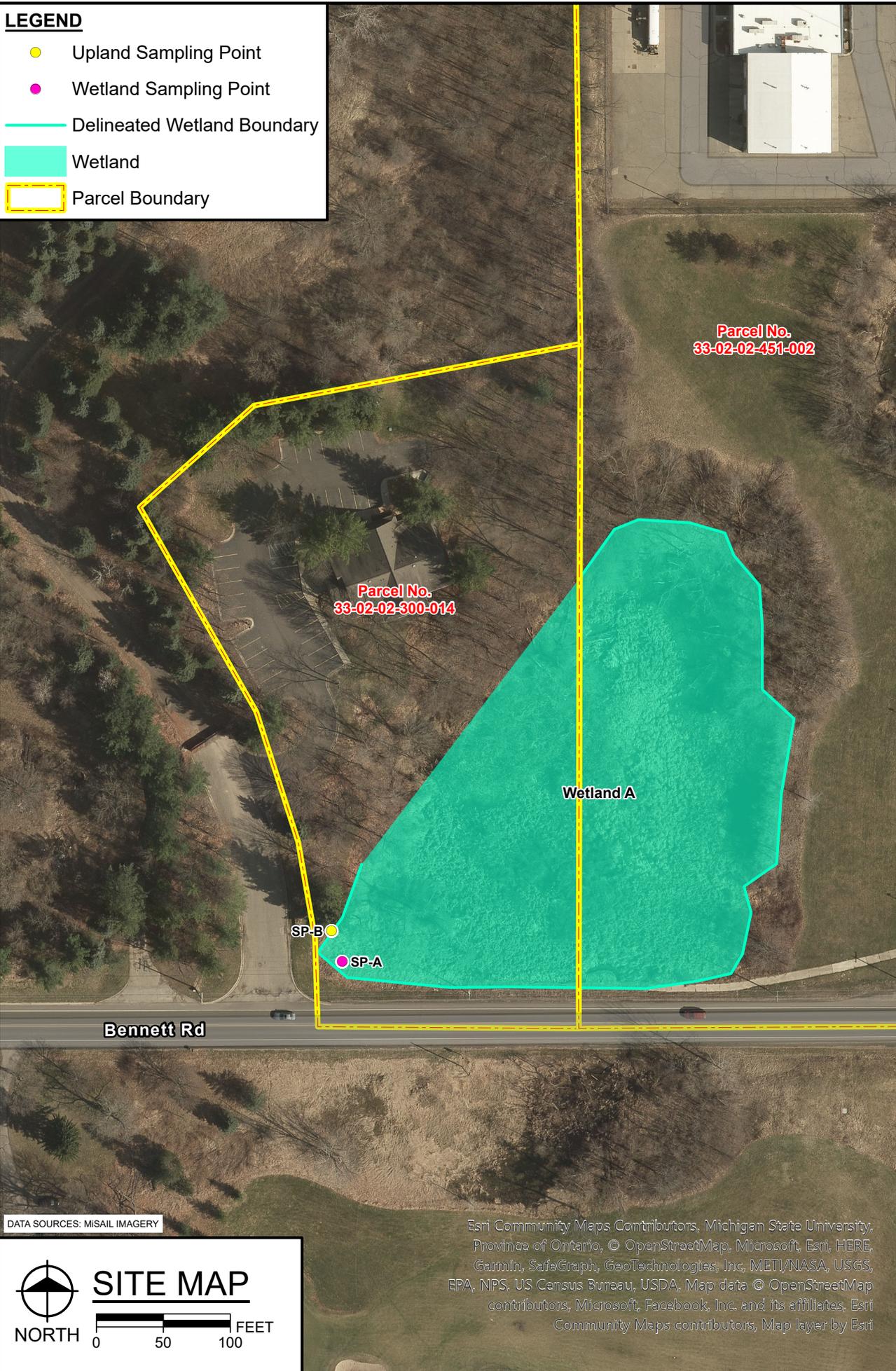
# Figures

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**LEGEND**

- Upland Sampling Point
- Wetland Sampling Point
- Delineated Wetland Boundary
- Wetland
- Parcel Boundary



DATA SOURCES: MISAIL IMAGERY



**SITE MAP**

0 50 100 FEET

Esri Community Maps Contributors, Michigan State University, Province of Ontario, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri



Hard copy is intended to be 8.5"x11" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

**2770 Bennett Road/4009 Hulett Road**

Charter Township of Meridian, Ingham County, Michigan

**Wetland Delineation**

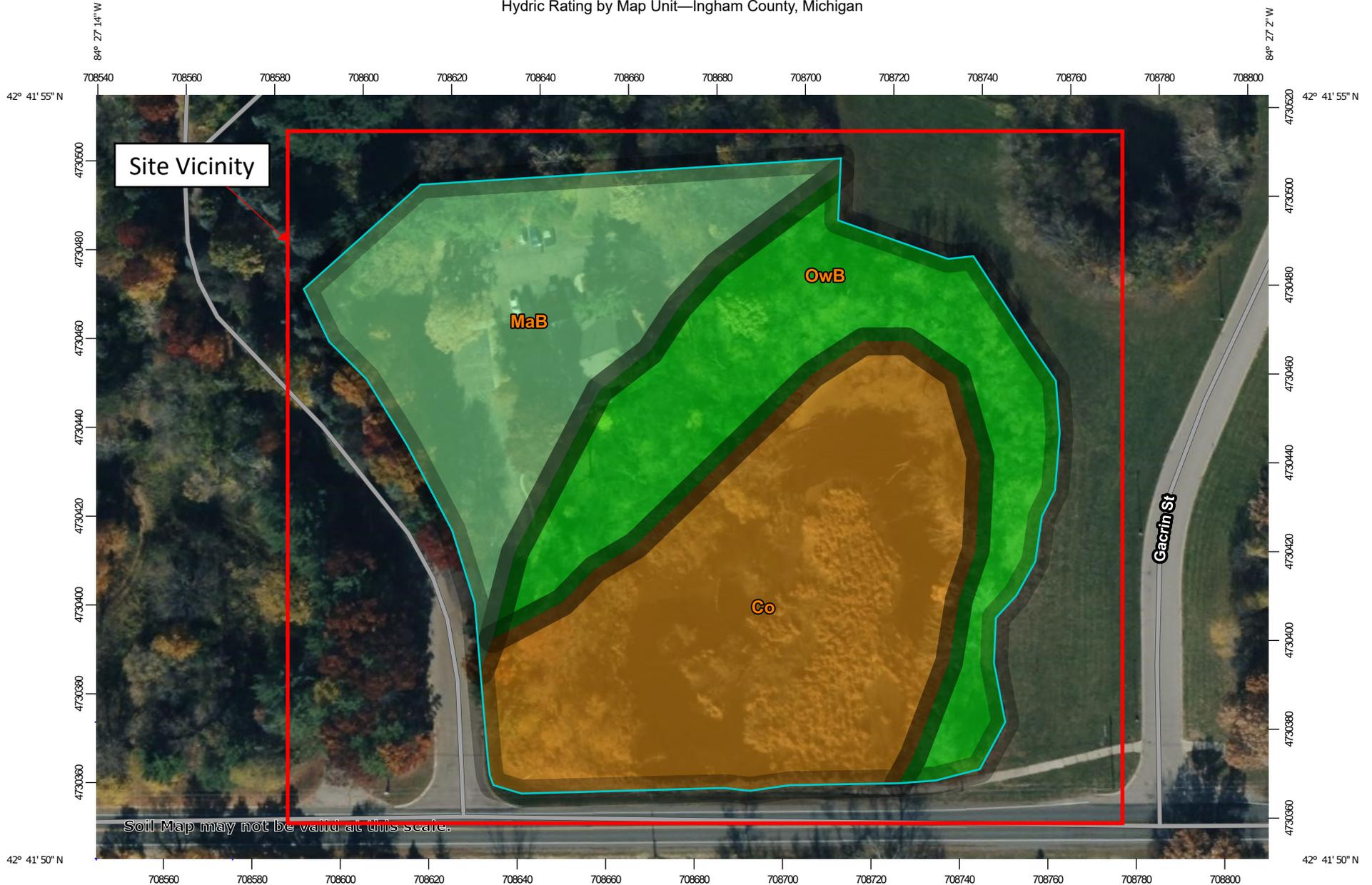
PROJECT NO.  
231002

FIGURE NO.  
**2**

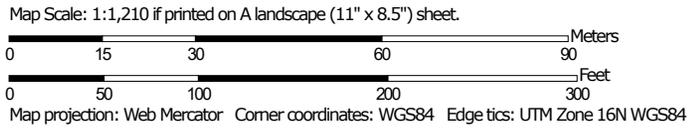
# Attachment 1

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Hydric Rating by Map Unit—Ingham County, Michigan



Soil Map may not be valid at this scale.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

#### Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

#### Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

### Water Features

 Streams and Canals

### Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

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

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Ingham County, Michigan  
 Survey Area Data: Version 20, Aug 26, 2022

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

Date(s) aerial images were photographed: Oct 9, 2022—Oct 28, 2022

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

## Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Co	Colwood-Brookston loams	80	1.9	41.7%
MaB	Marlette fine sandy loam, 2 to 6 percent slopes	2	1.3	29.2%
OwB	Owosso-Marlette sandy loams, 2 to 6 percent slopes	0	1.3	29.1%
<b>Totals for Area of Interest</b>			<b>4.5</b>	<b>100.0%</b>

## Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

### References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

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## Rating Options

### *Aggregation Method: Percent Present*

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

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

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

The aggregation method "Percent Present" returns the cumulative percent composition of all components of a map unit for which a certain condition is true. For example, attribute "Hydric Rating by Map Unit" returns the cumulative percent composition of all components of a map unit where the corresponding hydric rating is "Yes". Conditions may be simple or complex. At runtime, the user may be able to specify all, some or none of the conditions in question.

### *Component Percent Cutoff: None Specified*

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

### *Tie-break Rule: Lower*

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

# Attachment 2

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May 19, 2023

### Wetlands

- |   |                                |   |                                   |   |          |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake     |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other    |
|   |                                |  | Freshwater Pond                   |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# Attachment 3

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# MERIDIAN TOWNSHIP SW, T.4N. - R.1W. , INGHAM COUNTY, MICHIGAN



Site Vicinity

PATRICK E. LINDEMANN  
INGHAM COUNTY DRAIN COMMISSIONER

**PRELIMINARY**

MERIDIAN TOWNSHIP SW DRAIN MAP  
T.4N. - R.1W.  
INGHAM COUNTY, MICHIGAN



**LEGEND**

- MUNICIPAL BOUNDARIES
- SECTIONS
- COUNTY
- DRAINAGE DISTRICT BOUNDARIES
- OPEN DRAIN
- CLOSED DRAIN
- ROADS
- RAILROADS
- NATURAL WATERCOURSE

RED = FORMERLY KNOWN AS

**DISCLAIMER:**  
This map is a generalized representation of established drain routes and courses and/or drainage district boundaries. It is provided by the Ingham County Drain Commissioner for reference and display purposes only and does not confirm, create, refute, remove, expand, alter or otherwise affect any rights or obligations recognized or imposed by federal, state or local law, ordinance, regulation or rule.

0 0.13 0.25 0.5 Miles

1 INCH = 500 FEET

**DRAIN INDEX**

DRAIN NO	DRAIN NAME	DRAIN NO	DRAIN NAME	DRAIN NO	DRAIN NAME
A0900	ARMORE DRAIN	G2101	GRETENBURGER RELIEF DRAIN	N1300	NORTHWIND DRAIN
A2100	ADDISON DRAIN	H0300	HANNAH FARM DRAIN	O0200	OKEMOS PRESERVE DRAIN
B2804	BUTTON SPRING LAKES BRANCH DRAIN	H2100	HERRON CREEK DRAIN	O0400	OKEMOS DRAIN
B3600	BRIARWOOD DRAIN	H6200	HOSKINS DRAIN	O0900	OKEMOS TILE DRAIN
B4013	BANTA CONSOLIDATED DRAIN	I0200	INDIAN HILLS DRAIN	P1500	PROCTOR DRAIN
B5100	BIEBESHIEMER DRAIN	I0600	INDIAN LAKES DRAIN	R0100	RABY DRAIN
B5200	BENNETT DRAIN	I0602	INDIAN LAKES NO. 2 DRAIN	R1500	RIVERWOOD DRAIN AND BRANCHES DRAIN
C1000	CHIPPEWA HILLS DRAIN	I0603	INDIAN LAKES MAUMEE BRANCH DRAIN	S0200	SANCTUARY DRAIN
C0100	CIBA GEIGY DRAIN	K0400	KENT DRAIN	S2600	SPROSS DRAIN
D0202	DANIELS EXTENSION DRAIN	K1100	KINAWA VIEW DRAIN	S4520	SMITH CONSOLIDATED DRAIN
E0300	EBERLY DRAIN	M1700	MEADOWS DRAIN	S6000	SHAKER HEIGHTS DRAIN
E1600	EAST GATE DRAIN	M1800	MUD LAKE OUTLET DRAIN	T1800	SANDERS-TACOMA HILLS DRAIN
F0900	FOREST HILLS DRAIN	M2900	MELIERS DRAIN	T2100	TWYCKINGHAM DRAIN
G2100	GRETENBURGER DRAIN	N1200	NILSON DRAIN	U0200	UNRUH DRAIN

# Attachment 4

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## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/2770 Bennett City/County: Meridian Twp/Ingham Sampling Date: 05/18/2023  
 Applicant/Owner: Meridian Township State: Michigan Sampling Point: SP-A  
 Investigator(s): Elise Tripp Section, Township, Range: S29, T4N, R1W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR L Lat: 42.69746367 Long: -84.4527405 Datum: WGS84  
 Soil Map Unit Name: Colwood-Brookston loams (80% Hydric Rating) NWI classification: PSS1/EM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland A</u>
---	--

Remarks: (Explain alternative procedures here or in a separate report.)

### HYDROLOGY

#### Wetland Hydrology Indicators:

Primary Indicators (minimum of one 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 checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Microtopographic Relief (D4)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

#### Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:

**VEGETATION - Use scientific names of plants.**

Sampling Point: SP-A

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Salix nigra / Black willow</u>	10	Yes	OBL	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	10	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	0	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Typha latifolia / Broadleaf cattail, Broad-leaved cattail</u>	90	Yes	OBL	
2. <u>Phalaris arundinacea / Reed canary grass</u>	5	No	FACW	
3. <u>Cirsium arvense / Canada thistle</u>	3	No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	98	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>	
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)
<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species <u>100</u>	x 1 = <u>100</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>3</u>	x 4 = <u>12</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>108</u>	(A) <u>122</u> (B)
Prevalence Index = B/A = <u>1.13</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
<input checked="" type="checkbox"/> 3 - Prevalence Index ≤3.0 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Explain alternative procedures here or in a separate report.)





**VEGETATION - Use scientific names of plants.**

Sampling Point: SP-B

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Tree Stratum</b> (Plot size: <u>30'</u> )			
1. <i>Pinus strobus</i> / Eastern white pine	45	Yes	FACU
2. <i>Morus alba</i> / Mulberry, White mulberry	25	Yes	FACU
3. <i>Acer platanoides</i> / Norway maple	20	Yes	UPL
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	90	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )			
1. <i>Prunus serotina</i> / Black cherry	10	Yes	FACU
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	10	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Herb Stratum</b> (Plot size: <u>5'</u> )			
1. <i>Cirsium arvense</i> / Canada thistle	20	Yes	FACU
2. <i>Cirsium discolor</i> / Field thistle	20	Yes	UPL
3. <i>Barbarea vulgaris</i> / Yellow rocket	10	No	FAC
4. <i>Phalaris arundinacea</i> / Reed canary grass	10	No	FACW
5. <i>Typha latifolia</i> / Broadleaf cattail, Broad-leaved cattail	2	No	OBL
6. <i>Parthenocissus quinquefolia</i> / Virginia creeper	1	No	FACU
7. <i>Asclepias syriaca</i> / Common milkweed	1	No	UPL
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	64	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )			
1. <i>Vitis riparia</i> / River-bank grape	2	Yes	FAC
2. <i>Parthenocissus quinquefolia</i> / Virginia creeper	1	Yes	FACU
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	3	= 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: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>2</u>	x 1 = <u>2</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>12</u>	x 3 = <u>36</u>
FACU species <u>102</u>	x 4 = <u>408</u>
UPL species <u>41</u>	x 5 = <u>205</u>
Column Totals: <u>167</u> (A)	<u>671</u> (B)

Prevalence Index = B/A = 4.02

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

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

**Definitions of Vegetation Strata**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Explain alternative procedures here or in a separate report.)



# Attachment 5

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Wetland Adjacent to SP-A



Sampling Point SP-A



Upland Adjacent to SP-B



Sampling Point SP-B



Wetland A, Viewed from the South

**From:** [Jesko, Roxanne \(EGLE\)](#)  
**To:** [Caycee Hart](#)  
**Cc:** [Pierce, Jeff \(EGLE\)](#); [Watts, Claire \(EGLE\)](#); [mnurse@streamsideeco.com](mailto:mnurse@streamsideeco.com); [Fedewa, Chad \(DNR\)](#); [Gunderman, Brian \(DNR\)](#); [Deborah Guthrie](#); [Ingham County Soil Conservation](#); [Ingham County Health Department](#) ([CMerz@ingham.org](mailto:CMerz@ingham.org)); [ppratt@ingham.org](mailto:ppratt@ingham.org); [cclos@ingham.org](mailto:cclos@ingham.org)  
**Subject:** JPA - HQ6-PGSA-9FYV9 Public Notice for Meridian Township, Attn. Caycee Hart - Site Name: 33-2770 Bennett Rd-Okemos  
**Date:** Monday, June 9, 2025 3:25:17 PM  
**Attachments:** [image001.png](#)

---

The Michigan Department of Environment, Great Lakes, and Energy, Water Resources Division (WRD), has posted the following notice to the MiEnviro Portal home page. To make comments and view documents please click on the following link:

**[Public Notice - Details - MiEnviro Portal](#)**

Once the link is open, to view documents click the “Documents” button to view the Public Notice Announcement and the appropriate plans for the project. To leave a comment, please click on the “Add Comment” button. When inputting your comment please do not add any personal identification information (PII) concerning yourself or any other individual, into the comment box, including but not limited to email or telephone number.

The above link will expire 20 days from today’s date.

District Office: Lansing District Office  
WRD Contact: Claire Watts, [wattsc5@michigan.gov](mailto:wattsc5@michigan.gov)  
County: Ingham  
Public Notice Start Date: June 9, 2025  
Public Notice End Date: June 29, 2025  
Site Name: 33-2770 Bennett Rd-Okemos  
Application Submission Number: HQ6-PGSA-9FYV9  
Applicant: Caycee Hart  
Project Location: 2770 Bennett Road, Okemos  
TRS: [T04N, R01W, Section 29, Meridian Township, Ingham County, Michigan.  
Regulatory Authorities Under NREPA Part 303  
The applicant proposes to install a 307-foot-long by 9-foot-wide open boardwalk

Roxanne Jesko, Secretary  
Water Resources Division, Resource Unit  
Lansing District Office  
Department of Environment, Great Lakes, and Energy  
517-284-6665  
[Jeskor@michigan.gov](mailto:Jeskor@michigan.gov)  
**[Follow Us](#) | [Michigan.gov/EGLE](#)**



# Digital EGLE/USACE Joint Permit Application (JPA) for Inland Lakes and Streams, Great Lakes, Wetlands, Floodplains, Dams, Environmental Areas, High Risk Erosion Areas and Critical Dune Areas

version 1.43

(Submission #: HQ6-PGSA-9FYV9, version 4)

## Details

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Submission ID HQ6-PGSA-9FYV9

## Form Input

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### Instructions

[Click here](#) to download a copy or print these instructions (recommended).

### The EGLE/USACE "Joint Permit Application" (JPA)

---

#### **READ THOROUGHLY BEFORE STARTING THE FORM**

It is recommended to download a pdf of this page at [www.michigan.gov/jointpermit](http://www.michigan.gov/jointpermit) for reference while filling out the form. Please also refer to this website for additional information regarding this form, including a glossary and other helpful resources on information required to be submitted in this form.

This is the Joint Permit Application (JPA) for construction activities where the land meets the water. This application covers permit requirements derived from state and federal rules and regulations for activities involving:

- Wetlands
- Floodplains
- Marinas
- Dams
- Inland Lakes and Streams
- Great Lakes Bottomlands
- Critical Dunes
- High Risk Erosion Areas

This application prevents duplication of state and federal forms for these activities and provides concurrent review under all pertinent state and federal laws. In the case of U.S. Army Corps of Engineers (USACE) jurisdiction, the Michigan Department of Environment, Great Lakes, and Energy will also send a copy of this Joint Permit Application to the USACE for simultaneous processing. EGLE will provide coordination between state and federal agencies during the application review.

This application form is set up with the following sections to be completed by the applicant (note that it is recommended to gather all this information prior to starting this form):

#### **Contact Information:**

Applicant, Property Owner(s), Consultant(s), and any other Authorized Representative(s)

Authorizations are required from the property owner for:

- when the applicant is not the owner,
- when there is a consultant/representative for the applicant,

- when spoils disposal locations are not on site,
- when other permissions are necessary based on project specifics and are identified by the form.

**Project Location Information:**

Address, coordinates, and directions to the site, etc.

**Background Information:**

Existing site conditions, other related permits, existing easements/encumbrances, other related application numbers (pre-application meetings, Wetland Identification Program, etc.)

**Permit Application Category and Public Notice Information:**

This section asks what permit application category you believe fits your project. While this is not required to submit the application, knowing this will also help you submit the right permit application fee and avoid a correction request and processing delays.

The choices of permit application categories to select in the form are:

- [General Permit \(\\$50 fee\)](#)
- [Minor Project \(\\$100 fee\)](#)
- Public Notice Individual Permit, range from \$500-\$4,000 depending on type of activity. For High Risk Erosion Areas and Critical Dune Areas fees for Public Notice individual permit applications can range from \$50-\$4000.
  - Additional fees may be applied for some special project requirements such as hydraulic analysis, dam projects, and a special ex application in a critical dune area. See Fee Schedule on website for more information.
- Unsure, select this and the permit reviewer will make the determination on permit type after the application is submitted based on the project details. However, some fee is required to be submitted with the application. If an additional fee is required, EGGLE will send a correction request that will show the remaining amount required. The application will not be considered complete without the proper fee

Adjacent Landowner contact information for Public Notice projects is required by law. This includes any parcels touching the project parcel and parcels across the street.

**Project Description:**

Information on the Proposed Use and Purpose of the project (who and what the project is intended for and why is it needed). This includes a written summary of the project as well as a list of project uses and types to select from as follows:

**Project Use Selections:**

- Private
- Commercial
- Public/Gov/Tribal
- Federal/State Funded
- Non-Profit
- Other

**Project Type Selections:**

- Agriculture
- Airport
- Development- Condo/ Subdivision/Residential
- Development-Commercial/ Industrial
- Drain-County
- Drain-Private
- Drawdown
- Lake, Drawdown
- Wetland Forestry

- Landfill
- Marina/Mooring Facility
- Marine Railway
- Mining-Mineral,
- Mining-Sand and Gravel
- Private Residence
- Restoration-Wetland
- Restoration-Stream
- Transportation
- Septic System Surveying or Scientific Measuring Device
- Utility-Electrical, Fiber optic
- Utility-Oil and gas pipelines
- Utility-Sewer/water line
- Other

**Construction Details** including sequencing, timeframes, SESC measures, etc.

**Alternatives Analysis** detailing all options considered and why this is the least impactful feasible and prudent proposal. The depth of this analysis is typically commensurate with the size and purpose of the project and at minimum should include variables such as alternate locations (including other properties), configurations and sizes (layout and design), and methods (construction technologies), and other constraints (local regulations, resource issues). Discussion should also include why the “do nothing” alternative is not feasible or prudent.

**Project Compensation:**

Narrative of how proposed impacts will be compensated (mitigated or other minimization measures), including amount, location, and method; or why mitigation should not be required. This can be traditional mitigation and/or other techniques used to minimize overall loss of functions.

**Resource and Activity Type:**

This section is intended to determine what additional sections of the application are generated (as seen on the left side of the screen) for further information gathering. This includes questions regarding what Resource feature is involved (e.g., wetland, stream, floodplain, pond, dam, critical dune, etc.) and if there are identified Special Activities (i.e., activities requiring a specific series of questions to be answered). Be sure to choose all that apply to your project. If your activity is not listed, choose “None of the Above” and move on to the next question. More specific activity questions will appear later based on the resource section answers.

**Resource Information and Impacts Sections (Multiple Sections):**

These are a series of sections that will appear on the left side of the screen based on your answers to the Resource and Activity Types section. You will input further information on the existing resources to be impacted (e.g., wetland type, permanent or temporary impact, water elevation data, drainage area, etc.) and all proposed Project Activities with their Dimensions (e.g., length, width, depth, square footage). For example, when “Wetland” is selected as a resource that your project will involve, a “Wetland Project Information and Impacts” section will appear on the left side of the screen that includes questions specific to gathering information about the wetland.

**For projects including Floodplains, Marinas, Dams, Critical Dunes, or High Risk Erosion Areas**, individual sections will appear on the left side of the screen that include different sets of specialized questions as required by those programs. These sections do not share a specific format. Help tips will guide you in filling out these sections.

**For projects including wetlands, ponds, inland lakes, streams, or the Great Lakes resources**, individual sections will appear on the left side of the screen that are similar in format to each other. Each of these resource sections asks initial general information and then has additional questions regarding the Types of Activities proposed for each resource. The outline for these resource activity impacts questions is Activity Type, Dimensions Table, and Special Questions.

There are four overall “Types of Activities” groups for wetlands, ponds, inland lakes, streams or the Great Lakes:

- Fill Activities
- Dredge Activities
- Structure Activities
- Other Activities

Under each of these Types of Activity questions, specific activity lists will be shown that are typical for that type (fill, dredge, structure, other) and resource (wetland, lake, stream, etc). Follow these steps to accurately fill out the Activity Type Questions:

1. Start with the Fill question and choose any activities on the list that is included in your project. If your activity is not shown, then select "None of the Above" and move to the next question.
2. When you select an activity listed under Fill, Dredge, Structure, or Other, a dimensions table will appear under that question. This table where you enter EACH activity OF THE TYPE YOU SELECTED and associated dimensions. Be sure that all the activities you select are also listed in the table with the dimensions. Multiple activities covering the same footprint may be combined on one line in the table example, riprap on slopes of driveway fill can be entered on the same impact dimensions line and does not necessarily need to be broken out).
3. Continue to answer the Activity Type questions (Fill, Dredge, Structure, Other) until all have been answered with either a specific Activity listed under that Type or "None of the Above". If you did not find your activity in any list then select "Other, Other" and provide a description of your activity in the space that appears. Please be as descriptive as possible.

Proposed mitigation questions may appear within specific resource types sections based on your answers. Enter any proposed mitigation in the appropriate section (wetland, stream, etc.) and if no mitigation is proposed you must provide commentary with an explanation as to why it is not required. Mitigation plans according to the mitigation checklist ([link](#)) are required for a complete application. When mitigation is proposed be sure to also select mitigation in the Permit Application Type section under the second question.

In the above sections, uploads will be prompted as required by the answers to questions. These should be uploaded in these location (ex, mitigation plans should be uploaded in the mitigation section). Please do not wait to upload one large document with all plans combined at the end. Note that each individual upload is limited to 10M.

### **Upload of Proposed Site Plans:**

Any plans or explanatory narratives not requested in previous sections should be uploaded in this section. Construction Plans including overhead view, cross sections, and profiles showing each impact either to-scale or with dimensions are required and typically would be uploaded here. Plan labels should correspond with labels entered in the form for each activity selected. The application will not be complete without the proper site plans. If drawings are not received with all required dimensions and resources identified, then EGLE will send a correction request and your application processing will be delayed. However, please limit drawings, plans, and narratives submitted to the items necessary for permit review. For example, entire bid package documents and CAD drawings are often not helpful for permit review and may cause delays from wading through extraneous information. Plans, profiles and cross sections specific to the resource impacts are the most helpful.

### **USFWS Michigan Determination Key (DKey) Tool:**

For projects that propose impacts which require federal coordination, applicants are required to include a letter resulting from the USFWS Michigan Determination Key (DKey) tool for endangered species. Please submit your project proposal into the USFWS Information and Planning and Consultation (IPaC) system online, at <https://ipac.ecosphere.fws.gov/>, and follow the Michigan DKey process to obtain the output letter. For any other projects that have obtained a Michigan DKey output letter, it should be attached to the JPA in the attachments section. The following proposed impacts require the submission of the DKey letter:

- Major Discharges as follows:
  - Projects affecting one or more acre of wetland
  - New construction of breakwaters or seawalls with a total length of more than 1,000 feet
  - Enclosure of more than 300 feet of a stream in one or more segments
  - Relocation or channelization of more than 1,000 feet of a stream in one or more segments
- Projects with potential to affect endangered or threatened species as determined by the US Fish and Wildlife Service

### **Review:**

This section allows you to see the entire form with the answers you entered. Please review for accuracy prior to hitting the submit button. A print option is provided on this screen (print to PDF is recommended). Once the application is submitted you may not make changes to it until the application has been assigned to a staff person.

### **Certify & Submit:**

This is the final section of the application form. The "Submit Form" button selection certifies that all information in the application is true and accurate and that you have the authority to apply for the permit as indicated. This application will become part of public record.

We recommend that you have the above information ready prior to starting this application. You will be able to save in-progress applications and come back later, but all required uploads and questions are necessary before the system will allow submittal of the application. Some sections of this application form load faster than others depending on the complexity of the questions. Thanks for your patience while you work through the application.

For assistance with this form visit: <https://www.michigan.gov/jointpermit>.

## **Contact Information**

**Applicant Information (Usually the property owner)**

**First Name      Last Name**

Caycee              Hart

**Organization Name**

Meridian Township

**Phone Type    Number      Extension**

Business          5178534468

**Email**

hart@meridian.mi.us

**Address**

5151 Marsh Road

Okemos, MI 48864

**Is the Applicant the fee simple property owner? (Does the applicant have full and permanent ownership of the parcel, as well as any buildings on that parcel? )**

No

**Fee Simple Property Owner Contact Information**

**First Name      Last Name**

NONE PROVIDED    NONE PROVIDED

**Organization Name**

NONE PROVIDED

**Phone Type    Number    Extension**

NONE PROVIDED

**Email**

NONE PROVIDED

**Address**

2770 Bennett Road

Okemos, MI 48864

**Upload Attachment for Authorization from the Fee Simple Property Owners**

[signed pathway & wtr easment 2770 Bennett .pdf - 09/25/2024 02:32 PM](#)

**Comment**

NONE PROVIDED

**CORRECTION REQUEST (APPROVED)**

**Easement Authorization**

Please include easement authorization and contact info for 4009 Hulett Road as well since the project also spans this property. Created on 2/20/2025 9:48 AM by **Claire Watts**

**2 COMMENTS**

**Caycee Hart (hart@meridian.mi.us) (4/11/2025 4:13 PM)**

This is still in process and may take another month or so since we have to go through the School District Board. I am working on getting some written documentation from them in the meantime that shows their support of the project and states they are in the process of signing the easement. I will forward that to you once I have it.

**Caycee Hart (hart@meridian.mi.us) (2/20/2025 11:41 AM)**

We are currently working with Okemos Public Schools to obtain this easement. I will provide a copy of the executed easement once I have it.

**Has the applicant hired an agent or cooperating agency (agency or firm assisting applicant) to complete the application process?**

No

**Are there additional property owners or other contacts you would like to add to the application?**

No

**Project Location**

**EGLE Site Reference Number (Pre-Populated)**

-6453048692392252275

**Project Location**

42.6982804,-84.4526231

**Project Location Address**

2770 BENNETT RD  
OKEMOS, MI 48864

**County**

Ingham

**Is there a Property Tax ID Number(s) for the project area?**

Yes

**Please enter the Tax ID Number(s) for the project location**

29-300-014, 29-451-002

**Is there Subdivision/Plat and Lot Number(s)?**

No

**Is this project within Indian Lands?**

No

**Local Unit of Government (LUG)**

Meridian Township

**Directions to Project Site**

From the intersection of Hagadorn and Bennett Road, head east on Bennett Road approximately 1/2 mile. The project is located on the north side of Bennett Road. From Okemos Road, head west on Bennett Road. Travel through the roundabout at the intersection with Hulett Road and continue west on Bennett Road for approximately 1/4 of a mile. The project is located on the north side of Bennett Road.

**Background Information**

**Has the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and/or United States Army Corps of Engineers (USACE) conducted a pre-application meeting/inspection for this project?**

No

**Has the EGLE completed a Wetland Identification Program (WIP) assessment for this site?**

No

Environmental Areas are coastal wetlands on the shorelines of the Great Lakes. Enter this number only if a designated Environmental Area is in the proposed project area. Environmental Areas are designated locations along the Great Lakes shoreline. If you don't know whether there is an environmental area within the project area, leave blank. Additional information on Environmental Areas can be found by clicking the following link:

[Click Here for Link](#)

**Environmental Area Number (if known):**

NONE PROVIDED

**Has the United States Army Corps of Engineers (USACE) completed either an approved or preliminary jurisdictional determination for this site?**

No

**Were any regulated activities previously completed on this site under an EGLE and/or USACE permit?**

No

**Have any activities commenced on this project?**

No

**Is this an after-the-fact application?**

No

**Are you aware of any unresolved violations of environmental law or litigation involving the property?**

No

**Is there a conservation easement or other easement, deed restriction, lease, or other encumbrance upon the property?**

No

Are there any other federal, interstate, state, or local agency authorizations associated with this project?

Yes

List all other federal, interstate, state, or local agency authorizations.

Agency	Type of Approval	Number	Date Applied	Approved/Denied/Undetermined
Meridian Township	Variance	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
Ingham County Drain Commissioner	Drain Crossing	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
Ingham County Road Department	Right-Of-Way Permit	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED

### Comments

NONE PROVIDED

## Permit Application Category and Public Notice Information

### Project Category Selection:

The Permit Application Category you apply under is dependent on the type and scope of activities you are undertaking and the resources affected. There is a three-tier permitting process to aid in expediting permits for regulated activities that occur on wetlands, inland lakes and streams, and the Great Lakes (Parts 301, 303, and 325):

- General Permit
- Minor Project
- Individual Permit

Additionally, Minor Project categories exist for floodplains under the authority of Part 31.

General Permit and Minor Project categories generally meet specific Best Management Practices criteria that have been shown to minimize impacts to resources if followed correctly. If you select a General Permit or Minor Project Category, you must select the specific category(ies) that your project fits under. Any project that does not fit a General or Minor Category are Individual Permit projects. All projects in Critical Dunes, High Risk Erosion Areas, or Dam Safety projects will be Individual Permit Projects.

- [Link to General Permit Categories with Descriptions](#)
- [Link to Minor Project Categories with Descriptions](#)
- [Link to Minor Project Category Descriptions for Floodplain Only Projects \(See R323.1316\)](#)

Indicate the type of permit being applied for.

Individual Permit for all other projects

This type of permit application requires that you include contact information for the adjacent landowners to this project. If you are only entering in a small number of bordering parcel owners contact information, please select "Enter list of recipients". If there is a rather large number of affected property owners such as a project that significantly affects lake levels, please upload a spreadsheet of the property owners. Please include names and mailing addresses.

Upload a list.

### Uploads/Attachments

List of Neighbors.docx - 10/31/2024 09:17 AM

#### Comment

NONE PROVIDED

## Project Description

**Project Use: (select all that apply - Private, Commercial, Public/Government/Tribal, Receiving Federal/State Transportation Funds, Non-profit, or Other)**

Public/Government/Tribal

**Project Type (select all that apply):**

Drain - County  
Transportation

Please enter your answers in the text box for the next four questions. If you have a long description, please use the document upload at the end of the section. Please make every effort to enter your information directly into the application text boxes. If the answer is in an attachment, please identify that in the text box below.

**Project Summary (Purpose and Use): Provide a summary of all proposed activities including the intended use and reason for the proposed project.**

The proposed pathway will fill a gap in the existing pathway network on Bennett Road. In order to fill this pathway gap there will be a total of 140 linear feet of 7' wide concrete pathway that will be constructed outside of the wetland boundaries and 335 linear feet of timber boardwalk that will be constructed within the wetland. The decking of the boardwalk will be a total of 9' wide but inside the railings the clear walking space will be approximately 8.5'. This is a non-motorized trail that will allow residents to walk or bike on this pathway. Vehicles are not allowed on this trail, with the exception of vehicles used to maintain the trail such as for snowplowing. The proposed timber boardwalk will be supported by structural piles in order to limit impacts to the wetland.

**CORRECTION REQUEST (APPROVED)**

**Project Purpose**

It appears that this is one segment of a larger project, please include the entire Meridian Township Pathway Masterplan to be reviewed for resource impacts. Also for this specific crossing, the number shown here differs from the total length of fill shown in latter tables. Please clarify which value is correct.

Please also describe the purpose that the proposed detention basin serves next to the pathway.

Created on 10/22/2024 4:09 PM by **Claire Watts**

**1 COMMENT**

**Caycee Hart (hart@meridian.mi.us) (10/31/2024 10:12 AM)**

This proposed pathway is a stand alone project but it will be tying into existing pathways that have already been constructed. Based on historic aerial imagery the existing pathway to the east of proposed project was built somewhere between 1985 and 1999. The existing pathway to the west of this project was built this fall (October 2024) and was part of the Silverleaf Condominium Development and the pathway that was built with this project did not have any impacts to existing wetlands.

The length of the pathway was incorrectly stated in the project summary and has been corrected.

The purpose of the swale has been added to the project summary.

**Project Construction Sequence, Methods, and Equipment: Describe how the proposed project timing, methods, and equipment will minimize disturbance from the project construction, including but not limited to soil erosion and sedimentation control measures.**

Please see the SESC plan located in the Construction Drawings for an explanation of the sequence of construction.

**CORRECTION REQUEST (APPROVED)**

**Construction Sequence**

Will dewatering be necessary to install boardwalk beams? If so, include this in your construction sequence and show proposed pumps and dewatering area on plans.

Created on 3/25/2025 2:05 PM by **Claire Watts**

**1 COMMENT**

**Caycee Hart (hart@meridian.mi.us) (4/7/2025 8:37 AM)**

Dewatering will not be necessary to install the boardwalk.

**CORRECTION REQUEST (APPROVED)**

**Construction Sequence**

Clarify the following information in your construction sequence in MiEnviro:

- 1) describe the location ,type, and size of temporary access proposed and what purpose it serves,
- 2) proposed timeframe for temporary access,
- 3) will riprap be proposed around stormwater outfalls
- 4) it look like there is existing stormwater outfall at cross section 3, will this be removed or utilized for the project

Created on 10/22/2024 4:33 PM by **Claire Watts**

**1 COMMENT**

**Caycee Hart (hart@meridian.mi.us) (10/31/2024 2:47 PM)**

- 1) The location of the construction entrance is shown on the SESC plan. Dimensions have been added to this plan, it will be 50' long by 20' wide. The material of the construction entrance will be 2-3 inch washed aggregate (stone or crushed concrete). The purpose is to prevent sediment from leaving the site and to provide a defined ingress/egress location for construction vehicles.
- 2) The timeframe for the temporary access will be the duration of the construction which is anticipated to last 2-3 weeks. Once soil is stabilized and there is not a need for construction vehicles to access the site the construction entrance will be removed.
- 3) Rip rap is proposed around the outlet of Storm Pipe 3.
- 4) The existing 12" pipe that currently outfalls to the wetland will remain in place. We will propose a manhole structure at the end of it and propose a new 12" pipe on the north side (Storm Pipe 2) that will go through the proposed sheet pile retaining wall and outlet to the wetland. We are proposing to extend the existing 12" pipe so that we maintain the existing drainage pattern.

**Project Alternatives: Describe all options considered as alternatives to the proposed project, and describe how impacts to state and federal regulated waters will be avoided and minimized. This may include other locations, materials, etc.**  
Please see the uploaded alternative analysis.

**CORRECTION REQUEST (APPROVED)**

**Alternatives Analysis- Boardwalk**

This project is close to meeting General Permit category requirements which is considered a feasible and prudent alternative if met. This would reduce impacts, time, and resources needed for the project. Please expand in the alternatives analysis why the boardwalk was the least impactful option for the project and provide more information for the following:

1. Is it possible to limit a section of boardwalk to 6 feet wide in some areas of the project? The GP category describes that widening the boardwalk for wheelchair passage is possible under this permit category at 150 foot increments. Please also provide ADA literature/guidance used to determine appropriate boardwalk width.
2. Please provide justification for railing usage for the proposed boardwalk.

The General Permit requirements can be reviewed here: <https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/WRD/Wetlands/General-Permit-Categories.pdf?rev=e7fc28cb17e14c7b821b7595f6aa585d&hash=490A504F4063BC141104F8DDDCAF70AE>  
Created on 3/25/2025 11:26 AM by **Claire Watts**

**1 COMMENT**

**Caycee Hart (hart@meridian.mi.us) (4/11/2025 3:56 PM)**

1. Please see the revised alternatives analysis that explains why we can not use a 6' wide boardwalk for this project. I could not find any specific literature from ADA on boardwalks. However, I did find a document from Michigan DNR regarding the design of recreation facilities that exceeds ADA requirements. It mentions having a wider width boardwalk to allow for passing. This document can be found here <https://www.michigan.gov/dnr/-/media/Project/Websites/dnr/Documents/Grants/Spark/UniversalAccessibilityGuidance.pdf?rev=2b9410c9f84b4ab5af77d7f8f60b6865&hash=071D0E226053E93ED190FEFEE6C4D9B9>

2. Per ADA and International Building Code requirements if the platform elevation is 40 inches or greater than the adjacent grade then a railing is required. Our boardwalk will exceed this threshold and will require railing.

**CORRECTION REQUEST (APPROVED)**

**Alternatives Analysis**

Provide more detail on continuing the walking path from the existing concrete pathway and why this would not be a feasible alternative to reduce impacts.

The cost estimate for the boardwalk is proposing work for 950 linear feet, however the proposed plan only spans 300 linear feet. Please include a cost estimate for only boardwalk segments through wetland.  
Created on 10/22/2024 4:03 PM by **Claire Watts**

**1 COMMENT**

**Caycee Hart (hart@meridian.mi.us) (10/31/2024 3:42 PM)**

The alternatives analysis has been updated to provide more information regarding the proposed location of the pathway. The quantities have been corrected to reflect only the quantities that are located within the wetland.

**Project Compensation: Describe how the proposed impacts to state and federal regulated waters will be compensated, OR explain why compensatory mitigation should not be required for the proposed impacts. Include amount, location, and method of compensation (i.e., bank, on-site, preservation, etc.)**

The proposed boardwalk will be supported by structural piles which will limit the impacts to the wetland.

**Upload any additional information as needed to provide information applicable to your project regarding project purpose sequence, methods, alternatives, or compensation.**

[04-11-2025 Alternatives Analysis.pdf - 04/11/2025 03:48 PM](#)

**Comment**

NONE PROVIDED

**Resource and Activity Type**

**SELECT THE ACTIVITIES** from the list below that are proposed in your project (check ALL that apply). If you don't see your project type listed, select "Other Project Type". These activities listed require additional information to be gathered later in the application.

Other Project Type

**The Proposed Project will involve the following resources (check ALL that apply).**

Wetland

**Major Project Fee Calculation Questions**

**Is filling of 10,000 cubic yards or more proposed (cumulatively) within wetlands, streams, lakes, or Great Lakes?**

No

**Is dredging of 10,000 cubic yards (cumulatively) or more proposed within streams, lakes, or Great Lakes? (wetlands not included)**

No

**Is new dredging or adjacent upland excavation in suspected contamination areas proposed by this application?**

No

**Is a subdivision, condominium, or new golf course proposed?**

No

**Wetland Project Information and Impacts**

**Please Read:**

This section is for entering information regarding the impacts to **Wetlands** only. Do not input information that pertains to other resources (inland lakes, streams, floodplains, etc.). The initial questions are related to wetlands on the project site in general. The Proposed Activities questions are grouped into Fill, Dredge, Structures, Other and are only for wetland impacts related to these activities.

[Click HERE for more information on Wetlands Protection Program.](#)

**Has a professional wetland delineation been completed for this site?**

Yes

**Attach a copy of wetland delineation report with data form.**

LT RPT\_Meridian\_Wetland Delineation\_2023\_0613\_FNL.pdf - 09/16/2024 03:54 PM

**Comment**

NONE PROVIDED

**Total acres of wetland affected by this project.**

Category	Affected area (acres)
Permanent	.000803
Temporary	0
	Sum: 0.000803

**CORRECTION REQUEST (APPROVED)**

**Wetland Impacts- Boardwalk**

It appears that you are proposing to place the boardwalk in wetland. This is considered a wetland impact and will need to be documented in this table regardless of whether mitigation takes place.

Created on 3/25/2025 10:55 AM by **Claire Watts**

**2 COMMENTS**

**Claire Watts (wattsc5@michigan.gov) (5/28/2025 9:27 AM)**

Actual impact from board walk usage is 0.063 ac since the boardwalk is occupying wetland area from access/usage, and not just the posts going into the ground.

**Caycee Hart (hart@meridian.mi.us) (4/7/2025 9:10 AM)**

This is the cumulative acreage of impact from the 63 piling/beams that will support the boardwalk and is located in the wetland.

**NOTE (CREATED)**

**Wetland Impact Table**

It seems like some of the width measurements shown here are wider than the proposed wetland area, which then produces a different amount of acreage impacted. Please review the calculations and update this table accordingly.

Created on 2/20/2025 10:26 AM by **Claire Watts**

**Is filling or draining of 1 acre or more (cumulatively) of wetland proposed?**

No

**CORRECTION REQUEST (APPROVED)**

**Impacts at or more than 1 acre of wetland**

The proposed project does not appear to impact more than one acre of wetland. You will need to deselect this option.

Created on 3/25/2025 10:56 AM by **Claire Watts**

**Select all wetland types that will be affected by this project:**

Unknown

**Type of Activities:**

The following questions gather information on the specific Types of Activities your project includes that will impact **WETLANDS**.

There are four overall Types of Activities: Fill, Dredge, Structure, Other. Under each of the Activity Type questions, specific activity lists will be shown. If the activity is not shown in the list given, select None of the Above and move to the next question. When you select an activity under Fill, Dredge, Structure, or Other, a table will appear under that type. Only enter the dimensions of the activity that are within wetland. Multiple activities covering the same footprint may be combined on one line in the table. Continue to answer the Activity Type questions (Fill, Dredge, Structure, Other) until all have been answered with either a specific Activity listed under that Type or "None of the Above". If you did not find your activity in any list then select "Other, Other" and provide a description of your activity.

**If your project includes placing fill in wetland then select the proposed activities from the following list. If your activity is not shown, then select  None of the Above  and move to the next question. Only enter an impacted area in one of the impact tables (do not duplicate impact entries):**

None of the above

**Select from the following list for Excavation/Dredge Activities (if your proposed project is primarily a structure enter the impact as a structure. Only enter an impacted area in one of the impact tables in one impact section):**

None of the above

**If your project includes STRUCTURES IN WETLAND then select all of the proposed activities in the following list. If your activity is not shown, then select  None of the Above  and move to the next question. Only enter an impacted area in one of the impact tables (do not duplicate impact entries):**

Boardwalk

**Projects involving Structures:**

Activity	Length (feet)	Width (feet)	Depth (feet)	Area (Sq. feet)	Volume (cubic feet)	Volume (cubic yards)	Corrected value for complex impact AREAS (square feet)
Boardwalk	307	9	1.25	2763	3453.75	128	0
				Sum: 2763	Sum: 3453.75	Sum: 128	Sum: 0

**CORRECTION REQUEST (APPROVED)**

**Structures Table**

Please review and confirm proposed impacts. The length and depth of the project are not commensurate with what is shown in the plans. Please only include dimensions in the wetland area and not the entire project which includes unregulated upland areas.

Created on 3/25/2025 12:00 PM by **Claire Watts**

**1 COMMENT**

**Caycee Hart (hart@meridian.mi.us) (4/7/2025 9:22 AM)**

The table has been corrected to reflect only the boardwalk that is located over the wetland.

**NOTE (CREATED)**

**Culvert Width for General Permit category**

Typically, General Permit category T (walkways) will also incorporate General Permit category H (wetland equalizer culverts) into the

plan to facilitate surface flow. Currently, the 12" culverts do not meet the GP category H requirements and would make this a public notice project. Please try to meet GP H requirements to minimize wetland impacts and facilitate more surface flow.  
Created on 10/22/2024 4:55 PM by **Claire Watts**

**Is the structure proposed on pilings or fill or both?**

Pilings

**How high above the ground is the bottom of the structure?**

2.66

**CORRECTION REQUEST (APPROVED)**

**Height from Ground**

Looking at the submitted cross section, it appears the boardwalk will be elevated higher than what is listed here. Please review the cross section and values here and confirm which is correct.

Created on 3/25/2025 11:43 AM by **Claire Watts**

**1 COMMENT**

**Caycee Hart (hart@meridian.mi.us) (4/11/2025 3:58 PM)**

This has been corrected. The bottom of the boardwalk structure where it connects to the piers is 2.66' above the ground. However the top of the decking where pedestrians will walk is 4.5' above the ground.

**If your project includes Other Activities in WETLAND not listed in this section, then select from the proposed activities in the following list. If your activity in Wetland has not been listed in this Wetland Section, then select  Other  and enter a description of your activity. Only enter an impacted area in one of the impact tables (do not duplicate impact entries). If you selected a Fill, Excavation/Dredging, or Structure activity above in this section, but do not have an activity listed as Other, then select None of the Above for this question.**

None of the above

**Wetland Mitigation**

EGLE may impose as a condition of any wetland permit, other than a General permit, a requirement form compensatory mitigation. The wetland mitigation requirement may be waived for projects affecting less than one-third of an acre of wetland if no reasonable opportunity for mitigation exists.

Mitigation plans according to the mitigation checklist (link) are required for a complete application

[Wetland Mitigation Information](#)

**Is Wetland Mitigation being proposed as part of this proposed project?**

No

**Explain why no mitigation is proposed.**

There are no impacts proposed.

**NOTE (CREATED)**

**Wetland Mitigation**

This statement is incorrect. Impacts are proposed for the project since a new structure and soil disturbance will still occur in regulated wetland. I am unsure if the township will still need to pursue mitigation for this project, but EGLE considers the updated boardwalk project as proposing impacts.

Created on 3/25/2025 11:59 AM by **Claire Watts**

**Upload of Proposed Site Plans**

**Does your project include any one or more of the following: impacts to one or more acres of wetland, new construction of a breakwater or seawall with a total length more than 1,000 feet, a stream enclosure of greater than 300 feet in one or more segments, or relocation or channelization of a stream more than 1,000 feet in one or more segments? Also select "YES" for any other project that requires federal coordination.**

No

If you have obtained a letter resulting from the USFWS Michigan Determination Key (DKey) tool for endangered species, please attach the letter below.

USFWS Information and Planning and Consultation (IPaC) system can be found online at <https://ipac.ecosphere.fws.gov/>.

**Upload the Michigan DKey Output Letter**

NONE PROVIDED

**Comment**

NONE PROVIDED

**REQUIRED Application, Maps, and Drawings:**

- Overall Project Site Plan
- Cross-Sectional Drawings

For Part 315 Dam Safety applications attach detailed signed and sealed engineering plans for a Part 315 dam repair, dam alteration, dam abandonment, or dam removal.

[Examples site plan and cross-sectional drawings](#)

[For additional information on maps, drawings, and other attachments visit michigan.gov/jointpermit](#)

**Required on all Site Plan uploads. Please identify that all of the following items are included on your plans that you upload with this application.**

Site Plan Features	Existing and Proposed Plan Set
Scale, Compass North, and Property Lines	Yes
Fill and Excavation areas with associated amounts in cubic yards	Yes
Any rivers, lakes, or ponds and associated Ordinary High Water Mark (OHWM)	N/A
Exterior dimensions of Structures, Fill and Excavation areas associated with the proposed project	Yes
Dimensions to other Structures and Lot Lines associated with the project	Yes
Topographic Contour Lines from licensed surveyor or engineer when applicable	Yes

**Upload Site Plans and Cross Section Drawings for your Proposed Project**

[Schultz Pathway - Construction Drawings.pdf - 04/11/2025 04:15 PM](#)

**Comment**

NONE PROVIDED

**CORRECTION REQUEST (APPROVED)**

**Cross section plans**

Please include the following information in your cross section plans:

1. Show cross section for eastern most stormwater pipe next to mitigation area
2. If riprap is proposed around outfalls, show this in plans and include dimensions
3. Cross section 3 shows an existing stormwater pipe, clarify whether this structure will remain or if this is a proposed structure
4. Show wetland boundaries in cross section plans

Created on 10/22/2024 4:58 PM by **Claire Watts**

**4 COMMENTS**

**Caycee Hart (hart@meridian.mi.us) (4/11/2025 4:01 PM)**

1. The profile on page 5 has been updated to show the pilings.
2. The OHWM and average water level has been added to the profile.
3. The proposed grade is labeled on the profile and is shown as a continuous black line. The existing ground elevation is shown as a grey dashed line. A suitable fill such as a class II granular material or asphalt millings will be placed in the areas that require fill. There is no fill planned within the wetland boundaries.

**Claire Watts (wattsc5@michigan.gov) (3/25/2025 11:57 AM)**

It appears that your project has changed from pathway to boardwalk but has kept a similar footprint.

Please include the following in your cross section plans:

1. Show proposed boardwalk pilings and beams on pg 5 of cross sections.
2. Show OHWM and average water level on pg 5 of plans.
3. Clarify proposed grade on page 5 of plans, its not clear what is the existing and proposed grade. Also clarify what material will be placed between the blue and dotted lines on this page.

**Claire Watts (wattsc5@michigan.gov) (1/30/2025 4:32 PM)**

Thank you for addressing the above questions. Please also show the Ordinary High Water Mark and average water level in your cross section plans.

**Caycee Hart (hart@meridian.mi.us) (11/4/2024 2:13 PM)**

- 1) A cross section for "Storm Pipe 3" has been added to the plan set.
- 2) Rip Rap is proposed at the outlet of Storm Pipe 3. Dimensions have been added to the Site Plan.
- 3) There is an existing 12" storm pipe that currently runs underneath Bennett Road. This pipe will remain in place and we are proposing a manhole at the end of this pipe and then an additional 12" storm pipe (Storm Pipe 2) will be constructed to convey the

flow through the sheet pile wall to the wetland. We are extending this existing 12" pipe in order to keep the existing drainage patterns in place.

4) The wetland boundaries have been added to the cross sections.

**CORRECTION REQUEST (APPROVED)**

**Overhead Plans**

Please include the following into your overhead plans:

1. Show temporary impacts on overhead plans and if any timber matting will be used.
2. Show excavation and fill areas for proposed project on separate pages or in different colors.
3. Include legend of all types of work conducted/lines used in plans
4. Provide reference measurements to neighboring properties
5. Show dewatering route and proposed dewatering bags

Created on 10/22/2024 4:32 PM by **Claire Watts**

**1 COMMENT**

**Caycee Hart (hart@meridian.mi.us) (11/4/2024 2:06 PM)**

- 1) Temporary impacts are not anticipated. The sheet pile will be driven down into the wetland. Only permanent impacts will occur on the south side of the retaining wall. A Phase I SESC Plan has been added to the plans that shows the timber matting that will be used while the sheet pile retaining wall is constructed.
- 2) An earthwork exhibit has been added to the end of the plan set that shows the cut and fill areas of the project.
- 3) Legends have been updated throughout the plan set.
- 4) Measurements from the pathway to the property lines have been added to the Site Plan.
- 5) The dewatering route and proposed dewatering bags have been added to the Phase I SESC plan.

**Additional Required and Supplementary Documents**

NONE PROVIDED

**Comment**

NONE PROVIDED

**Fees**

Individual Permit Fee:
+\$500.00

**Total Fee Amount:**

\$500.00

**Is the applicant or landowner a State of Michigan Agency?**

No

**Revisions**

Revision	Revision Date	Revision By
Revision 1	9/16/2024 3:32 PM	Caycee Hart
Revision 2	10/31/2024 8:43 AM	Caycee Hart
Revision 3	2/20/2025 11:38 AM	Caycee Hart
Revision 4	4/4/2025 2:05 PM	Caycee Hart

WI PROPERTIES LLC  
1280 SEBEWAING ROAD  
OKEMOS, MI 48864

BENNETT ROAD HOLDING LLC  
1650 KENDALE BLVD, STE 200  
EAST LANSING, MI 48823

OKEMOS PUBLIC SCHOOLS  
4407 N OKEMOS ROAD  
OKEMOS MI 48864

JONES PROPERTY DEVELOPMENT L L C  
%ALTMAN & GREENFIELD & SELVAGGI  
10960 WILSHIRE BLVD STE 1900  
LOS ANGELES, CA 90024-3805

**Schultz Pathway Project Purpose**

To construct a pathway that will provide connectivity between the Silverleaf Condominium development and the existing pathway that is located along Bennett Road. The developer for the Silverleaf Condominium is building a pathway starting at their development and stubbing the east side of the driveway to the [Schultz Veterinary Clinic](#). Our project proposes to construct a 7' pathway and 9' wide boardwalk that will connect the newly stubbed pathway to the existing 7' pathway that is located approximately 275' east of the Schultz driveway. The pathway proposed with this application is critical to close the gap in the pathway system on Bennett Road. The figure below is a snippet from [Meridian Township's Pathway Masterplan](#) which shows the existing pathway networks in blue and the proposed pathways in red. With the development of the proposed pathway we will be filling a gap and providing greater connectivity for our residents.

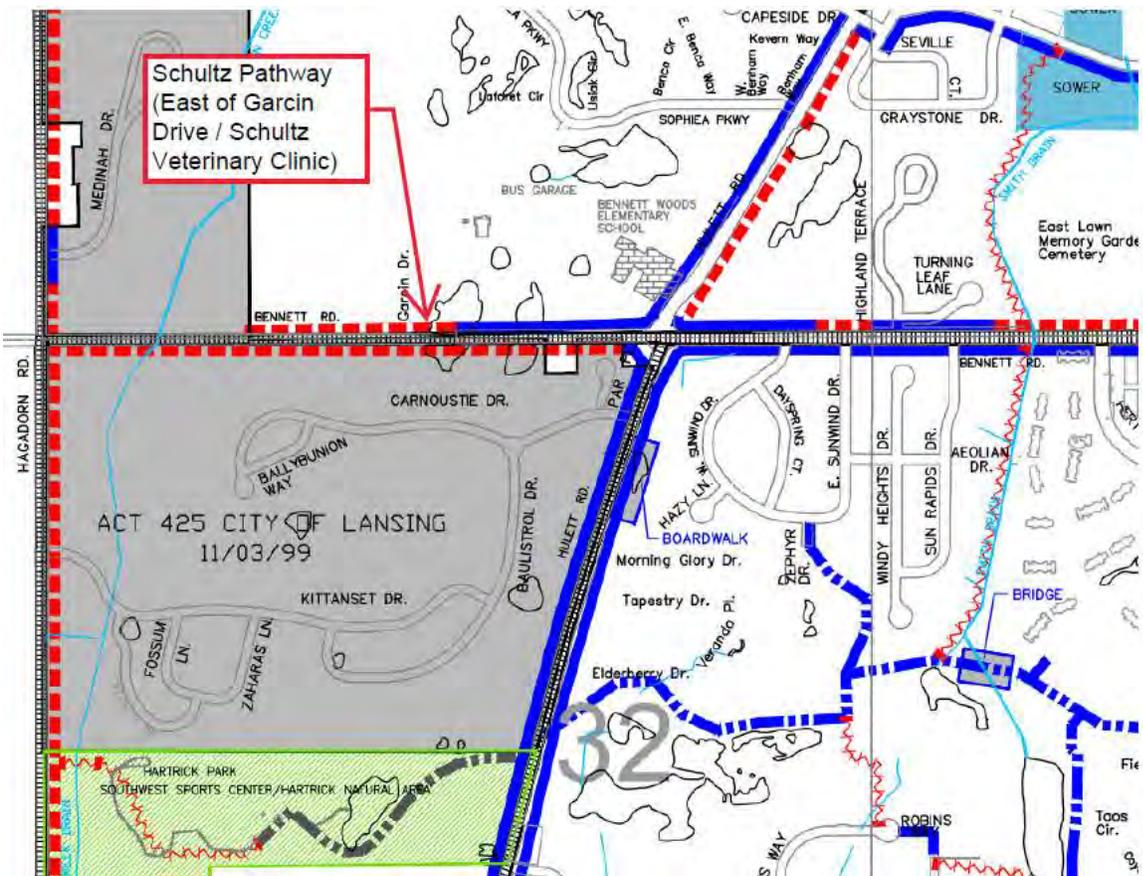


Figure 1: Pathway Master Plan Snippet



## Department of Public Works

5151 Marsh Road  
Okemos, MI 48864  
517.853.4440  
dpw@meridian.mi.us

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### **Alternative Location Analysis**

An alternative location for this pathway that would eliminate wetland impacts would be to construct that pathway directly adjacent to the shoulder of the road. In order to have the pathway in this location it would need to be at an elevation lower than the road in order to allow drainage to pass over the pathway and continue to the wetland. It would also need to be located within 2-3' of the existing edge of pavement. Bennett Road does not have curb in this section so the only barrier between the pathway and road would be a few feet of greenspace that is sloped down from the road to the pathway. The proposed pathway/boardwalk will be located 23-43' from the edge of the pavement which will give a good amount of buffer space between motorists and pedestrians. The location of the proposed pathway was chosen in order to maximize the safety of the pedestrians/cyclist, many of whom will be students who attend Bennett Woods elementary school. Although extending the existing pathway along the shoulder of the road would be the easiest and cheapest option in terms of construction and permitting, the Township is proposing an option that will enhance the safety of pedestrians/cyclists.

### **Alternative Method Analysis**

An alternative method that would increase wetland impacts would be to construct the concrete pathway across the wetland. This alternative would involve filling in the wetland and installing sheetpile along the northside of the pathway to retain it above the wetland. This alternative method has been considered and has been ruled out due to proposed conflicts with the Hoskins Drain.

An additional alternative is to reduce the boardwalk width to 6' wide so that it meets the general permit requirements. We have opted to pursue a 9' wide boardwalk that will require an individual permit for various reasons. This boardwalk will be used by both pedestrians and bikers. By providing a wider boardwalk we are providing more room for safe passing. This boardwalk will also be heavily utilized by school children so by giving them a wider birth it should reduce collisions. With the proposed 9' wide boardwalk we will be providing about 8' of walking space after you factor in the railings on each side. The 6' wide boardwalk would provide about 5' of walking space. When designing pathway facilities that have obstructions on both sides such as railing or retaining walls we design the pathway with a minimum of 8'. This provides adequate room for passing as previously mentioned



## Department of Public Works

5151 Marsh Road  
Okemos, MI 48864  
517.853.4440  
[dpw@meridian.mi.us](mailto:dpw@meridian.mi.us)

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but it also provides our Parks Department with enough room to perform snow removal operations. The Parks Department will utilize our UTVs to plow this boardwalk. The typical width of UTVs are about 60-65 inches which would be too large use on the 6' wide boardwalk. Additionally, the permanent wetland impacts of a 6' wide boardwalk versus a 9' wide boardwalk will be the same because both boardwalks will be supported by the same number of pilings.

## GRANT OF EASEMENT

WI Properties, LLC, a Michigan Limited Liability Company, whose address is 2770 Bennett Rd, Okemos, MI 48864 ("Grantor"), hereby grants to the CHARTER TOWNSHIP OF MERIDIAN, a Michigan Municipal Corporation, whose address is 5151 Marsh Road, Okemos, Ingham County, Michigan ("Grantee"), a perpetual easement for the construction, operation, maintenance, enlargement, reconstruction, repair and/or replacement and use of a ***WATER MAIN and NON-MOTORIZED PATHWAY***, and related wires, cables, conductors, anchors, pipes, devices, appliances and facilities over, on, under, through and across Grantor's land located in the Township of Meridian, County of Ingham, and State of Michigan, more particularly described as:

**PROPERTY ADDRESS:** 2770 Bennett Rd, Okemos, MI 48864  
**PARCEL NUMBER:** 33-02-02-29-300-014

**LEGAL DESCRIPTION:** M 29-15-3- BEG AT S 1/4 COR SD SEC 29 -W ON S SEC LN 200 FT -N 0 DEG 18'55"W, 60.77 FT -ON CURVE LEFT 174.36 FT HAVING A 333 FT RAD & A CHD OF 172.37 FT. BRG N 15 DEG 18'55"W, -N 30 DEG 18'55"W, 175.77 FT -N 49 DEG 08'47" E, 114 FT -N 79 DEG 14'28"E, 250 FT TO NS 1/4 LN -S 0 DEG 18'55"E, 500 FT ON 1/4 LINE TO POB. SEC 29 T4NR1W 2.73 AC M/L

The location or placement of the easement within Grantor's above-described land shall be as follows:

### **EASEMENT DESCRIPTION:**

A TRACT OF LAND LYING IN THE SOUTHWEST 1/4 OF SECTION 29, TOWNSHIP 4 NORTH, RANGE 1 WEST, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN, WHICH IS DESCRIBED AS COMMENCING AT SOUTH 1/4 CORNER OF SAID SECTION 29; N 0°18'55" W 33.00 FEET ALONG THE NORTH-SOUTH 1/4 LINE OF SECTION 29 TO THE POINT OF BEGINNING (P.O.B.) OF SAID TRACT; THENCE CONTINUING N 0°18'55" W 17.00 FEET ALONG SAID NORTH-SOUTH LINE; THENCE S 89°41'5" W 200.00 FEET; THENCE S 0°18'55" E 17.00 FEET; THENCE S N 89°41'5" E 200.00 FEET TO THE P.O.B. WITH AN AREA OF ABOUT 3,340 SQUARE FEET.

This Easement shall run with the land, and burden the above-described property.

Pursuant to this Grant of Easement, Grantor hereby grants and conveys to the Grantee all of the Grantor's right, title and interest in the landscaping, buildings, and improvements located in the easement described herein.

Grantor grants to the Grantee, its successors and assigns, the perpetual right to enter upon the above-described real estate at any time as it may see fit to construct, operate, repair, maintain, enlarge, reconstruct and replace the line, pipes and facilities on, over, under, through and across the lands herein before described, together with the right to excavate and refill ditches and/or trenches for the location of such lines, pipes and facilities in, over and upon the above described property, and to enter upon sufficient land adjacent to said easement for such purposes. This easement shall be irrevocable and exclusive, however, Grantor and Grantor's successors and assigns of the above described parcel may use and enjoy the easement area for purposes not inconsistent with the easement rights herein granted to Grantee, provided such use and enjoyment does not unreasonably interfere with the Grantee's use of the easement granted by this instrument. Grantor, its successors and assigns, agree not to construct any buildings or permanent improvements within the easement area. Non-use or a limited use of this easement by Grantee shall not prevent Grantee from later making use of the easement to the full extent conveyed.

This easement is granted for the sum of \$1.00, the receipt and sufficiency of which is hereby acknowledged. This Grant of Easement is exempt from transfer tax under MCLA 207.505(a), and exempt from state transfer tax under MCLA 207.526(a).

This easement shall be binding upon and inure to the benefit of the heirs, successors and assigns of the Grantor and Grantee. Grantor covenants with Grantee that Grantor is lawfully seized and possessed of the real estate above described, that Grantor has a good and lawful right to convey the real estate, that the real estate is free of all encumbrances, and that Grantor will forever warrant and defend title thereto against the lawful claims of all persons whatsoever.

IN WITNESS WHEREOF, the undersigned have hereunto set their hands and seals on the dates appearing in their respective acknowledgements set forth below.

GRANTOR(s):

sign: [Signature]  
print: THOMAS K. SCHULTZ  
title: Member

sign: [Signature]  
print: William E. Schultz  
title: Member

address: 2770 Bennett Rd  
Okemos, MI 48864

STATE OF MICHIGAN )  
                                  ) ss.  
COUNTY OF INGHAM )

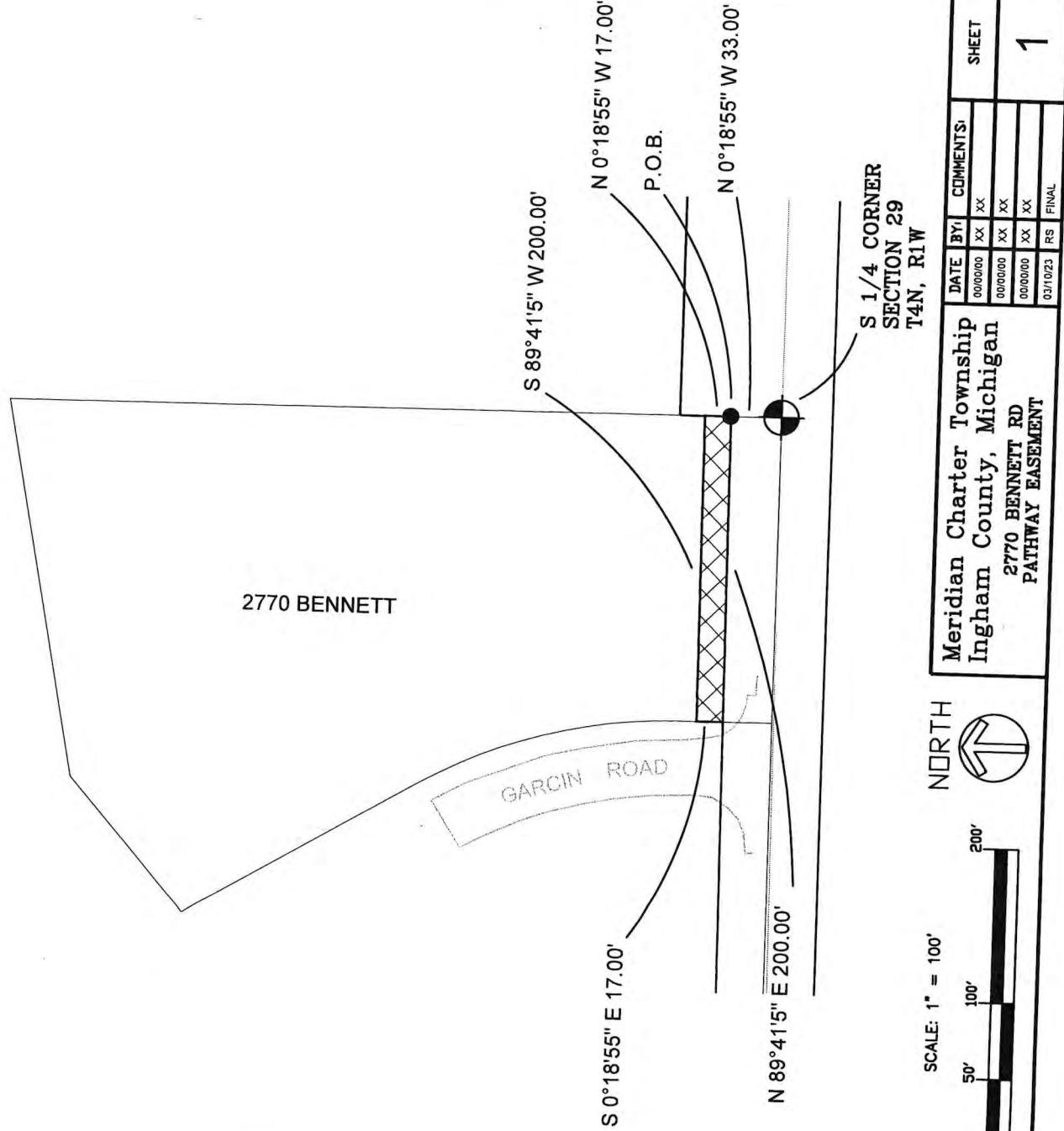
Acknowledged before me in Ingham County, Michigan, on March 16, 2023,  
by Ingrid Schultz, William Schultz of WI Properties, LLC, a Michigan Limited  
Liability Company.

[Signature]  
ROBIN FAUST  
CLERK  
Notary Public, Ingham County, Michigan  
My Commission Expires: 02-14-2028  
Acting in Ingham County

Drafted by and return to:  
Ryan Schaner  
Meridian Township  
Public Works & Engineering  
5151 Marsh Road  
Okemos, MI 48864

**EASEMENT DESCRIPTION:**

A TRACT OF LAND LYING IN THE SOUTHWEST 1/4 OF SECTION 29, TOWNSHIP 4 NORTH, RANGE 1 WEST, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN, WHICH IS DESCRIBED AS COMMENCING AT SOUTH 1/4 CORNER OF SAID SECTION 29; N 0°18'55" W 33.00 FEET ALONG THE NORTH-SOUTH 1/4 LINE OF SECTION 29 TO THE POINT OF BEGINNING (P.O.B.) OF SAID TRACT; THENCE CONTINUING N 0°18'55" W 17.00 FEET ALONG SAID NORTH-SOUTH LINE; THENCE S 89°41'5" W 200.00 FEET; THENCE S 0°18'55" E 17.00 FEET; THENCE S N 89°41'5" E 200.00 FEET TO THE P.O.B. WITH AN AREA OF ABOUT 3,340 SQUARE FEET.



SCALE: 1" = 100'



NORTH



Meridian Charter Township  
Ingham County, Michigan  
2770 BENNETT RD  
PATHWAY EASEMENT

S 1/4 CORNER  
SECTION 29  
T4N, R1W

DATE	BY:	COMMENTS:	SHEET
00/00/00	XX	XX	1
00/00/00	XX	XX	
00/00/00	XX	XX	
03/10/23	RS	FINAL	

UTILITY COMPANY UTILITIES

AT&T  
337 N. ABBOTT, RM. 201  
EAST LANSING, MI 48823  
517.337.3660

TELEPHONE

CONSUMERS ENERGY  
530 W. WILLOW ST.  
P.O. BOX 30162  
LANSING, MI 48909  
517.373.6100

GAS  
ELECTRIC

COMCAST  
1070 TROWBRIDGE ROAD  
EAST LANSING, MI 48823  
517.332.1012

CABLE TV

MERIDIAN TOWNSHIP  
5151 MARSH RD.  
OKEMOS, MI 48864  
517.853.4440

WATER MAINS  
SANITARY SEWER  
PATHWAYS

WOLVERINE PIPE LINE  
8105 VALLEYWOOD LANE  
PORTAGE, MI 49024-5251  
231.323.2491

PETROLEUM PIPELINE

INGHAM COUNTY DRAIN  
COMMISSIONER  
707 BUHL ST.  
MASON, MI 48854  
517.676.8395

DRAINS  
STORM SEWER

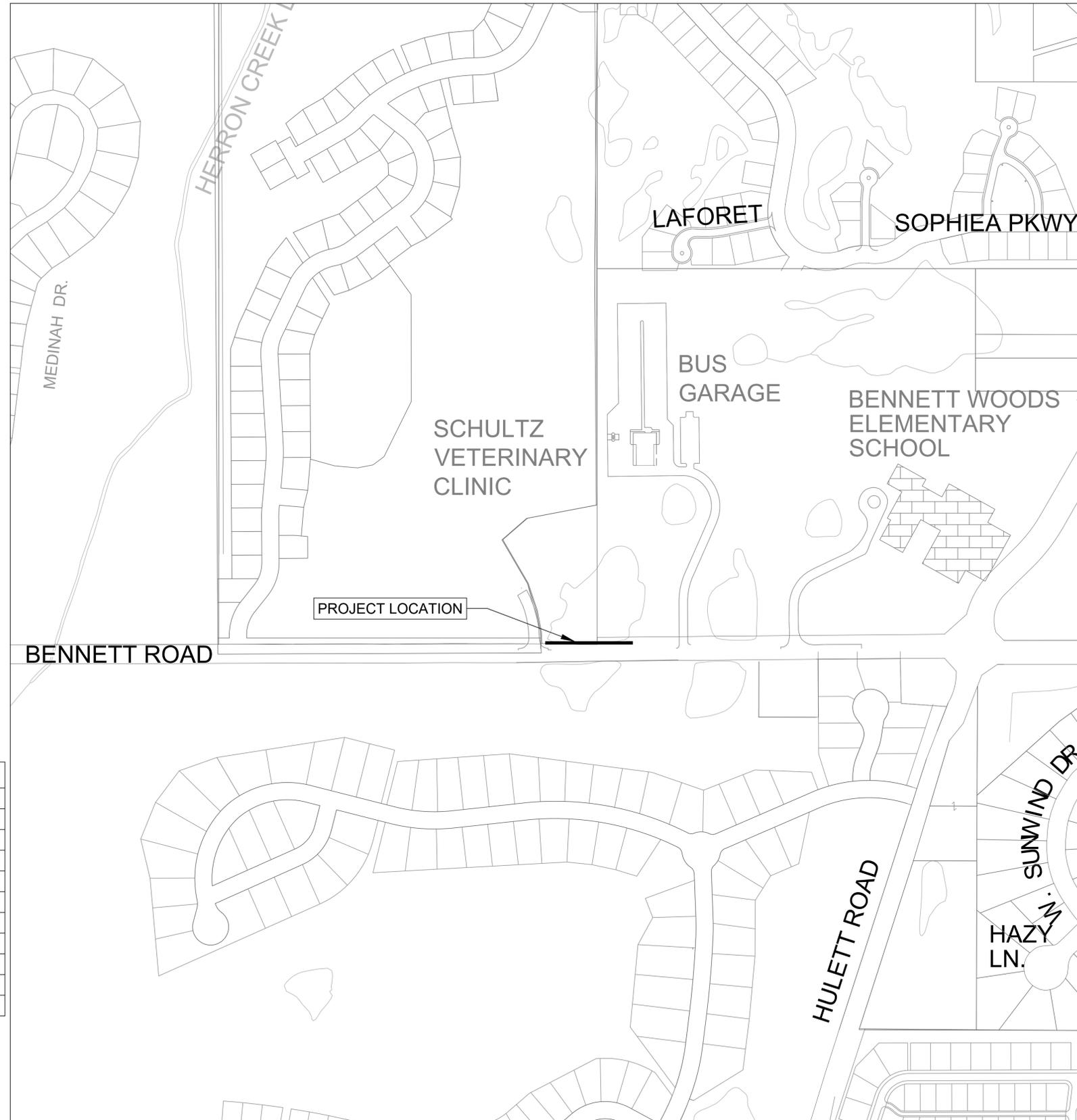
INGHAM COUNTY ROAD DEPT  
301 BUSH ST.  
MASON, MI 48854  
517.676.9722

PUBLIC ROADS AND  
RIGHTS OF WAY

# SCHULTZ PATHWAY CONSTRUCTION PLANS FOR MERIDIAN TOWNSHIP INGHAM COUNTY, MICHIGAN



**Call 811 before you dig.**



**STANDARD CONSTRUCTION NOTES**

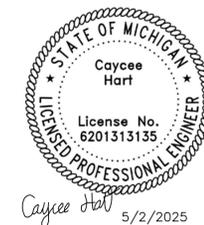
1. The Contractor shall notify the Charter Township of Meridian, Department of Public Works, Office of Engineering 517-853-4440 a minimum of 72 hours prior to the start of construction of public utilities or of construction within the public right-of-way.
2. All construction shall conform to the current standards and specifications of the Charter Township of Meridian which are included as part of these plans in effect at the time of construction.
3. After the completion of construction of public utilities or construction within public right-of-way, the contractor must request a final inspection. Any punchlist items resulting from the final inspection must be resolved prior to final release and acceptance.
4. The existing utilities indicated on the plans are in accordance with available information. It shall be the contractor's obligation to verify the exact location of all existing utilities, which might affect this job.
5. The contractor shall notify "MISS DIG" 1-800-482-7171 at least 72 hours prior to the start of construction.
6. The contractor shall at all times be aware of inconvenience caused to the abutting property owners and the general public. Where the contractor does not remedy undue inconveniences, the Charter Township of Meridian, upon four hours notice, reserves the right to perform the work and deduct the cost therefore from the money due the contractor.
7. A Registered Land Surveyor provided by the contractor at the contractor's expense shall replace all property irons and monuments disturbed or destroyed by the contractor's operations.
8. Contractor shall provide Owner and Township Engineer a copy of written permission to use private property for storage of equipment and materials or for his construction operations.
9. Trench backfill under existing or proposed roadways, driveways, and parking areas, shall be sand or gravel, placed in 12" layers (maximum) and consolidated to 95% of maximum density as measured by modified proctor unless otherwise noted.
10. Trees and shrubs are to be protected during construction and bored where necessary.
11. Existing fences shall be removed and restored to their original condition or better where in conflict with construction.
12. Driveways, culverts, ditches, drain tile, tile fields, drainage structures, etc., that are disturbed by the contractor's operations shall be immediately restored.
13. All established lawn areas disturbed by the contractor's operations shall be resodded with matching sod. All other areas shall be seeded and mulched. Seeding and mulching shall be done in accordance with the General Specifications.
14. All ditch slopes shall have established vegetation and be protected from erosion.
15. All utility poles in close proximity to construction shall be supported in a manner satisfactory to the utility owner.
16. Onsite parking and sanitary facilities shall be provided for construction workers. The facilities shall be constructed and operated (with minimal impact to the surrounding area) to the satisfaction of the Township.

**PATHWAY NOTES**

1. Pathways and sidewalks shall be four (4) inch thick concrete except at driveways where they shall be six (6) inch (residential) or seven (7) inch (commercial) thick concrete.
2. Three (3) inches of compacted sand base shall be placed under all pathways and sidewalks.
3. All bituminous aprons shall be two and one-half (2½) inches thick, unless otherwise noted.
4. Property irons shall be maintained by the Contractor.
5. All existing concrete and bituminous to be removed shall be sawcut. All bituminous removal shall be considered incidental to construction.
6. All aggregate base material shall be four (4) inches of 22A.
7. All tree (less than 6") and shrub removal shall be considered part of subgrade preparation.
8. Location of new plant material shall be as directed by the Engineer, and shall be installed in accordance with guidelines established by the A.N.L.A.
9. All plant material not marked for removal shall be protected.
10. Bituminous drives shall be sawcut 18" on either side of proposed pathway.
11. The maximum longitudinal slope is 5% (up to an absolute maximum of 8½% at the direction of the Engineer) and the maximum cross slope is 2%.
13. Expansion joints shall be placed at approximately 100' intervals and shall be ½" thick. Contraction joints shall be sawcut to a depth of ¼ of the depth of the concrete.
14. All lumber to be pressure treated (Osmose 33 or equal) to 0.4 retention.
15. All items not covered under a specific pay item shall be considered incidental.

**Sheet List Table**

Sheet Number	Sheet Title
1	COVER SHEET
2	SESC PLAN
3	SESC NOTES AND DETAILS
4	SESC NOTES AND DETAILS
5	GRADING PLAN
6	SITE PLAN
7	TYPICAL DETAILS
8	BOARDWALK DETAILS
9	BOARDWALK DETAILS
10	TYPICAL SECTIONS

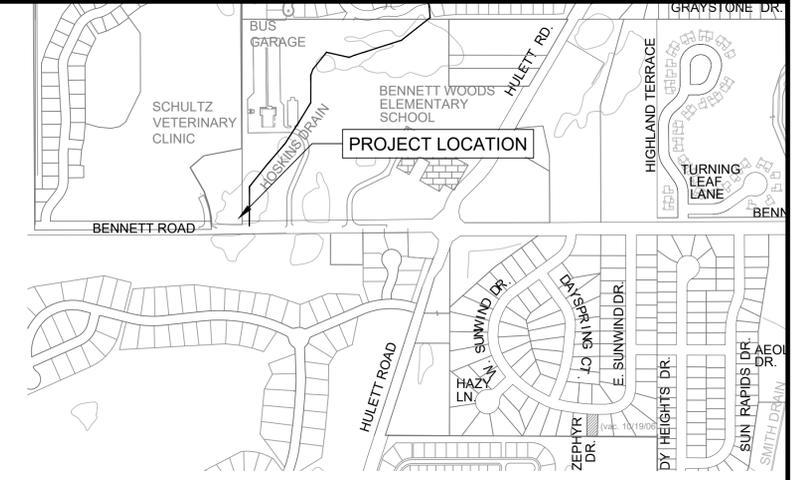


**SEQUENCE OF CONSTRUCTION**

1. INSTALL CONSTRUCTION ENTRANCE, INLET PROTECTION, AND SILT FENCE.
2. CONSTRUCT BOARDWALK BY DRIVING PILES, CONSTRUCTING THE SUPPORT SPAN OF BOARDWALK BETWEEN THE PILES. CONSTRUCTION MAT WILL BE PLACED OVER THE WETLAND AND WILL BE USED TO ACCESS THE BOARDWALK DURING CONSTRUCTION.
3. DEMOLISH THE EXISTING CONCRETE PATHWAY.
4. CONSTRUCT THE PROPOSED CONCRETE PATHWAY
5. PERMANENTLY SEED AREAS ONCE THEY HAVE REACHED FINAL GRADE.
6. REMOVE SESC MEASURES ONCE THE SITE IS FULLY STABILIZED.

**RECOMMENDED CONSTRUCTION SCHEDULING & SEQUENCING**

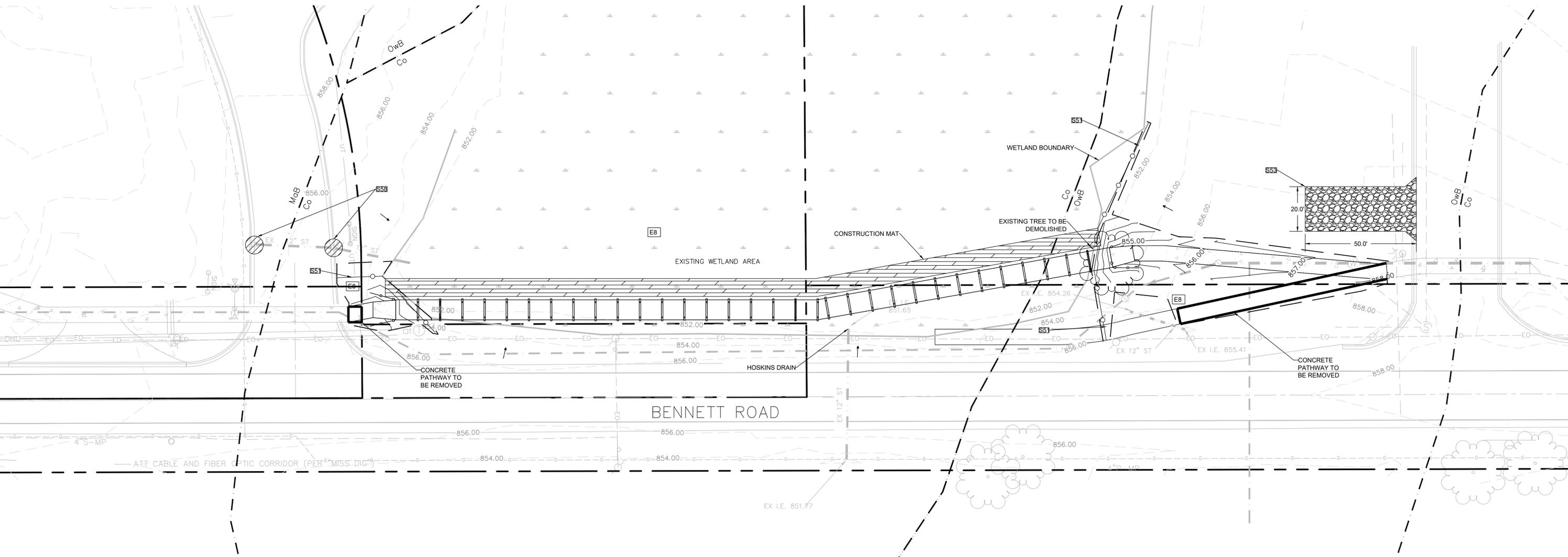
	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
INSTALL SESC MEASURES												
CONSTRUCT BOARDWALK AND ABUTMENTS												
DEMOLISH EXISTING CONCRETE PATHWAY												
CONSTRUCT CONCRETE PATHWAY												
SITE CLEANUP AND RESTORATION												
REMOVE SESC MEASURES												



THE PROJECT IS LOCATED WITHIN 0' OF THE >1 ACRE WETLAND AND HOSKINS DRAIN.

**PAY ITEMS (THIS SHEET)**

EROSION CONTROL, GRAVEL ACCESS APPROACH	1	EA
EROSION CONTROL, SILT FENCE	165	FT
EROSION CONTROL, INLET PROTECTION	2	EA
SIDEWALK, REMOVAL	85	SY
TREE REMOVAL, 19 TO 36 INCH	1	EA

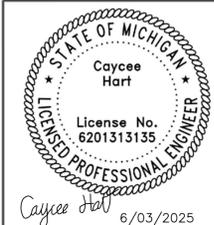
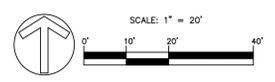


**SOILS:**  
 Co - Colwood-Brookston loams  
 MaB - Marlette Fine Sandy Loam, 2 to 6 percent slopes  
 OwB - Owosso-Marlette Sandy Loams, 2 to 6 percent slopes

**LEGEND**

	PROPERTY LINE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	SILT FENCE
	LIMITS OF DISTURBANCE
	SOIL BOUNDARY
	INLET PROTECTION
	CONSTRUCTION ENTRANCE

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
<b>SEDIMENT CONTROLS</b>			
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.
S58	INLET PROTECTION FABRIC DROP		Use at stormwater inlets, especially at construction sites.
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).



**Meridian Charter Township  
Ingham County, Michigan**

**PATHWAY**

**SCHULTZ PATHWAY**  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH      CHECKED BY: YI

**REVISIONS:**

DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

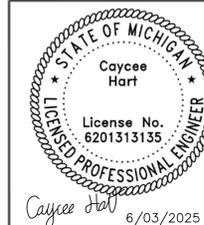
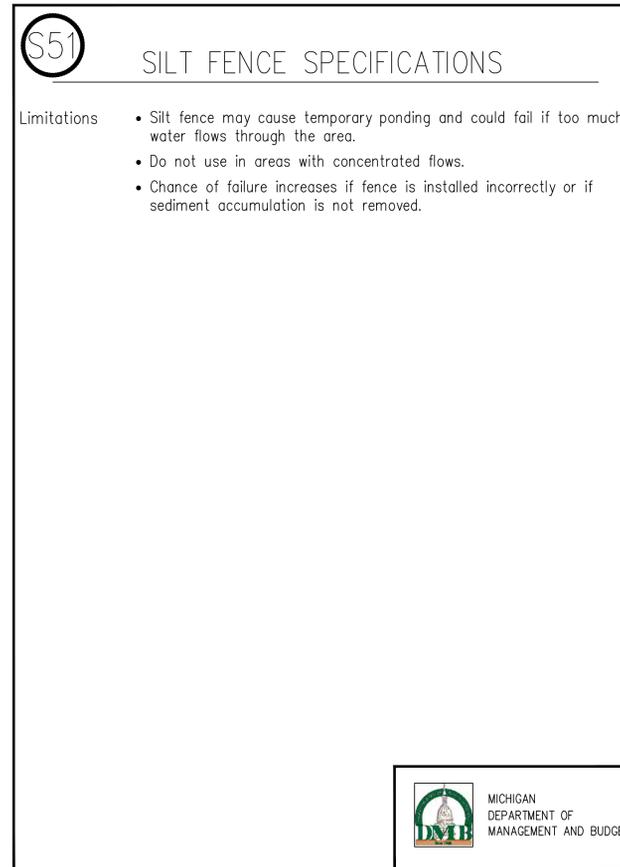
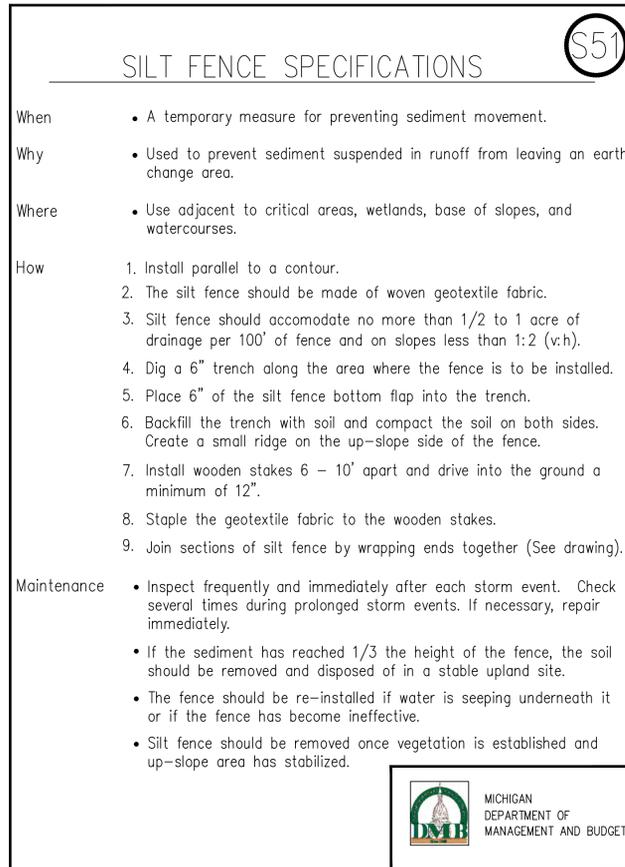
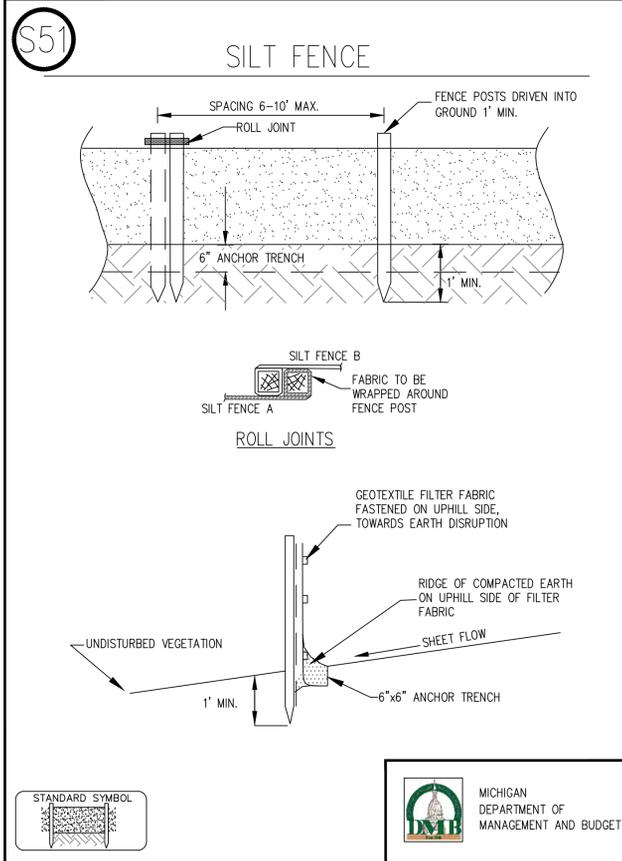
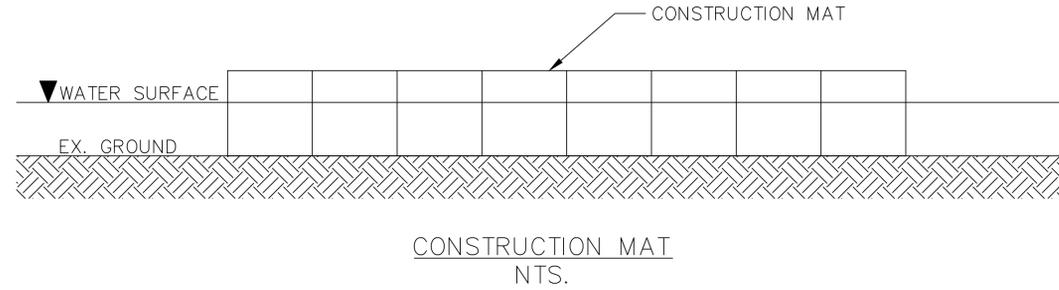
SHEET:

TAX ID: 29-300-014  
 LEGAL DESCRIPTION: M 29-15-3- BEG AT S 1/4 COR SD SEC 29 -W ON S SEC LN 200 FT -N 0 DEG 18'55"W, 60.77 FT -ON CURVE LEFT 174.36 FT HAVING A 333 FT RAD & A CHD OF 172.37 FT. BRG N 15 DEG 18'55"W, -N 30 DEG 18'55"W, 175.77 FT -N 49 DEG 08'47" E, 114 FT -N 79 DEG 14'28" E, 250 FT TO NS 1/4 LN -S 0 DEG 18'55" E, 500 FT ON 1/4 LINE TO POB. SEC 29 T4NR1W 2.73 AC ML

TAX ID: 29-451-002  
 LEGAL DESCRIPTION: COM @ THE S 1/4 COR SEC 29 - N 80 RODS TO N LN OF S 1/2 OF SE 1/4 - E ON N LN 1314.7 FT - S 426.5 FT - E 537.1 FT TO C/L HULETT RD - SWLY ON C/L 1036.22 FT TO S SEC LN - W ON S SEC LN 1324.92 FT TO THE POB. EXC R/W FOR BENNETT & HULETT RD DESC AS COM @ THE S 1/4 COR SEC 29 - N 33 FT TO THE POB. - N 17 FT - N 89 DEG 29'35" E, 1211.32 FT - N 48 DEG 18'54" E, 103.79 FT - ALONG CURVE RT 170 FT HAVING A 314.36 FT RADIUS & A CHD OF 167.94 FT BRG N 29 DEG 40'35" E - N 45 DEG 10' 08" E 125.64 FT - ON CURVE LEFT 140 FT HAVING A 534.53 FT RADIUS & A CHD OF 139.60 FT BRG N 37 DEG 39'56" E - N 30 DEG 09' 44" E, 484.33 FT - N 90 DEG E 30.76 FT - S 30 DEG 25' 06" W 984.28 FT - S 89 DEG 29' 35" W 1322.15 FT TO THE POB SEC 29 T4NR1W 44.26 AC +/-

**SOIL EROSION & SEDIMENTATION CONTROL NOTES**

- All soil erosion and sediment control (SESC) work shall conform to the standards and specifications of the Ingham County Drain Commissioner's Office and Meridian Township.
- Daily inspections shall be made by the contractor for effectiveness of SESC measures. Any necessary repairs shall be performed without delay.
- Erosion of any sediment from work on the site shall be contained on-site and not allowed to collect on any off-site areas or in waterways. Waterways include both natural and man-made open ditches, streams, storm drains, lakes, ponds, and wetlands.
- The Contractor shall apply temporary SESC measures when required and as directed on these plans. The Contractor shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other changes have been established.
- Staging the work shall be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
- Soil erosion control practice shall be established in the early stages of construction by the Contractor. Sedimentation control practices shall be applied as a perimeter defense against any transporting of soil off the site.
- The Contractor shall preserve natural vegetation as much as possible.
- Vegetative stabilization of all disturbed areas shall be established within 15 days of completion of the final grading.



<b>Meridian Charter Township Ingham County, Michigan</b>	
<b>PATHWAY</b>	
<b>SCHULTZ PATHWAY</b>	
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN	
DRAWN BY: CH	CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

SHEET:

**3 - SESC NOTES AND DETAILS**

**S58** INLET PROTECTION – FABRIC DROP

INLET GRATE

2'-0"

4'-0"

3'-0"

1" REBAR FOR BAG REMOVAL FROM INLET

ISOMETRIC VIEW

INSTALLATION DETAIL

STANDARD SYMBOL

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**S58** INLET PROTECTION – FABRIC DROP SPECIFICATIONS

**When**

- When sediment laden stormwater requires treatment before entering a stormwater drainage system.

**Why**

- To prevent sediment from entering stormwater systems.

**Where**

- Use in or at stormwater inlets, especially at construction sites or in streets.

**How**

- A filter fabric bag is hung inside the inlet, beneath the grate.
- Replace grate, which will hold bag in place.
- Anchor filter bag with 1" rebar for removal from inlet.
- Flaps of bag that extend beyond the bag can be buried in soil in earth areas.

**Maintenance**

- Drop inlet filters should be inspected routinely and after each major rain event.
- Damaged filter bags should be replaced.
- Clean and/or replace filter bag when 1/2 full.
- Replace clogged fabric immediately.
- If needed, initiate repairs immediately upon inspection.
- Remove entire protective mechanism when upgradient areas are stabilized and streets have been swept.

**Limitations**

- Can only accommodate small flow quantities.
- Requires frequent maintenance.
- Ponding may occur around storm drains if filter is clogged.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**E8** PERMANENT SEEDING SPECIFICATIONS

**When**

- To finalize stabilization of temporary seeding areas or when an area needs permanent stabilization following completion of construction. Also used when vegetative establishment can correct existing soil erosion or sedimentation problem.
- Within 5 days of final grade.

**Why**

- To stabilize soil and prevent or reduce soil erosion/sedimentation problems from developing.

**Where**

- Used on construction and earth change sites which require permanent vegetative stabilization.

**How**

- Review SESC plan and construction phasing to identify areas in need of permanent vegetative stabilization.
- Select perennial grass and ground cover for permanent cover.
- Seed mixes vary. However, they should contain native species.
- Seed mixes should be selected through consultation with a certified seed provider and with consideration of soil type, light, moisture, use applications, and native species content.
- Soil tests should be performed to determine the nutrient and pH levels in the soil. The pH may need to be adjusted to between 6.5 and 7.0.
- Prepare a 3–5" deep seedbed, with the top 3–4" consisting of topsoil.
- Slopes steeper than 1:3 should be roughened.
- Apply seed as soon as possible after seedbed preparation. Seed may be broadcast by hand, hydroseeding, or by using mechanical drills.
- Mulch immediately after seeding.
- Dormant seed mixes are for use after the growing season, using seed which lies dormant in the winter and begins growing as soon as site conditions become favorable.

STANDARD SYMBOL

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**E8** PERMANENT SEEDING SPECIFICATIONS

**How (cont.)**

- Protect seeded areas from pedestrian or vehicular traffic.
- Divert concentrated flows away from the seeded area until vegetation is established.

**Maintenance**

- Inspect weekly and within 24 hours following each rain event in the first few months following installation to be sure seed has germinated and permanent vegetative cover is being established.
- Add supplemental seed as necessary.

**Limitations**

- Seeds need adequate time to establish.
- May not be appropriate in areas with frequent traffic.
- Seeded areas may require irrigation during dry periods.
- Seeding success is site specific, consider mulching or sodding when necessary.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**E8** PERMANENT SEEDING

Planting Zones:	Lower Peninsula (South of T20N) Zone 1	Lower Peninsula (North of T20N) Zone 2	Upper Peninsula Zone 3
Seeding Window Permanent Seeding	4/15 – 10/10	5/1 – 10/1	5/1 – 9/20
Seeding Window Dormant Seeding*	11/15 – Freeze	11/01 – Freeze	11/01 – Freeze

Source: Adapted from MDOT Interim 2003 Standard Specifications for Construction

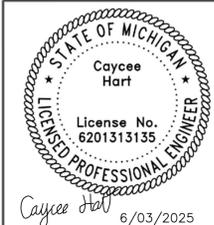
	Zone 1 Lower Peninsula (South of U.S. 10)	Zone 2 Lower Peninsula (North of U.S. 10)	Zone 3 Upper Peninsula
Seeding Dates (with Irrigation or Mulch)	4/1 – 8/1	5/1 – 9/20	5/1 – 9/10
Seeding Dates (w/o Irrigation or Mulch)	4/1 – 5/20 or 8/10 – 10/1	5/1 – 6/10 or 8/1 – 9/20	5/1 – 6/15 or 8/1 – 9/20
Dormant Seeding Dates*	11/1 – Freeze	10/25 – Freeze	10/25 – Freeze

Source: Adapted from USDA NRCS Technical Guide #342 (1999)

\* Dormant seeding is for use in the late fall after the soil temperature remains consistently below 50°F, prior to the ground freezing. This practice is appropriate if construction on a site is completed in the fall but the seed was not planted prior to recommended seeding dates. No seed germination will take place until spring. A cool season annual grass may be added in an attempt to have some fall growth.

- Mulch must be used with dormant seed.
- Do not seed when the ground is frozen or snow covered.
- Do not use a dormant seed mix on grassed waterways.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET



Meridian Charter Township  
Ingham County, Michigan

**PATHWAY**

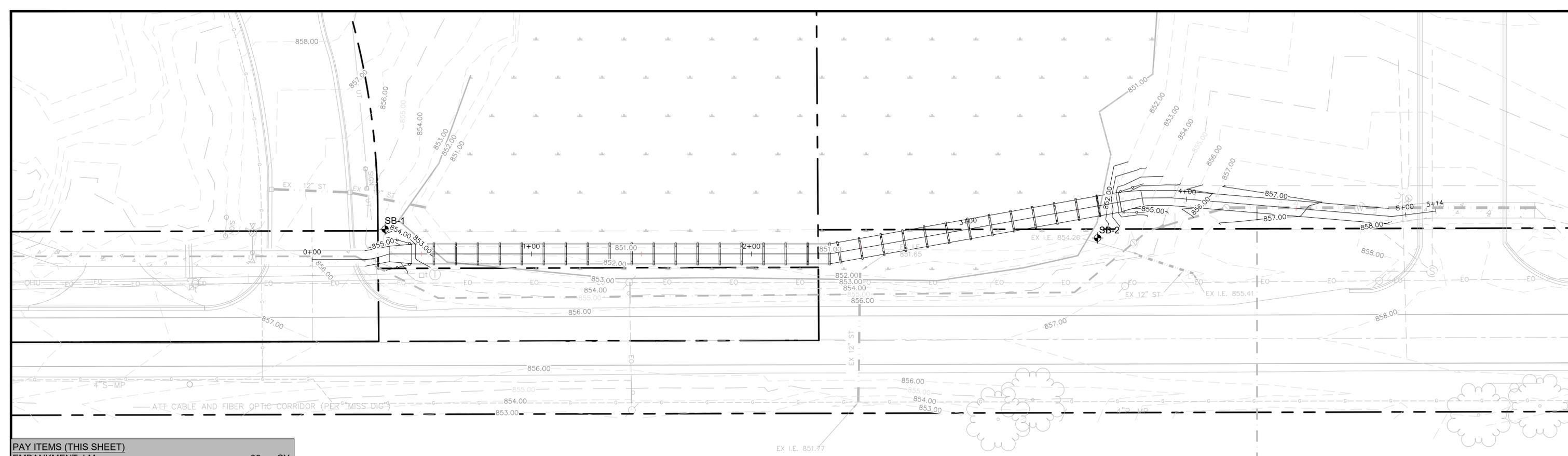
SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
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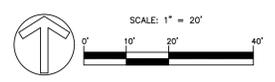
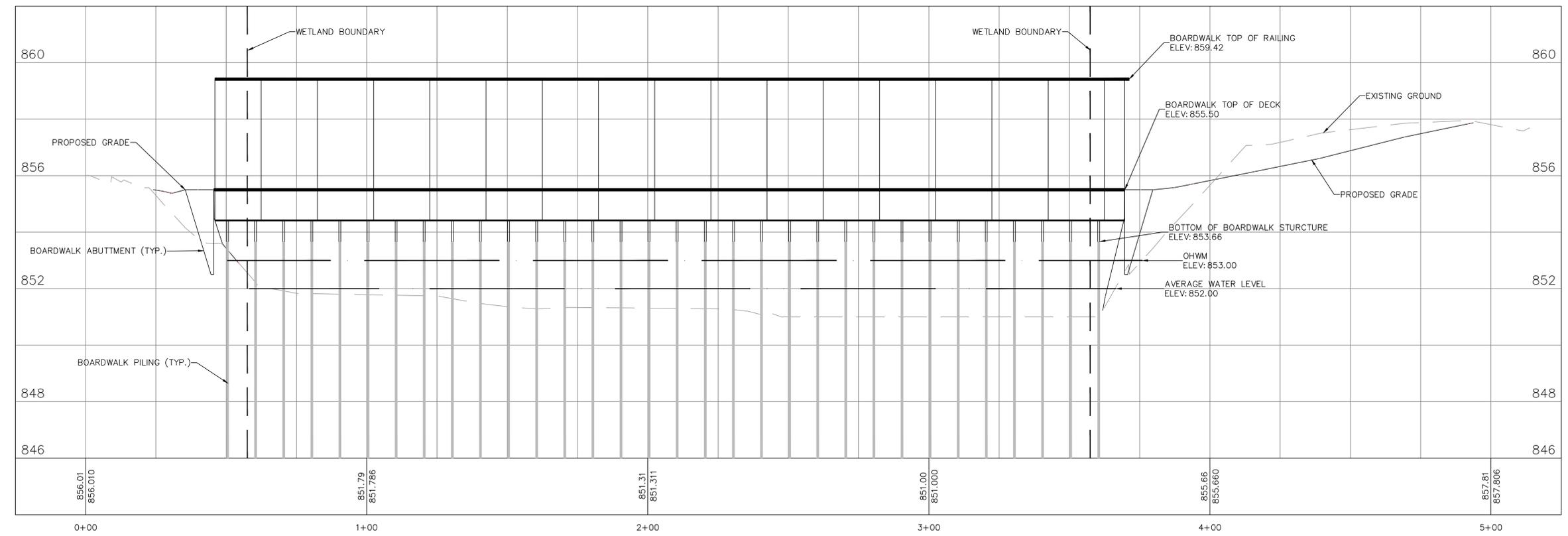
SHEET:

4 - SESC NOTES AND DETAILS



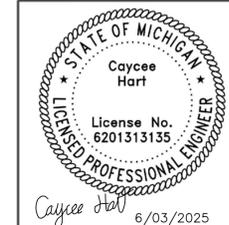
PATHWAY PROFILE

PAY ITEMS (THIS SHEET)		
EMBANKMENT, LM	35	CY
EXCAVATION, EARTH	75	CY
SHARED USE PATH GRADING	140	FT



**Call 811 before you dig.**

WOLVERINE PIPE LINE COMPANY 219-844-9510



Meridian Charter Township  
Ingham County, Michigan

**PATHWAY**

SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH CHECKED BY: YI

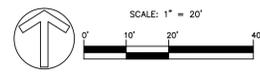
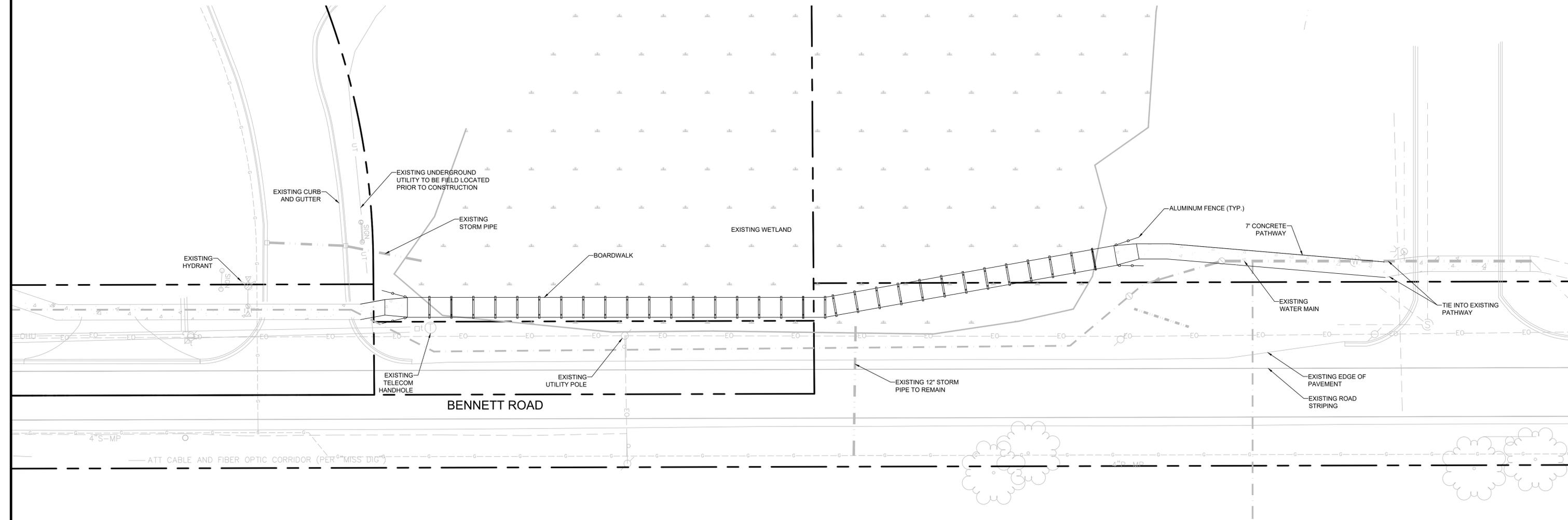
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5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:

PAY ITEMS (THIS SHEET)		
SHARED USE PATH, CONCRETE	115	SY
SHARED USE PATH, AGGREGATE	40	TN
CONCRETE ABUTMENT	2	EA
TREATED TIMBER BOARDWALK	335	FT
BOARDWALK STRUCTURAL PILES	1	LS
SITE RESTORATION	1	LS
FENCE, ALUMINUM	50	FT

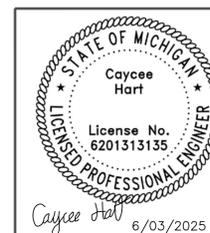
**LEGEND**

- — — — — PROPERTY LINE
- — — — — EXISTING OVERHEAD ELECTRIC LINE
- — — — — EXISTING WATER MAIN



**Call 811 before you dig.**

WOLVERINE PIPE LINE COMPANY 219-844-9510



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

**SCHULTZ PATHWAY**

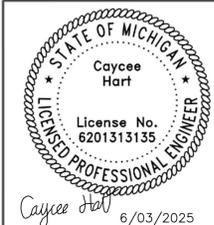
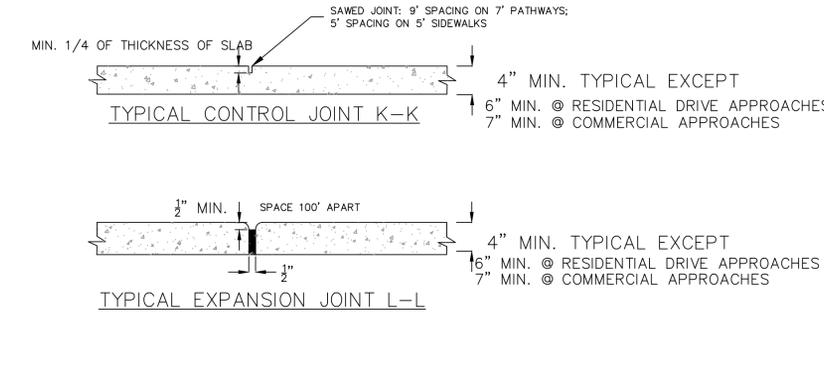
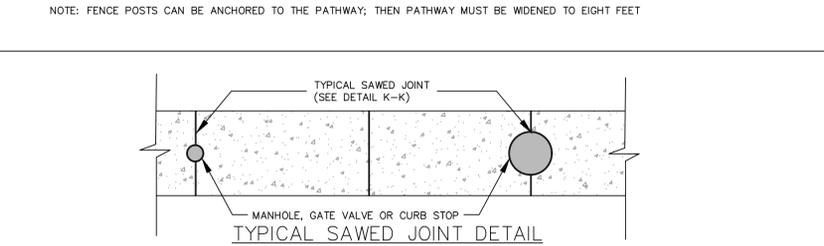
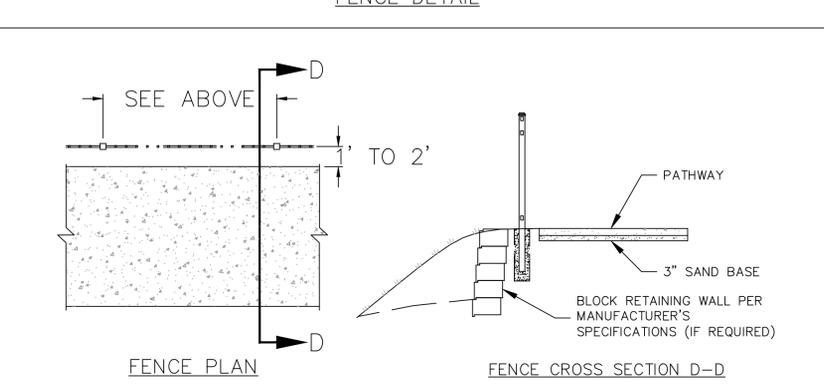
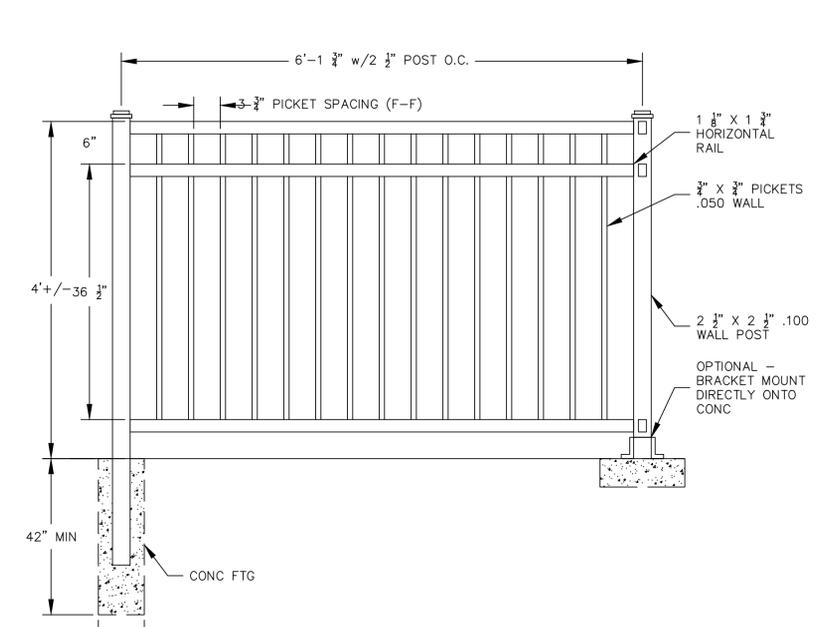
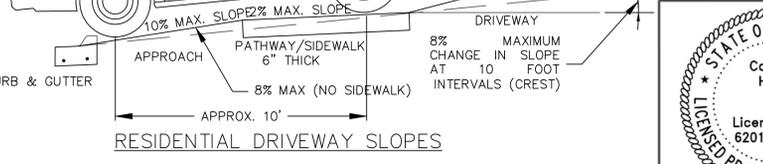
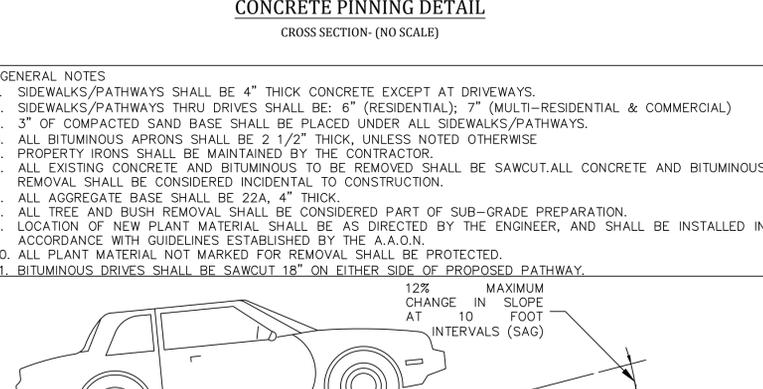
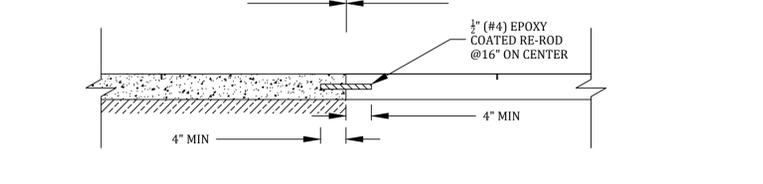
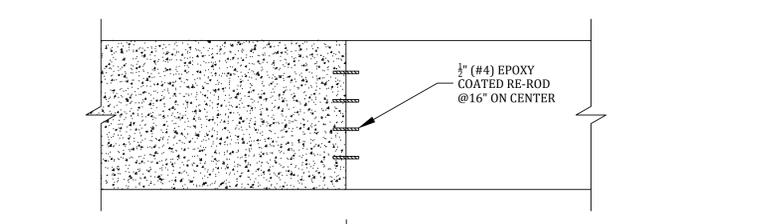
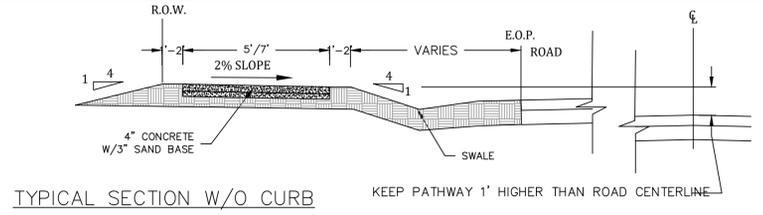
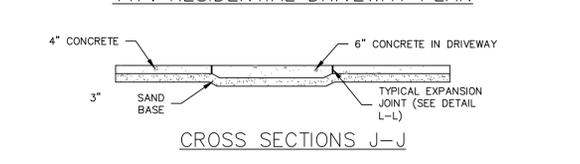
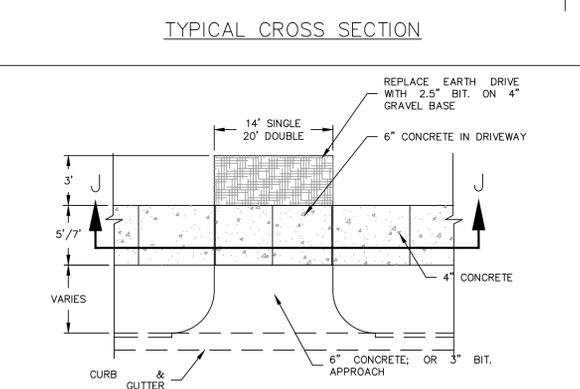
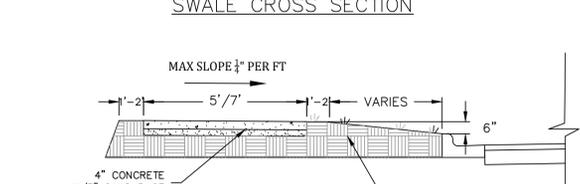
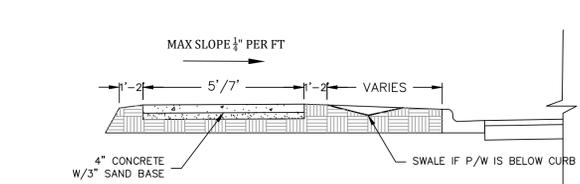
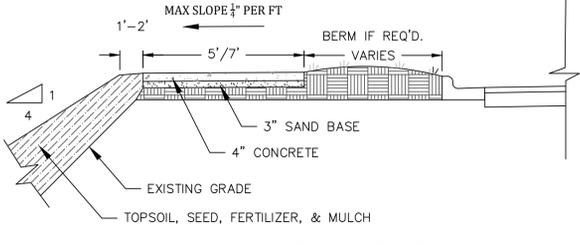
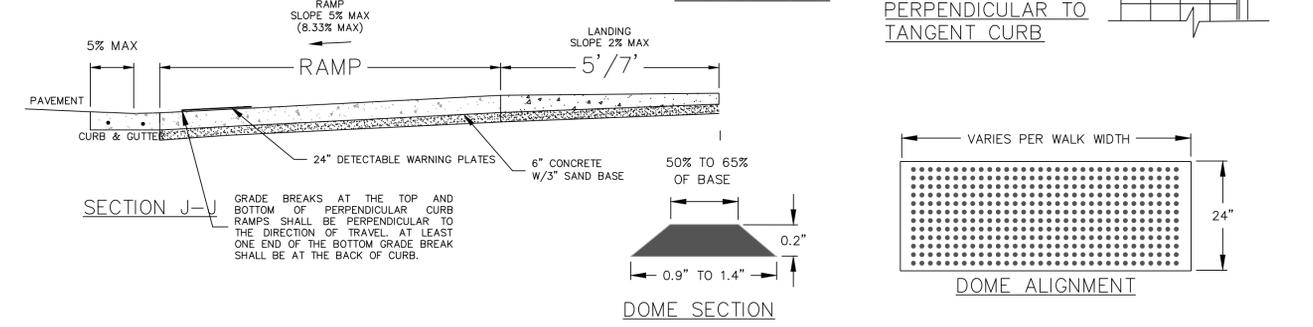
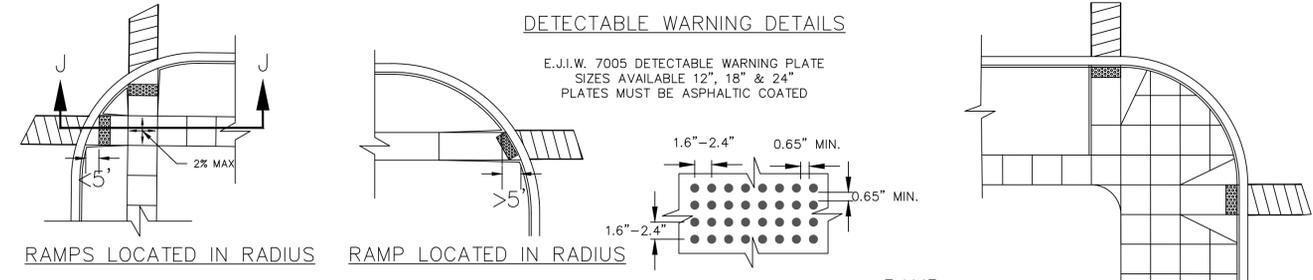
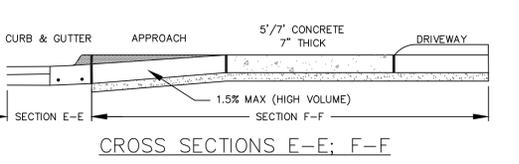
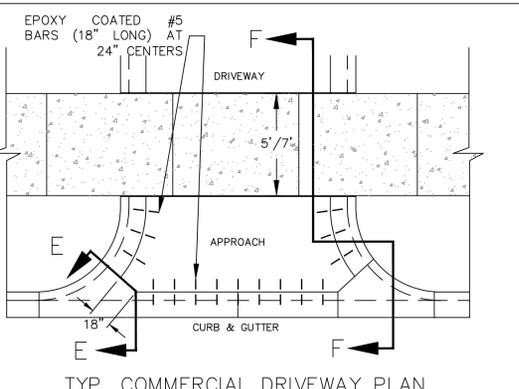
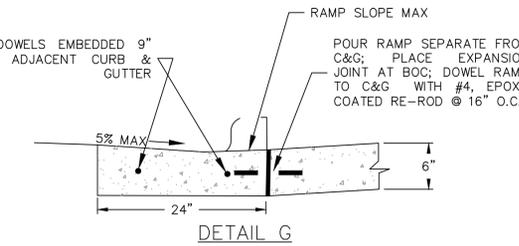
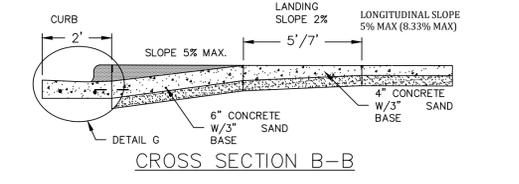
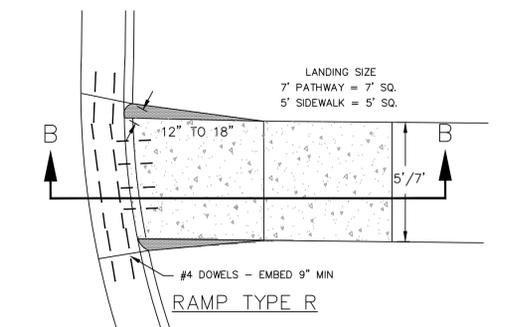
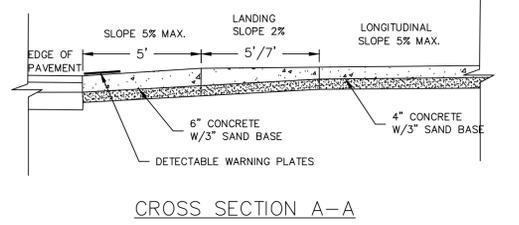
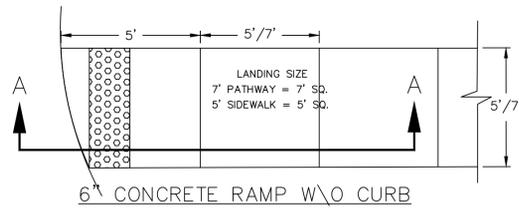
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH

CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGLE 2ND SUBMITTAL
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6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:



Meridian Charter Township  
Ingham County, Michigan

**PATHWAY**

SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

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SHEET:

7 - TYPICAL DETAILS

BOARDWALK MATERIALS			EXTREME FIBER BENDING STRENGTH F <sub>b</sub> (PSI)	MODULES OF ELASTICITY E (PSI)
ITEM	DESCRIPTION	SIZE/LENGTH		
1.	8" X 10" BEAMS	9'	2400	1600000
2.	3" X 10" JOISTS	11'	2400	1600000
3.	3" X 10" JOIST SPLICES	18"	2400	1600000
4.	3" X 8" DECK	9'	1500	1800000
5.	4" X 8" RAIL POSTS	4'-6"	1200	1200000
6.	2 X 10 TOP RAILS	11'	1200	1200000
7.	2 X 8 SIDE RAILS	11'	1200	1200000
8.	10" WOOD WOLMANIZED POSTS	5'-7" (VARIES)		
9.	3" X 12" HEADER	9'	2400	1600000
10.	3/8" CARRIAGE BOLTS, NUTS & WASHERS	5-1/2" - 7" (SPUCE PLATES)		
11.	3/4" BOLTS, NUTS & WASHERS	10"		
12.	3/4" BOLTS, NUTS & WASHERS	7-1/2"		
13.	7 GA. GALVANIZED STEEL PLATES	4" X 8"		
14.	5/8" LAG BOLTS	3"		
15.	ICE & WATER CAP	6"		

MATERIALS:

A. WOOD:

All wood members shall be Coast Region Douglas Fir or Southern Yellow Pine species. Commercial grade lumber for beams, joists, blocking and deck panels shall be similar to 2400f-1.6E(MSR). All other members shall be similar to 1200f-1.2E(MSR). All members shall be conditioned and pressure-treated in accordance with the requirements of AWPAC C2. The preservative chemical used shall meet applicable EPA requirements. The use of waterborne chemicals will not be allowed.

Handrails and posts shall be conditioned and pressure-treated with a clean preservative such as pentachlorophenol.

Joists shall extend over the full width of the supporting 8"x10" beams (except side joists).

Deck members shall be continuous over the deck width with no intermediate splices. Deck members shall lay up with no spaces between them. Deck members shall be in full contact with joists below.

Field cutting and drilling of wood members will not be allowed, unless all cuts and field-drilled holes are brush treated with a 5% pentachlorophenol solution or other approved field-treatment. Creosote solutions will not be approved for field-treatment.

All wood members shall have a smooth surface finish.

Wood posts shall meet ASTM D-25 standards for round timber posts. Posts shall be pressure treated in accordance with APWA standard C3.

All wood posts to have a minimum cover of 5'.

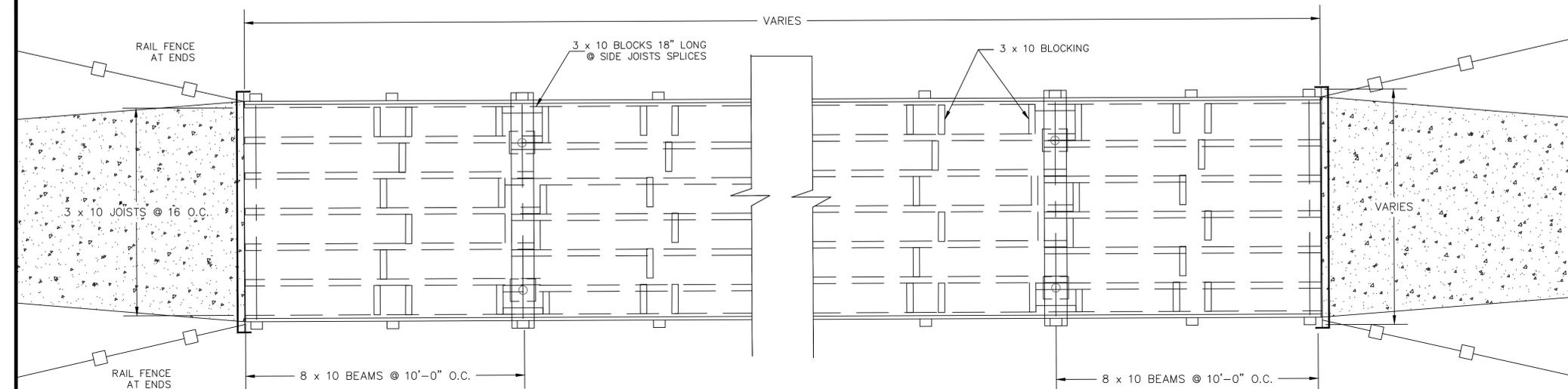
Manufacturer shall submit a certificate attesting to compliance with preservative specifications.

B. HARDWARE:

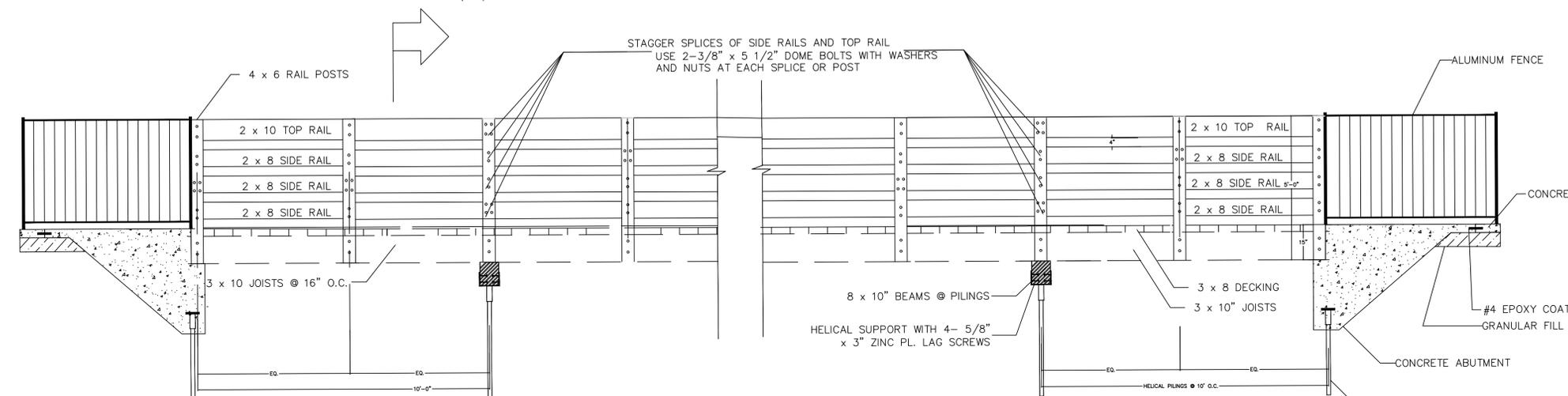
Bolts, nuts, and washers used for assembly shall conform to the requirements of ASTM A 325 and shall be hot-dip galvanized in accordance with ASTM A 153 or stainless steel.

Steel plate brackets used to connect beams to posts shall be ASTM A36 steel with hot-dip galvanized coating conforming to the requirements of ASTM A 153. Dimensions shall be as shown on plan.

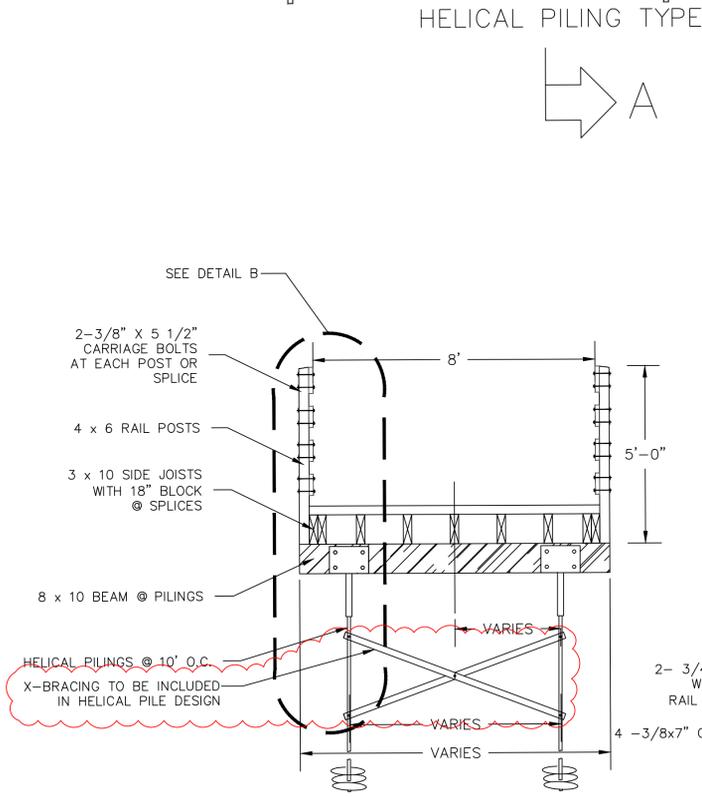
Deck Screws shall be epoxy coated t25 (#10 x 5") coarse thread. Provide two (2) screws per each for the following: joist to beam, joist laps, and blocking. Pre-drill toe-nailed joist to beam members, and deck ends (at side joists) with a 6" ring shank nail, to prevent splitting. Counterset deck screws 1/4", otherwise place as directed.



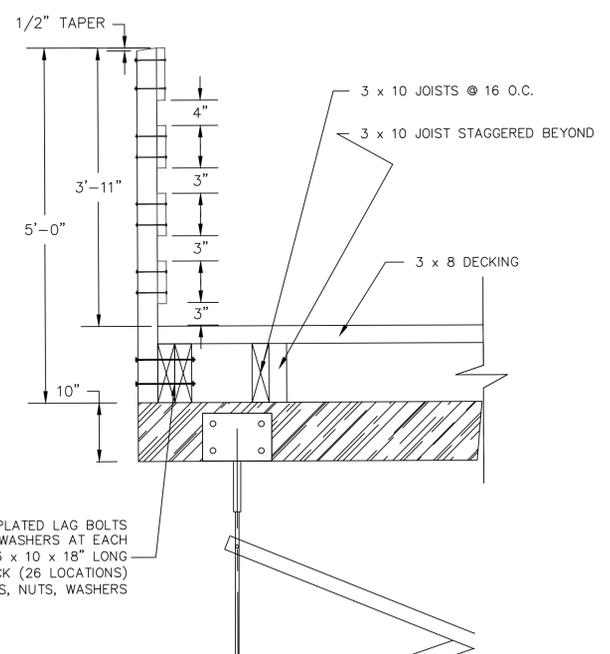
FRAMING PLAN



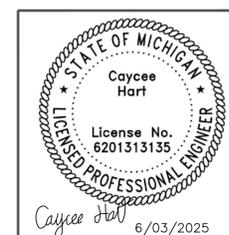
BOARDWALK ELEVATION  
SCALE: 1" = 3'



SECTION A-A



DETAIL B



Meridian Charter Township  
Ingham County, Michigan

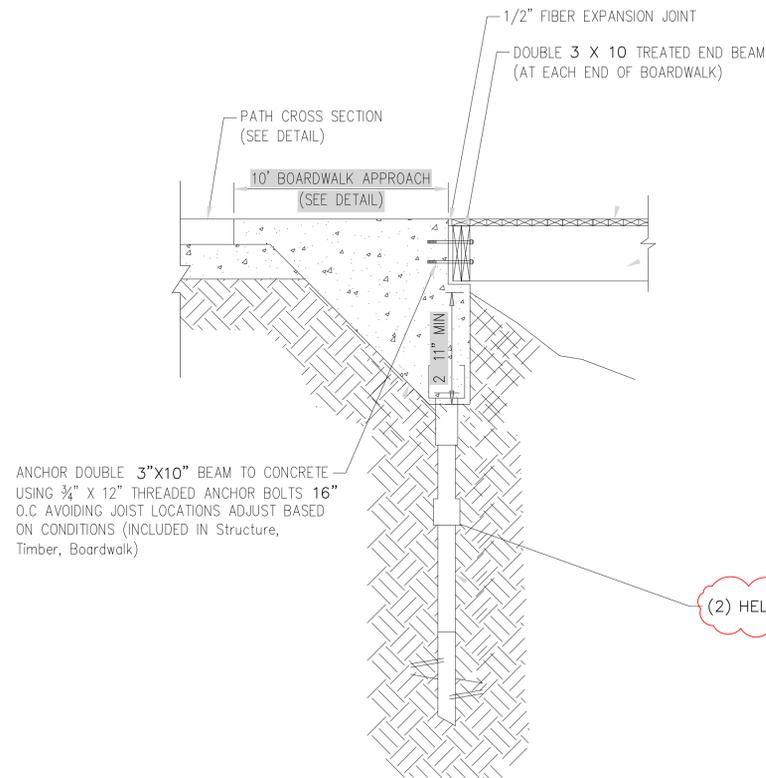
**PATHWAY**

SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH CHECKED BY: YI

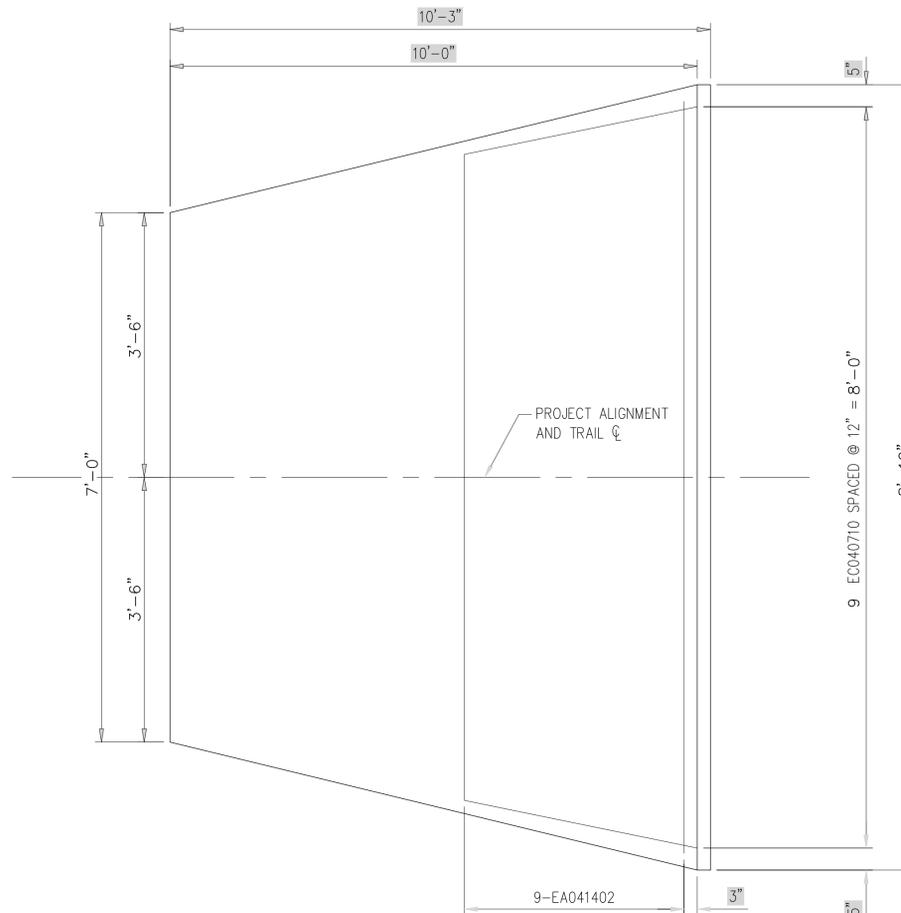
REVISIONS:		
DATE	BY:	COMMENTS:
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SHEET:

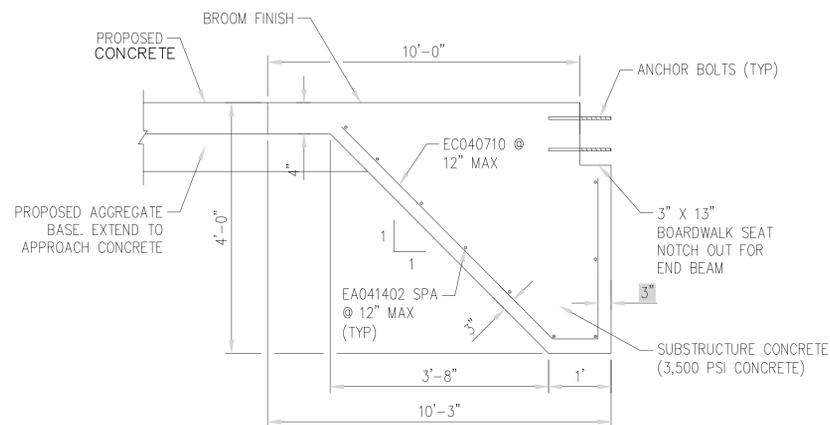


**BEAM/JOIST/POST DETAIL**  
NOT TO SCALE

(2) HELICALS PER ABUTMENT



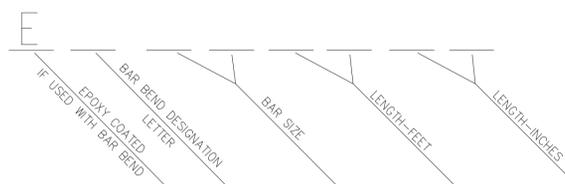
**BOARDWALK APPROACH PLAN**  
SCALE: 1/2" = 1'-0"



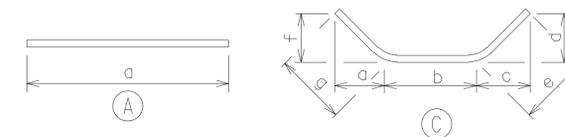
**BOARDWALK APPROACH DETAIL**  
NOT TO SCALE

CUT EA041402 BARS AS REQUIRED.

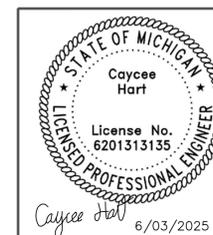
A.S.T.M. STANDARD REINFORCING BARS		
BAR SIZE DESIGNATION	WEIGHT (LBS/FT.)	DIAMETER (INCH)
#2	.167	.250
#3	.376	.375
#4	.668	.500
#5	1.043	.625
#6	1.502	.750
#7	2.044	.875
#8	2.670	1.000
#9	3.400	1.128
#10	4.303	1.270



**STANDARD REINFORCING BAR TYPES**



STEEL REINFORCEMENT										
BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D
	a	b	c	d	e	f	g			
SUBSTRUCTURE										
BOARDWALK APPROACHES										
EA041402	8'-2"							4	8'-2"	18
EC040710	3'-5"	8"	0"	2'-4"	2'-4"	3'-5"	4'-10"	4	7'-10"	105



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

**SCHULTZ PATHWAY**

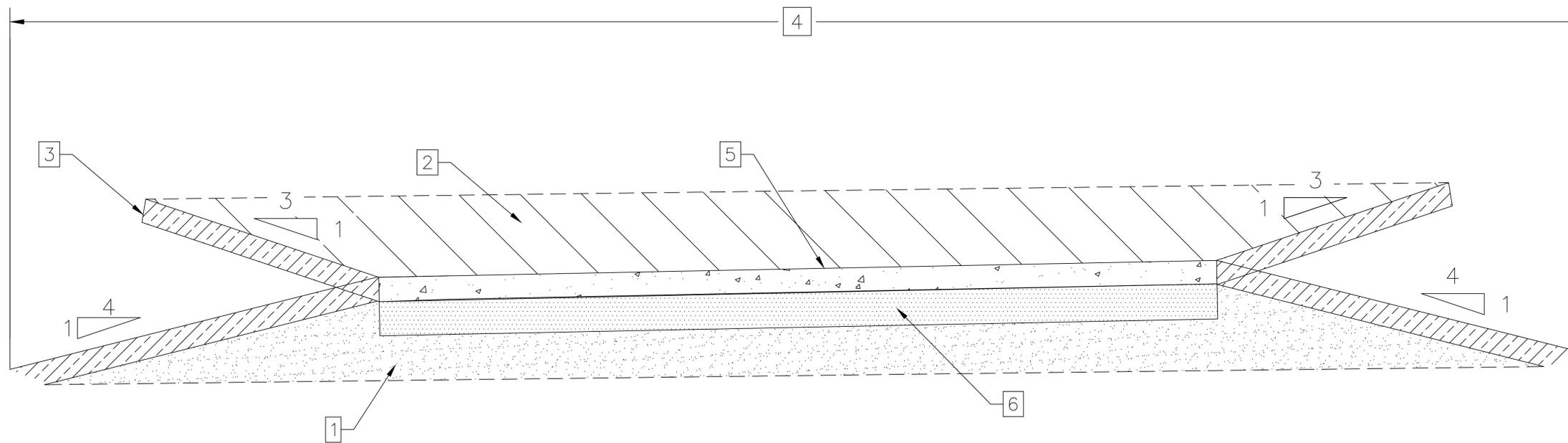
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: GH

CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGLE 2ND SUBMITTAL
2.20.25	CH	EGLE 3RD SUBMITTAL
4.11.25	CH	EGLE 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:



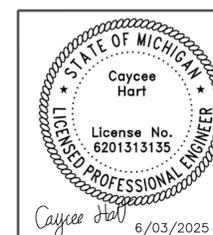
TYPICAL SECTION: CONCRETE PATHWAY

PAY ITEM LEGEND:

- 1 EMBANKMENT, LM
- 2 EXCAVATION, EARTH
- 3 SITE RESTORATION, 3" SCREENED TOPSOIL
- 4 SHARED USE PATH, GRADING
- 5 SHARED USE PATH, 4" CONCRETE
- 6 SHARED USE PATH, AGGREGATE (6" DEPTH)

GENERAL NOTES:

- CROSS-SECTIONS ARE NOT TO SCALE.
- SALVAGE OR REMOVE EXISTING TOPSOIL WITHIN THE GRADING LIMITS, OR AS DIRECTED BY THE ENGINEER. REMOVAL AND DISPOSAL WILL BE PAID FOR AS EXCAVATION, EARTH.
- TOPSOIL FOR SITE RESTORATION MAY BE SALVAGED FROM SITE, BUT MUST BE SCREENED OR RAKED TO REMOVE 1" OR GREATER DEBRIS.
- FOR SITE RESTORATION, USE SEED MEETING MDOT THM MIXTURE.
- EMBANKMENT, LM SHALL BE CLASS II GRANULAR MATERIAL OR ASPHALT MILLINGS.
- FOR EMBANKMENT, LM THE CONTRACTOR MAY USE MILLINGS FROM THE STOCKPILE AT MERIDIAN TOWNSHIP'S SERVICE CENTER. THERE ARE MORE THAN ENOUGH MILLINGS FOR ALL OF THE FILL REQUIRED ON THIS PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE THE LABOR AND EQUIPMENT TO LOAD AND TRANSPORT THE MILLINGS FROM THE STOCKPILE LOCATION TO THE CONSTRUCTION SITE.



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

SCHULTZ PATHWAY

SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH

CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

SHEET:

June 13, 2023  
Project No. 231002

Tim Schmitt  
Charter Township of Meridian  
5151 Marsh Road  
Okemos, MI 48864-1198

**Wetland Delineation in Vicinity of Schultz Veterinarian Clinic  
2770 Bennett Road/4009 Hulett Road  
Charter Township of Meridian, Ingham County, Michigan**

On May 18, 2023, Fishbeck staff conducted a field investigation and delineated wetlands on Parcel No. 33-02-29-300-014, located at 2770 Bennett Road, and Parcel No. 33-02-02-451-002, located at 4009 Hulett Road, Charter Township of Meridian (Township), Michigan (the Site). The area of investigation is located in the southwest quarter of Section 29 of Town 4 North, Range 1 West, and was limited to the south, east, and north sides of Meridian Township Wetland 29-21, as requested by the Township. The Site is bound by forested land and Schultz Veterinary Clinic to the north and west, Bennett Woods Elementary School to the east, and Bennett Road to the south (Figure 1). The results of the investigation are included in this report.

The wetland delineation was conducted in a manner consistent with the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2). The wetland identification and delineation procedures outlined in this manual requires evaluation of site vegetation, soils, and hydrologic characteristics. Dominant wetland vegetation, hydric soil, and wetland hydrology must all be present for an area to be classified as a wetland. Hydrophytic vegetation decisions are based on the wetland indicator status of species that are dominant in the plant community. Species with indicator statuses of obligate wetland (OBL), facultative wetland (FACW), and facultative (FAC) are considered wetland species, while species with indicator statuses of facultative upland (FACU) and upland (UPL) are considered upland species. FAC species are also commonly present in upland plant communities.

## Literature Review

The Township wetland map for Section 29 indicates the area of investigation contains Township Wetland 29-21, an approximately 2.75-acre forested and shrub scrub wetland. According to the U.S. Department of Agriculture Natural Resources Conservation Service *Web Soil Survey*, Colwood-Brookston loams (80% hydric rating) is mapped in the vicinity of this wetland. The adjacent area contains Marlette fine sandy loam, 2% to 6% slopes (2% hydric rating) and Owosso-Marlette sandy loams, 2% to 6% slopes (0% hydric rating) (Attachment 1).

The National Wetlands Inventory (NWI) Map indicates a complex of freshwater forested and shrub scrub wetland is present in generally the same areas mapped with hydric soils (Attachment 2). The NWI Map indicates this wetland extends south across Bennett Road.

The Meridian Township Southwest Drain Map (Attachment 3), obtained online from the Ingham County Drain Commissioner's Public Access Site on May 19, 2023, indicates the Hoskins Drain (H6200) extends through the Site's wetland, traversing from south to north and northeast. It is mapped as an open drain.

## Site Investigation

The Site sloped down into a bowl-like depression that contained cattail marsh, noted as Wetland A on Figure 2. Wetland was verified at Sampling Point SP-A. The surface 12 inches of a soil pit dug to a depth of 14 inches contained very dark gray (10YR 3/1), mucky silt loam, confirming Hydric Soil Indicator F1 (loamy mucky mineral). Soil was saturated at the surface and groundwater was encountered at a depth of 2 inches, confirming wetland hydrology.

The dominant vegetation at SP-A consisted of *Typha latifolia* (broadleaf cattail, OBL) and *Salix nigra* (black willow, OBL). Fishbeck also observed *Phalaris arundinacea* (reed canary grass, FACW) and *Cirsium arvense* (Canada thistle, FACU).

Upland vegetation was confirmed on the adjacent embankment at Sampling Point SP-B. The surface 5 inches of a soil pit dug to a depth of 12 inches contained dark grayish brown (10YR 4/2) silt loam underlain by 7 inches of dark yellowish brown (10YR 3/4) silt loam. The soil pit was dry in its entirety. No hydric soil or wetland hydrology indicators were observed at SP-B.

Fishbeck confirmed dominant upland vegetation at Sampling Point SP-B. Dominant species included *Pinus strobus* (eastern white pine, FACU), *Morus alba* (white mulberry, FACU), *Acer platanoides* (Norway maple, UPL), *Prunus serotina* (black cherry, FACU), *Cirsium arvense* (Canada thistle, FACU), and *Cirsium discolor* (field thistle, UPL).

A U.S. Army Corps of Engineers Wetland Determination Data Form was completed to describe site vegetation, soil, and hydrology at each sampling location (Attachment 4). Photographs of wetland determination sampling points and associated plant communities are included in Attachment 5.

Fishbeck flagged the wetland boundary with pink ribbon on the north, east, south, and southwest sides of Wetland A, as requested by the Township. Wetland boundary flags were labelled A1 through A24. The points were surveyed with a handheld GPS unit with submeter accuracy. The delineated wetland boundary is noted on Figure 2. Due to incomplete delineation of Wetland A, the size of this wetland is not known. However, based on aerial imagery interpretation, Wetland A appears to be approximately 2 acres in size.

Fishbeck did not observe an open drain channel as indicated on the County Drain Map. Stormwater likely drains into Wetland A via a road culvert under Bennett Road and outlets to a buried pipe at the northeast end of Wetland A. However, Fishbeck did not observe these structures due to dense vegetation.

## Conclusions

According to Michigan's Natural Resources and Environmental Protection Act (NREPA), Act 451, Section 30301(d), wetlands "contiguous to the Great Lakes or Lake St. Clair, an inland lake or pond, or a river or stream" or "more than 5 acres in size" are regulated by the State of Michigan. Contiguous is defined as being within 500 feet of an inland lake, pond, river, or stream. A stream is defined as having a defined bed, banks, and evidence of flow. A pond is defined as an area of "natural or permanent artificial" open water with "more than one acre, but less than five acres" in size. In addition, the Township regulates wetlands greater than 2 acres in size which are not contiguous to a water body and wetlands between 0.25 acre and 2 acres in size that are determined to be essential to the preservation of the natural resources of the Township.

Wetland A is less than 5 acres in size. No regulating water features (i.e., river, stream, lake, or pond) were identified within 500 feet of this wetland. However, if the Hoskins Drain is present as indicated in the County

Drain Map, this drain provides a hydraulic connection from Wetland A to Herron Creek, and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) may deem Wetland A regulated under Part 303 of NREPA.

Wetland A is close to 2 acres in size. If it is greater than 2 acres, it is regulated by the Township's wetland ordinance. If it is 2 acres or less, a determination of essentiality is needed to determine whether it is regulated by the Township. It is Fishbeck's opinion that the determination of essentiality would confirm the wetland is regulated by the Township due to its stormwater and wildlife habitat functions.

A wetland use permit would be required from EGLE for the following activities within regulated wetlands:

- Placing fill or permitting the placement of fill in the wetland.
- Dredging, removing, or permitting the removal of soil or minerals from the wetland.
- Constructing, operating, or maintaining any use or development in the wetland.
- Draining surface water from the wetland.

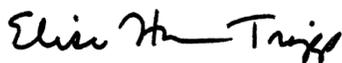
A wetland use permit would be required from the Township for the following activities within wetlands regulated by the Township:

- Placing fill or permitting the placement of fill in the wetland.
- Dredging, removing, or permitting the removal of soil or minerals from the wetland.
- Constructing, operating, or maintaining any use or development in the wetland.
- Draining surface water from the wetland.
- Discharging water into the wetland.

In addition, the Township requires that all structures and grading activities during site development be set back 40 feet from the delineated wetland boundary and a natural vegetation strip be maintained within 20 feet of the wetland boundary.

If you have any questions regarding this letter, the wetland permitting process, or any other wetland-related issues, please contact me at 616.464.3738 or [ehtripp@fishbeck.com](mailto:ehtripp@fishbeck.com).

Sincerely,



**Elise Hansen Tripp, PWS**  
Senior Wetland Scientist

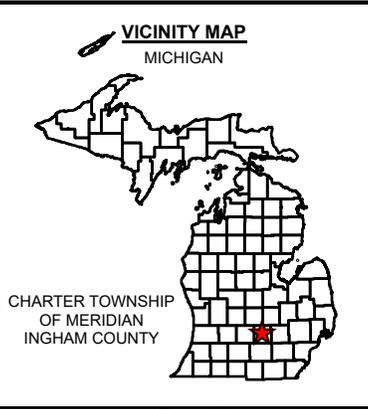
Attachments

By email

Copy: Keith Chapman – Meridian Township

# Figures

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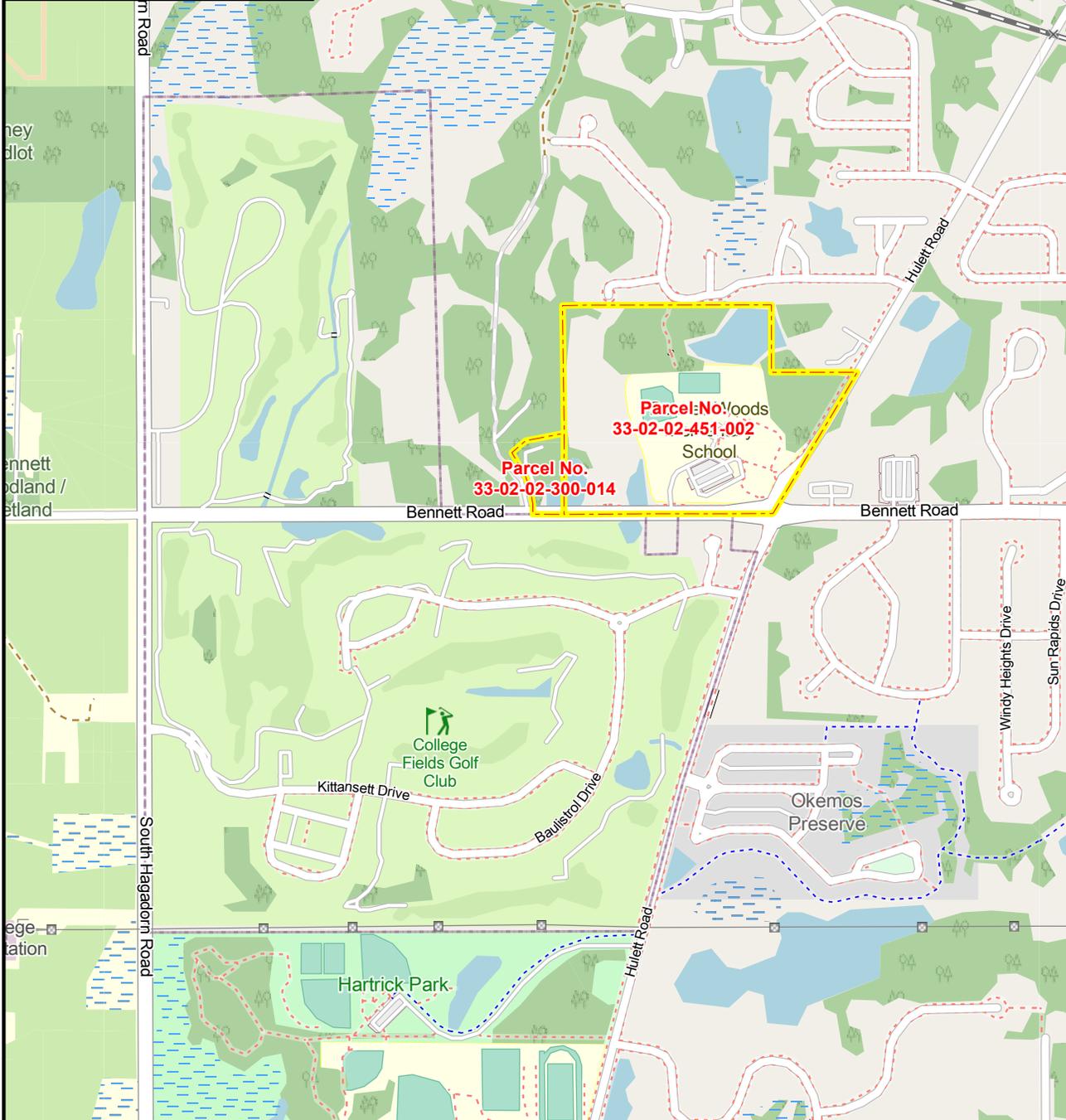


**LEGEND**

Parcel Boundary



Hard copy is intended to be 8.5"x11" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.



**2770 Bennett Road/4009 Hulett Road**  
Charter Township of Meridian, Ingham County, Michigan

**Wetland Delineation**

**LOCATION MAP**

NORTH  
0 500 1,000 FEET

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map Street layer by Esri

PROJECT NO.  
231002

FIGURE NO.  
**1**

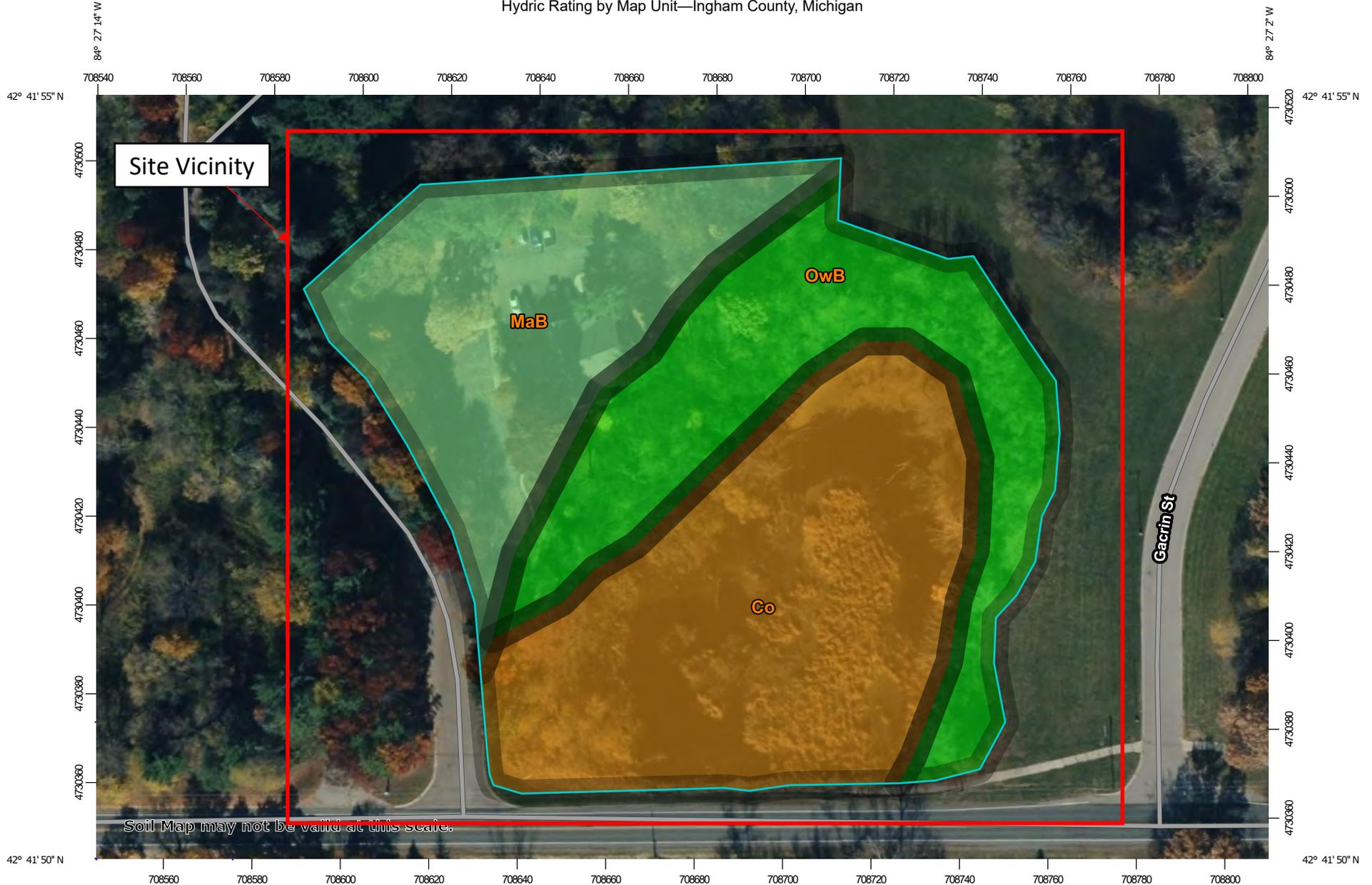
PLOT INFO: Z:\2023\231002\CAD\GIS\Pro\WetlandDelineation.aprx Layout: FIG01\_Location Map Date: 6/2/2023 3:35 PM User: abhavens



# Attachment 1

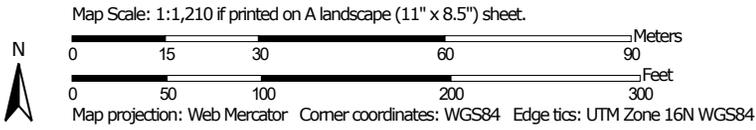
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Hydric Rating by Map Unit—Ingham County, Michigan



Site Vicinity

Soil Map may not be valid at this scale.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

#### Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

#### Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

### Water Features

 Streams and Canals

### Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

### Background

-  Aerial Photography

## MAP INFORMATION

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

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Ingham County, Michigan  
 Survey Area Data: Version 20, Aug 26, 2022

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

Date(s) aerial images were photographed: Oct 9, 2022—Oct 28, 2022

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

## Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Co	Colwood-Brookston loams	80	1.9	41.7%
MaB	Marlette fine sandy loam, 2 to 6 percent slopes	2	1.3	29.2%
OwB	Owosso-Marlette sandy loams, 2 to 6 percent slopes	0	1.3	29.1%
<b>Totals for Area of Interest</b>			<b>4.5</b>	<b>100.0%</b>

## Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

### References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

## Rating Options

### *Aggregation Method: Percent Present*

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

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

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

The aggregation method "Percent Present" returns the cumulative percent composition of all components of a map unit for which a certain condition is true. For example, attribute "Hydric Rating by Map Unit" returns the cumulative percent composition of all components of a map unit where the corresponding hydric rating is "Yes". Conditions may be simple or complex. At runtime, the user may be able to specify all, some or none of the conditions in question.

### *Component Percent Cutoff: None Specified*

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

### *Tie-break Rule: Lower*

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

# Attachment 2

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May 19, 2023

### Wetlands

- |   |                                |   |                                   |   |          |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake     |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other    |
|   |                                |  | Freshwater Pond                   |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# Attachment 3

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# MERIDIAN TOWNSHIP SW, T.4N. - R.1W. , INGHAM COUNTY, MICHIGAN



PATRICK E. LINDEMANN  
INGHAM COUNTY DRAIN COMMISSIONER

**PRELIMINARY**

MERIDIAN TOWNSHIP SW DRAIN MAP  
T.4N. - R.1W.  
INGHAM COUNTY, MICHIGAN



**LEGEND**

- MUNICIPAL BOUNDARIES
- SECTIONS
- COUNTY
- DRAINAGE DISTRICT BOUNDARIES
- OPEN DRAIN
- CLOSED DRAIN
- ROADS
- RAILROADS
- NATURAL WATERCOURSE

RED = FORMERLY KNOWN AS

**DISCLAIMER:**  
This map is a generalized representation of established drain routes and courses and/or drainage district boundaries. It is provided by the Ingham County Drain Commissioner for reference and display purposes only and does not confirm, create, refute, remove, expand, alter or otherwise affect any rights or obligations recognized or imposed by federal, state or local law, ordinance, regulation or rule.

0 0.13 0.25 0.5 Miles

1 INCH = 500 FEET

**DRAIN INDEX**

DRAIN NO	DRAIN NAME	DRAIN NO	DRAIN NAME	DRAIN NO	DRAIN NAME
A0900	ARDMORE DRAIN	G2101	GRETTEMBERGER RELIEF DRAIN	N1300	NORTHWIND DRAIN
A2100	ADDISON DRAIN	H0300	HANNAH FARM DRAIN	O0200	OKEMOS PRESERVE DRAIN
B2804	BUTTON SPRING LAKES BRANCH DRAIN	H2100	HERRON CREEK DRAIN	O0400	OKEMOS DRAIN
B3600	BRIARWOOD DRAIN	H6200	HOSKINS DRAIN	O0900	OKEMOS TILE DRAIN
B4013	BANTA CONSOLIDATED DRAIN	I0200	INDIAN HILLS DRAIN	P1500	PROCTOR DRAIN
B5100	BIEBESHIEMER DRAIN	I0600	INDIAN LAKES DRAIN	R0100	RABY DRAIN
B5200	BENNETT DRAIN	I0602	INDIAN LAKES NO. 2 DRAIN	R1500	RIVERWOOD DRAIN AND BRANCHES DRAIN
C1000	CHIPPEWA HILLS DRAIN	I0603	INDIAN LAKES MAUMEE BRANCH DRAIN	S0200	SANCTUARY DRAIN
C8100	CIBA GEIGY DRAIN	K0400	KENT DRAIN	S2600	SPROSS DRAIN
D0202	DANIELS EXTENSION DRAIN	K1100	KINAWA VIEW DRAIN	S4520	SMITH CONSOLIDATED DRAIN
E0300	EBERY DRAIN	M1700	MEADOWS DRAIN	S6000	SHAKER HEIGHTS DRAIN
E1600	EAST GATE DRAIN	M1800	MUD LAKE OUTLET DRAIN	T1800	SANDERS-TACOMA HILLS DRAIN
F0900	FOREST HILLS DRAIN	M2600	MEIERS DRAIN	T2100	TWYCKINGHAM DRAIN
G2100	GRETTEMBERGER DRAIN	N1200	NILSON DRAIN	U0200	UNRUH DRAIN

# Attachment 4

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## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/2770 Bennett City/County: Meridian Twp/Ingham Sampling Date: 05/18/2023  
 Applicant/Owner: Meridian Township State: Michigan Sampling Point: SP-A  
 Investigator(s): Elise Tripp Section, Township, Range: S29, T4N, R1W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR L Lat: 42.69746367 Long: -84.4527405 Datum: WGS84  
 Soil Map Unit Name: Colwood-Brookston loams (80% Hydric Rating) NWI classification: PSS1/EM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland A</u>
---	--

Remarks: (Explain alternative procedures here or in a separate report.)

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one 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 checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Moss Trim Lines (B16)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Stunted or Stressed Plants (D1)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Microtopographic Relief (D4)

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:

**VEGETATION - Use scientific names of plants.**

Sampling Point: SP-A

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Salix nigra / Black willow</u>	10	Yes	OBL	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	10	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	0	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Typha latifolia / Broadleaf cattail, Broad-leaved cattail</u>	90	Yes	OBL	
2. <u>Phalaris arundinacea / Reed canary grass</u>	5	No	FACW	
3. <u>Cirsium arvense / Canada thistle</u>	3	No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	98	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>	
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)
<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species <u>100</u>	x 1 = <u>100</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>3</u>	x 4 = <u>12</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>108</u>	(A) <u>122</u> (B)
Prevalence Index = B/A = <u>1.13</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
<input checked="" type="checkbox"/> 3 - Prevalence Index ≤3.0 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Explain alternative procedures here or in a separate report.)



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/2770 Bennett City/County: Meridian Twp/Ingham Sampling Date: 05/18/2023  
 Applicant/Owner: Meridian Township State: Michigan Sampling Point: SP-B  
 Investigator(s): Elise Tripp Section, Township, Range: S29, T4N, R1W  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): concave Slope (%): 5  
 Subregion (LRR or MLRA): LRR L Lat: 42.69755197 Long: -84.45273422 Datum: WGS84  
 Soil Map Unit Name: Owosso-Marlette sandy loams, 2 to 6 percent slopes (0% Hydric Rating) 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 , 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

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

Remarks:

**VEGETATION - Use scientific names of plants.**

Sampling Point: SP-B

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: <u>30'</u> )			
1. <i>Pinus strobus</i> / Eastern white pine	45	Yes	FACU
2. <i>Morus alba</i> / Mulberry, White mulberry	25	Yes	FACU
3. <i>Acer platanoides</i> / Norway maple	20	Yes	UPL
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	90	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
Sapling/Shrub Stratum (Plot size: <u>15'</u> )			
1. <i>Prunus serotina</i> / Black cherry	10	Yes	FACU
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	10	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
Herb Stratum (Plot size: <u>5'</u> )			
1. <i>Cirsium arvense</i> / Canada thistle	20	Yes	FACU
2. <i>Cirsium discolor</i> / Field thistle	20	Yes	UPL
3. <i>Barbarea vulgaris</i> / Yellow rocket	10	No	FAC
4. <i>Phalaris arundinacea</i> / Reed canary grass	10	No	FACW
5. <i>Typha latifolia</i> / Broadleaf cattail, Broad-leaved cattail	2	No	OBL
6. <i>Parthenocissus quinquefolia</i> / Virginia creeper	1	No	FACU
7. <i>Asclepias syriaca</i> / Common milkweed	1	No	UPL
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	64	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
Woody Vine Stratum (Plot size: <u>30'</u> )			
1. <i>Vitis riparia</i> / River-bank grape	2	Yes	FAC
2. <i>Parthenocissus quinquefolia</i> / Virginia creeper	1	Yes	FACU
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	3	= 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: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>2</u>	x 1 = <u>2</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>12</u>	x 3 = <u>36</u>
FACU species <u>102</u>	x 4 = <u>408</u>
UPL species <u>41</u>	x 5 = <u>205</u>
Column Totals: <u>167</u> (A)	<u>671</u> (B)

Prevalence Index = B/A = 4.02

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

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

**Definitions of Vegetation Strata**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Explain alternative procedures here or in a separate report.)



# Attachment 5

---



Wetland Adjacent to SP-A



Sampling Point SP-A



Upland Adjacent to SP-B



Sampling Point SP-B



Wetland A, Viewed from the South

UTILITY COMPANY UTILITIES

AT&T  
337 N. ABBOTT, RM. 201  
EAST LANSING, MI 48823  
517.337.3660

TELEPHONE

CONSUMERS ENERGY  
530 W. WILLOW ST.  
P.O. BOX 30162  
LANSING, MI 48909  
517.373.6100

GAS  
ELECTRIC

COMCAST  
1070 TROWBRIDGE ROAD  
EAST LANSING, MI 48823  
517.332.1012

CABLE TV

MERIDIAN TOWNSHIP  
5151 MARSH RD.  
OKEMOS, MI 48864  
517.853.4440

WATER MAINS  
SANITARY SEWER  
PATHWAYS

WOLVERINE PIPE LINE  
8105 VALLEYWOOD LANE  
PORTAGE, MI 49024-5251  
231.323.2491

PETROLEUM PIPELINE

INGHAM COUNTY DRAIN  
COMMISSIONER  
707 BUHL ST.  
MASON, MI 48854  
517.676.8395

DRAINS  
STORM SEWER

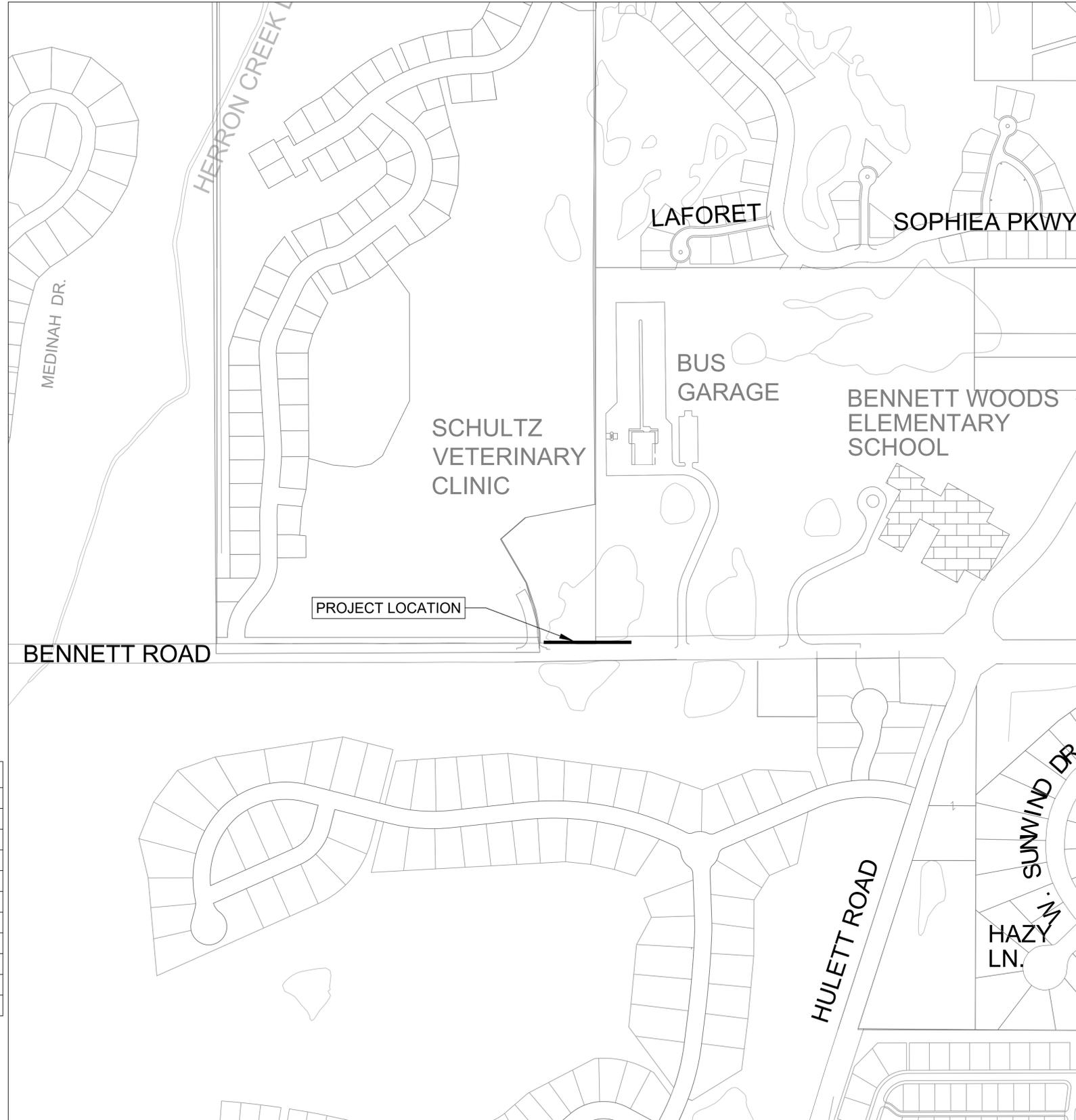
INGHAM COUNTY ROAD DEPT  
301 BUSH ST.  
MASON, MI 48854  
517.676.9722

PUBLIC ROADS AND  
RIGHTS OF WAY

# SCHULTZ PATHWAY CONSTRUCTION PLANS FOR MERIDIAN TOWNSHIP INGHAM COUNTY, MICHIGAN



**Call 811 before you dig.**



**STANDARD CONSTRUCTION NOTES**

- The Contractor shall notify the Charter Township of Meridian, Department of Public Works, Office of Engineering 517-853-4440 a minimum of 72 hours prior to the start of construction of public utilities or of construction within the public right-of-way.
- All construction shall conform to the current standards and specifications of the Charter Township of Meridian which are included as part of these plans in effect at the time of construction.
- After the completion of construction of public utilities or construction within public right-of-way, the contractor must request a final inspection. Any punchlist items resulting from the final inspection must be resolved prior to final release and acceptance.
- The existing utilities indicated on the plans are in accordance with available information. It shall be the contractor's obligation to verify the exact location of all existing utilities, which might affect this job.
- The contractor shall notify "MISS DIG" 1-800-482-7171 at least 72 hours prior to the start of construction.
- The contractor shall at all times be aware of inconvenience caused to the abutting property owners and the general public. Where the contractor does not remedy undue inconveniences, the Charter Township of Meridian, upon four hours notice, reserves the right to perform the work and deduct the cost therefore from the money due the contractor.
- A Registered Land Surveyor provided by the contractor at the contractor's expense shall replace all property irons and monuments disturbed or destroyed by the contractor's operations.
- Contractor shall provide Owner and Township Engineer a copy of written permission to use private property for storage of equipment and materials or for his construction operations.
- Trench backfill under existing or proposed roadways, driveways, and parking areas, shall be sand or gravel, placed in 12" layers (maximum) and consolidated to 95% of maximum density as measured by modified proctor unless otherwise noted.
- Trees and shrubs are to be protected during construction and bored where necessary.
- Existing fences shall be removed and restored to their original condition or better where in conflict with construction.
- Driveways, culverts, ditches, drain tile, tile fields, drainage structures, etc., that are disturbed by the contractor's operations shall be immediately restored.
- All established lawn areas disturbed by the contractor's operations shall be resodded with matching sod. All other areas shall be seeded and mulched. Seeding and mulching shall be done in accordance with the General Specifications.
- All ditch slopes shall have established vegetation and be protected from erosion.
- All utility poles in close proximity to construction shall be supported in a manner satisfactory to the utility owner.
- Onsite parking and sanitary facilities shall be provided for construction workers. The facilities shall be constructed and operated (with minimal impact to the surrounding area) to the satisfaction of the Township.

**PATHWAY NOTES**

- Pathways and sidewalks shall be four (4) inch thick concrete except at driveways where they shall be six (6) inch (residential) or seven (7) inch (commercial) thick concrete.
- Three (3) inches of compacted sand base shall be placed under all pathways and sidewalks.
- All bituminous aprons shall be two and one-half (2½) inches thick, unless otherwise noted.
- Property irons shall be maintained by the Contractor.
- All existing concrete and bituminous to be removed shall be sawcut. All bituminous removal shall be considered incidental to construction.
- All aggregate base material shall be four (4) inches of 22A.
- All tree (less than 6") and shrub removal shall be considered part of subgrade preparation.
- Location of new plant material shall be as directed by the Engineer, and shall be installed in accordance with guidelines established by the A.N.L.A.
- All plant material not marked for removal shall be protected.
- Bituminous drives shall be sawcut 18" on either side of proposed pathway.
- The maximum longitudinal slope is 5% (up to an absolute maximum of 8½% at the direction of the Engineer) and the maximum cross slope is 2%.
- Expansion joints shall be placed at approximately 100' intervals and shall be ½" thick. Contraction joints shall be sawcut to a depth of ¼ of the depth of the concrete.
- All lumber to be pressure treated (Osmose 33 or equal) to 0.4 retention.
- All items not covered under a specific pay item shall be considered incidental.

**Sheet List Table**

Sheet Number	Sheet Title
1	COVER SHEET
2	SESC PLAN
3	SESC NOTES AND DETAILS
4	SESC NOTES AND DETAILS
5	GRADING PLAN
6	SITE PLAN
7	TYPICAL DETAILS
8	BOARDWALK DETAILS
9	BOARDWALK DETAILS
10	TYPICAL SECTIONS

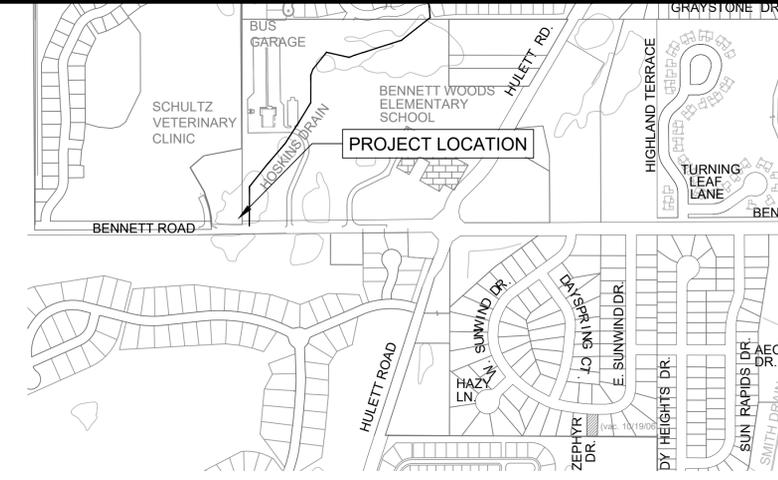


**SEQUENCE OF CONSTRUCTION**

1. INSTALL CONSTRUCTION ENTRANCE, INLET PROTECTION, AND SILT FENCE.
2. CONSTRUCT BOARDWALK BY DRIVING PILES, CONSTRUCTING THE SUPPORT SPAN OF BOARDWALK BETWEEN THE PILES. CONSTRUCTION MAT WILL BE PLACED OVER THE WETLAND AND WILL BE USED TO ACCESS THE BOARDWALK DURING CONSTRUCTION.
3. DEMOLISH THE EXISTING CONCRETE PATHWAY.
4. CONSTRUCT THE PROPOSED CONCRETE PATHWAY
5. PERMANENTLY SEED AREAS ONCE THEY HAVE REACHED FINAL GRADE.
6. REMOVE SESC MEASURES ONCE THE SITE IS FULLY STABILIZED.

**RECOMMENDED CONSTRUCTION SCHEDULING & SEQUENCING**

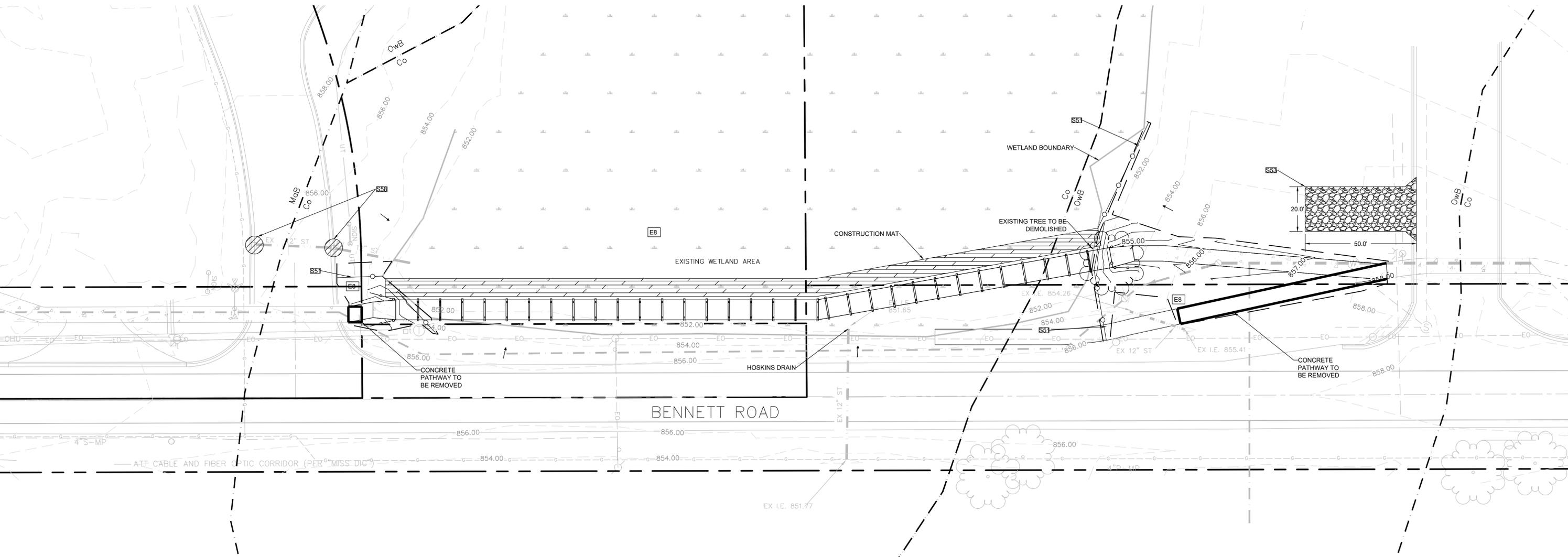
	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
INSTALL SESC MEASURES												
CONSTRUCT BOARDWALK AND ABUTMENTS												
DEMOLISH EXISTING CONCRETE PATHWAY												
CONSTRUCT CONCRETE PATHWAY												
SITE CLEANUP AND RESTORATION												
REMOVE SESC MEASURES												



THE PROJECT IS LOCATED WITHIN 0' OF THE >1 ACRE WETLAND AND HOSKINS DRAIN.

**PAY ITEMS (THIS SHEET)**

EROSION CONTROL, GRAVEL ACCESS APPROACH	1	EA
EROSION CONTROL, SILT FENCE	165	FT
EROSION CONTROL, INLET PROTECTION	2	EA
SIDEWALK, REMOVAL	85	SY
TREE REMOVAL, 19 TO 36 INCH	1	EA

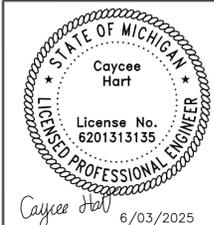


**SOILS:**  
 Co - Colwood-Brookston loams  
 MaB - Marlette Fine Sandy Loam, 2 to 6 percent slopes  
 OwB - Owosso-Marlette Sandy Loams, 2 to 6 percent slopes

**LEGEND**

---	PROPERTY LINE
xxx	EXISTING CONTOUR
xxx	PROPOSED CONTOUR
○	SILT FENCE
---	LIMITS OF DISTURBANCE
- - -	SOIL BOUNDARY
○	INLET PROTECTION
█	CONSTRUCTION ENTRANCE

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
SEDIMENT CONTROLS			
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.
S58	INLET PROTECTION FABRIC DROP		Use at stormwater inlets, especially at construction sites.
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).



**Meridian Charter Township**  
 Ingham County, Michigan

**PATHWAY**

SCHULTZ PATHWAY  
 SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
 INGHAM COUNTY, MICHIGAN

DRAWN BY: CH      CHECKED BY: YI

**REVISIONS:**

DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

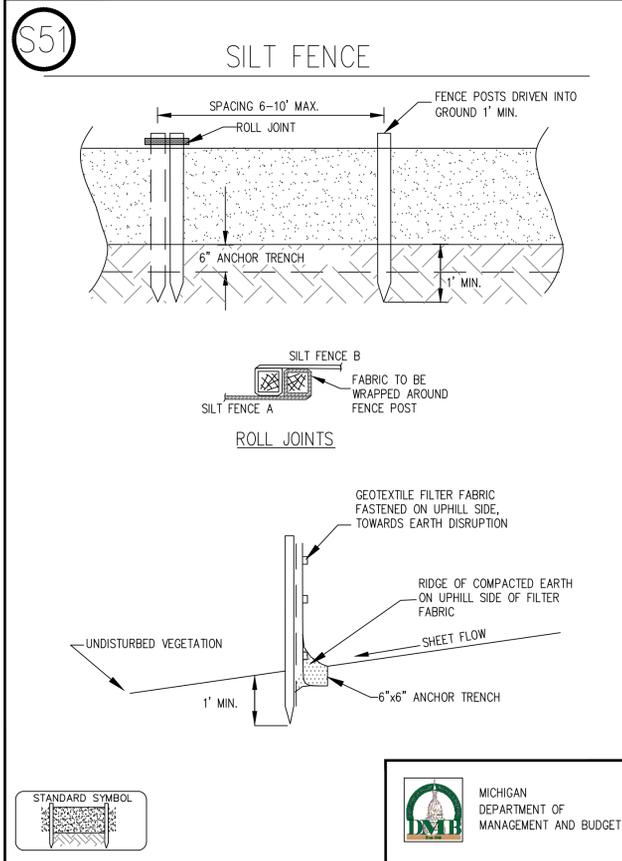
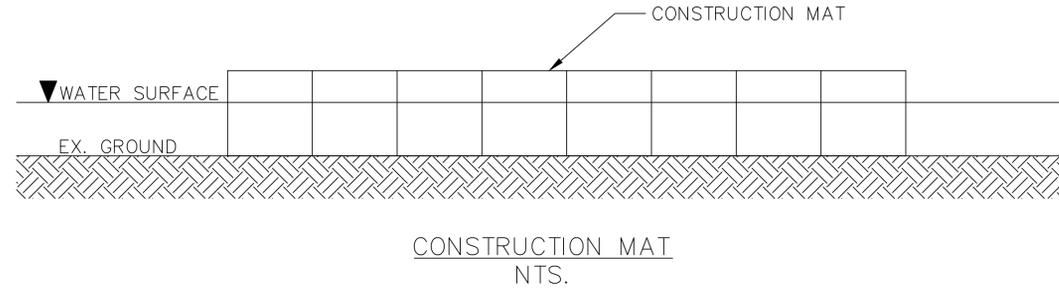
SHEET:

TAX ID: 29-300-014  
 LEGAL DESCRIPTION: M 29-15-3- BEG AT S 1/4 COR SD SEC 29 -W ON S SEC LN 200 FT -N 0 DEG 18'55"W, 60.77 FT -ON CURVE LEFT 174.36 FT HAVING A 333 FT RAD & A CHD OF 172.37 FT. BRG N 15 DEG 18'55"W, -N 30 DEG 18'55"W, 175.77 FT -N 49 DEG 08'47" E, 114 FT -N 79 DEG 14'28" E, 250 FT TO NS 1/4 LN -S 0 DEG 18'55" E, 500 FT ON 1/4 LINE TO POB. SEC 29 T4NR1W 2.73 AC ML

TAX ID: 29-451-002  
 LEGAL DESCRIPTION: COM @ THE S 1/4 COR SEC 29 - N 80 RODS TO N LN OF S 1/2 OF SE 1/4 - E ON N LN 1314.7 FT - S 426.5 FT - E 537.1 FT TO C/L HULETT RD - SWLY ON C/L 1036.22 FT TO S SEC LN - W ON S SEC LN 1324.92 FT TO THE POB. EXC R/W FOR BENNETT & HULETT RD DESC AS COM @ THE S 1/4 COR SEC 29 - N 33 FT TO THE POB. - N 17 FT - N 89 DEG 29'35" E, 1211.32 FT - N 48 DEG 18'54" E, 103.79 FT - ALONG CURVE RT 170 FT HAVING A 314.36 FT RADIUS & A CHD OF 167.94 FT BRG N 29 DEG 40'35" E - N 45 DEG 10' 08" E 125.64 FT - ON CURVE LEFT 140 FT HAVING A 534.53 FT RADIUS & A CHD OF 139.60 FT BRG N 37 DEG 39'56" E - N 30 DEG 09' 44" E, 484.33 FT - N 90 DEG E 30.76 FT - S 30 DEG 25' 06" W 984.28 FT - S 89 DEG 29' 35" W 1322.15 FT TO THE POB SEC 29 T4NR1W 44.26 AC +/-

**SOIL EROSION & SEDIMENTATION CONTROL NOTES**

- All soil erosion and sediment control (SESC) work shall conform to the standards and specifications of the Ingham County Drain Commissioner's Office and Meridian Township.
- Daily inspections shall be made by the contractor for effectiveness of SESC measures. Any necessary repairs shall be performed without delay.
- Erosion of any sediment from work on the site shall be contained on-site and not allowed to collect on any off-site areas or in waterways. Waterways include both natural and man-made open ditches, streams, storm drains, lakes, ponds, and wetlands.
- The Contractor shall apply temporary SESC measures when required and as directed on these plans. The Contractor shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other changes have been established.
- Staging the work shall be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
- Soil erosion control practice shall be established in the early stages of construction by the Contractor. Sedimentation control practices shall be applied as a perimeter defense against any transporting of soil off the site.
- The Contractor shall preserve natural vegetation as much as possible.
- Vegetative stabilization of all disturbed areas shall be established within 15 days of completion of the final grading.



**S51 SILT FENCE SPECIFICATIONS**

**When** • A temporary measure for preventing sediment movement.

**Why** • Used to prevent sediment suspended in runoff from leaving an earth change area.

**Where** • Use adjacent to critical areas, wetlands, base of slopes, and watercourses.

**How**

- Install parallel to a contour.
- The silt fence should be made of woven geotextile fabric.
- Silt fence should accommodate no more than 1/2 to 1 acre of drainage per 100' of fence and on slopes less than 1:2 (v:h).
- Dig a 6" trench along the area where the fence is to be installed.
- Place 6" of the silt fence bottom flap into the trench.
- Backfill the trench with soil and compact the soil on both sides. Create a small ridge on the up-slope side of the fence.
- Install wooden stakes 6 - 10' apart and drive into the ground a minimum of 12".
- Staple the geotextile fabric to the wooden stakes.
- Join sections of silt fence by wrapping ends together (See drawing).

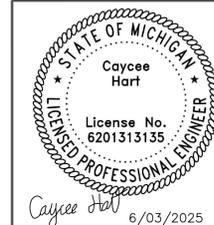
**Maintenance**

- Inspect frequently and immediately after each storm event. Check several times during prolonged storm events. If necessary, repair immediately.
- If the sediment has reached 1/3 the height of the fence, the soil should be removed and disposed of in a stable upland site.
- The fence should be re-installed if water is seeping underneath it or if the fence has become ineffective.
- Silt fence should be removed once vegetation is established and up-slope area has stabilized.

**S51 SILT FENCE SPECIFICATIONS**

**Limitations**

- Silt fence may cause temporary ponding and could fail if too much water flows through the area.
- Do not use in areas with concentrated flows.
- Chance of failure increases if fence is installed incorrectly or if sediment accumulation is not removed.



<b>Meridian Charter Township Ingham County, Michigan</b>	
<b>PATHWAY</b>	
<b>SCHULTZ PATHWAY</b>	
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN	
DRAWN BY: CH	CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

SHEET:

**3 - SESC NOTES AND DETAILS**

**S58** INLET PROTECTION – FABRIC DROP

INLET GRATE

2'-0"

4'-0"

1" REBAR FOR BAG REMOVAL FROM INLET

ISOMETRIC VIEW

INSTALLATION DETAIL

STANDARD SYMBOL

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**S58** INLET PROTECTION – FABRIC DROP SPECIFICATIONS

**When**

- When sediment laden stormwater requires treatment before entering a stormwater drainage system.

**Why**

- To prevent sediment from entering stormwater systems.

**Where**

- Use in or at stormwater inlets, especially at construction sites or in streets.

**How**

- A filter fabric bag is hung inside the inlet, beneath the grate.
- Replace grate, which will hold bag in place.
- Anchor filter bag with 1" rebar for removal from inlet.
- Flaps of bag that extend beyond the bag can be buried in soil in earth areas.

**Maintenance**

- Drop inlet filters should be inspected routinely and after each major rain event.
- Damaged filter bags should be replaced.
- Clean and/or replace filter bag when 1/2 full.
- Replace clogged fabric immediately.
- If needed, initiate repairs immediately upon inspection.
- Remove entire protective mechanism when upgradient areas are stabilized and streets have been swept.

**Limitations**

- Can only accommodate small flow quantities.
- Requires frequent maintenance.
- Ponding may occur around storm drains if filter is clogged.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**E8** PERMANENT SEEDING SPECIFICATIONS

**When**

- To finalize stabilization of temporary seeding areas or when an area needs permanent stabilization following completion of construction. Also used when vegetative establishment can correct existing soil erosion or sedimentation problem.
- Within 5 days of final grade.

**Why**

- To stabilize soil and prevent or reduce soil erosion/sedimentation problems from developing.

**Where**

- Used on construction and earth change sites which require permanent vegetative stabilization.

**How**

- Review SESC plan and construction phasing to identify areas in need of permanent vegetative stabilization.
- Select perennial grass and ground cover for permanent cover.
- Seed mixes vary. However, they should contain native species.
- Seed mixes should be selected through consultation with a certified seed provider and with consideration of soil type, light, moisture, use applications, and native species content.
- Soil tests should be performed to determine the nutrient and pH levels in the soil. The pH may need to be adjusted to between 6.5 and 7.0.
- Prepare a 3–5" deep seedbed, with the top 3–4" consisting of topsoil.
- Slopes steeper than 1:3 should be roughened.
- Apply seed as soon as possible after seedbed preparation. Seed may be broadcast by hand, hydroseeding, or by using mechanical drills.
- Mulch immediately after seeding.
- Dormant seed mixes are for use after the growing season, using seed which lies dormant in the winter and begins growing as soon as site conditions become favorable.

STANDARD SYMBOL

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**E8** PERMANENT SEEDING SPECIFICATIONS

**How (cont.)**

- Protect seeded areas from pedestrian or vehicular traffic.
- Divert concentrated flows away from the seeded area until vegetation is established.

**Maintenance**

- Inspect weekly and within 24 hours following each rain event in the first few months following installation to be sure seed has germinated and permanent vegetative cover is being established.
- Add supplemental seed as necessary.

**Limitations**

- Seeds need adequate time to establish.
- May not be appropriate in areas with frequent traffic.
- Seeded areas may require irrigation during dry periods.
- Seeding success is site specific, consider mulching or sodding when necessary.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**E8** PERMANENT SEEDING

Planting Zones:	Lower Peninsula (South of T20N) Zone 1	Lower Peninsula (North of T20N) Zone 2	Upper Peninsula Zone 3
Seeding Window Permanent Seeding	4/15 – 10/10	5/1 – 10/1	5/1 – 9/20
Seeding Window Dormant Seeding*	11/15 – Freeze	11/01 – Freeze	11/01 – Freeze

Source: Adapted from MDOT Interim 2003 Standard Specifications for Construction

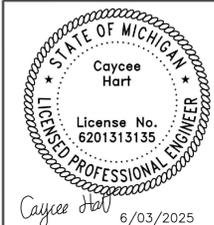
	Zone 1 Lower Peninsula (South of U.S. 10)	Zone 2 Lower Peninsula (North of U.S. 10)	Zone 3 Upper Peninsula
Seeding Dates (with Irrigation or Mulch)	4/1 – 8/1	5/1 – 9/20	5/1 – 9/10
Seeding Dates (w/o Irrigation or Mulch)	4/1 – 5/20 or 8/10 – 10/1	5/1 – 6/10 or 8/1 – 9/20	5/1 – 6/15 or 8/1 – 9/20
Dormant Seeding Dates*	11/1 – Freeze	10/25 – Freeze	10/25 – Freeze

Source: Adapted from USDA NRCS Technical Guide #342 (1999)

\* Dormant seeding is for use in the late fall after the soil temperature remains consistently below 50°F, prior to the ground freezing. This practice is appropriate if construction on a site is completed in the fall but the seed was not planted prior to recommended seeding dates. No seed germination will take place until spring. A cool season annual grass may be added in an attempt to have some fall growth.

- Mulch must be used with dormant seed.
- Do not seed when the ground is frozen or snow covered.
- Do not use a dormant seed mix on grassed waterways.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET



Meridian Charter Township  
Ingham County, Michigan

**PATHWAY**

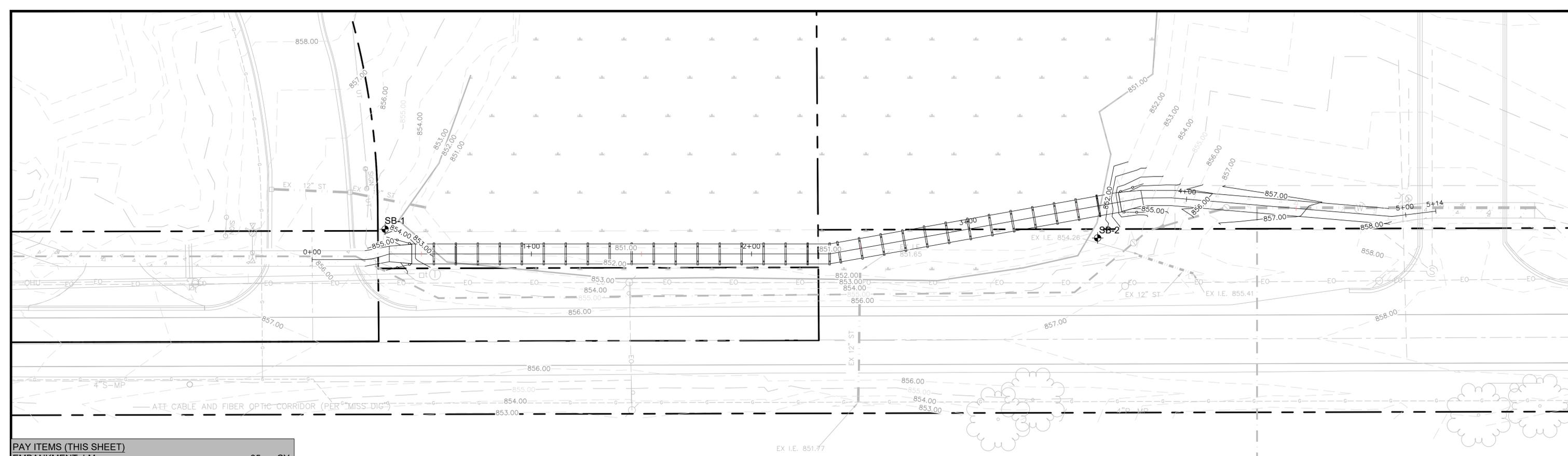
SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH CHECKED BY: YI

REVISIONS:		
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4.11.25	CH	EGL 4TH SUBMITTAL
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6.03.25	CH	EGL: CONST. MAT REVISION

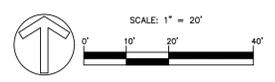
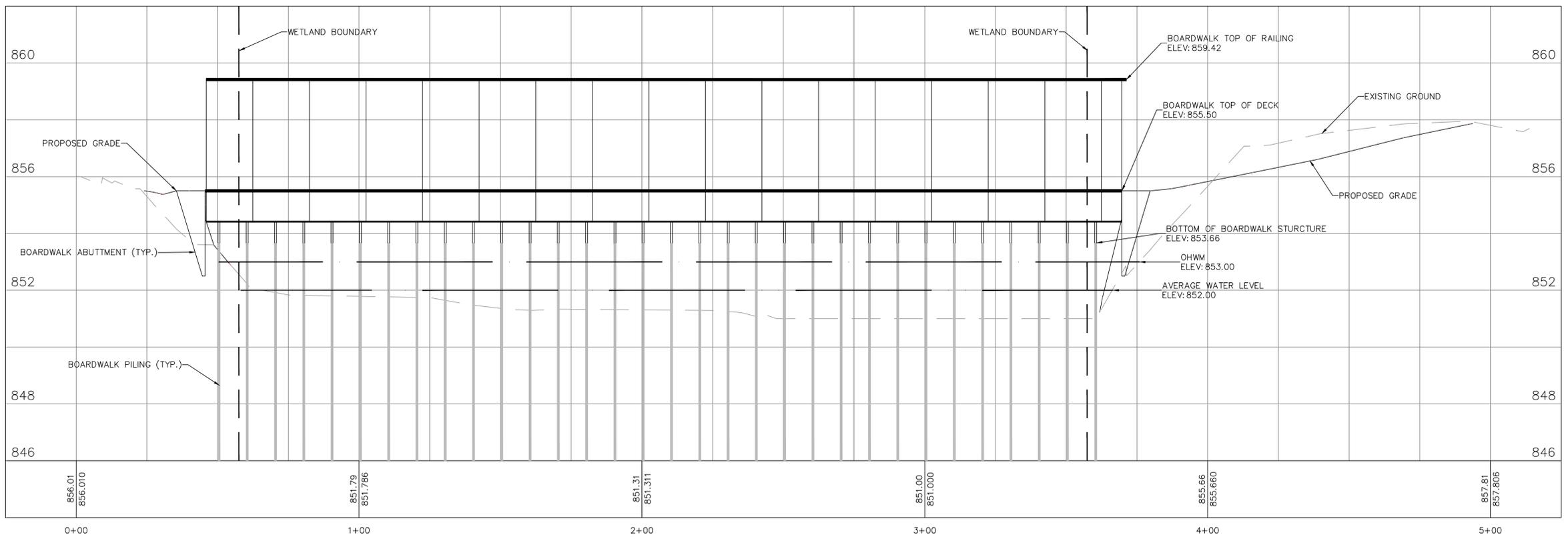
SHEET:

4 - SESC NOTES AND DETAILS



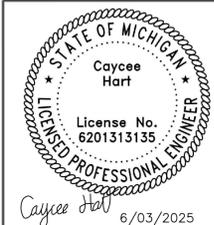
PATHWAY PROFILE

PAY ITEMS (THIS SHEET)		
EMBANKMENT, LM	35	CY
EXCAVATION, EARTH	75	CY
SHARED USE PATH GRADING	140	FT



**Call 811 before you dig.**

WOLVERINE PIPE LINE COMPANY 219-844-9510



Meridian Charter Township  
Ingham County, Michigan

**PATHWAY**

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SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH      CHECKED BY: YI

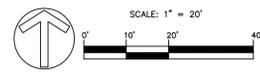
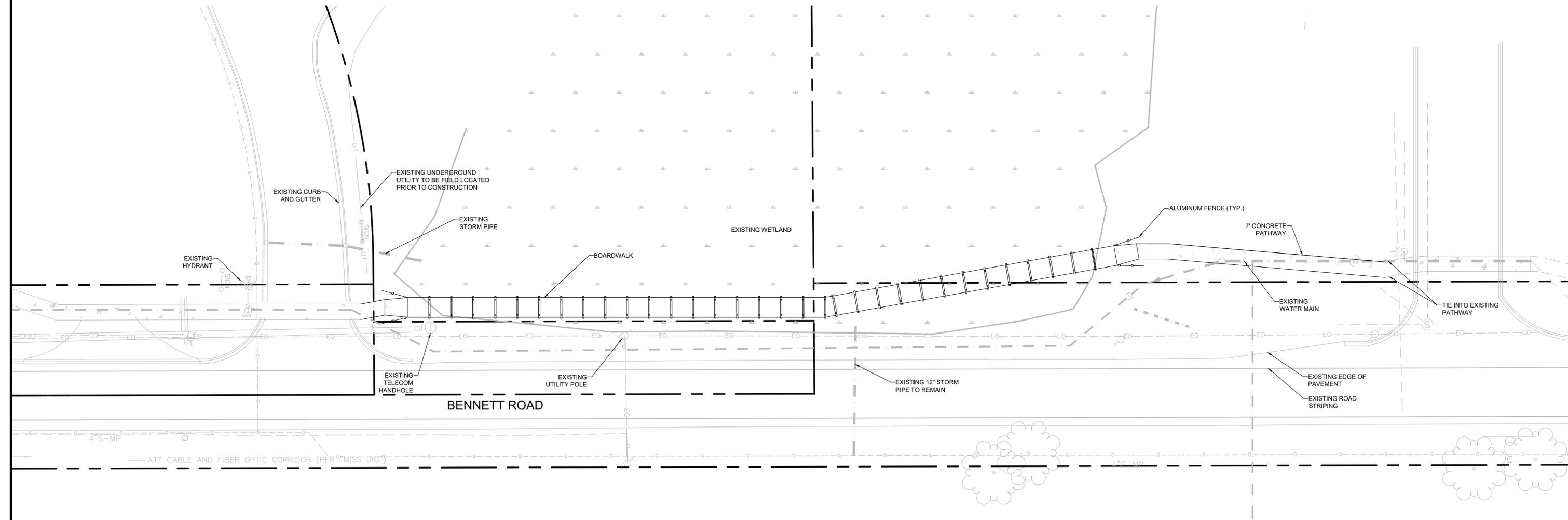
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DATE	BY:	COMMENTS:
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5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:

PAY ITEMS (THIS SHEET)		
SHARED USE PATH, CONCRETE	115	SY
SHARED USE PATH, AGGREGATE	40	TN
CONCRETE ABUTMENT	2	EA
TREATED TIMBER BOARDWALK	335	FT
BOARDWALK STRUCTURAL PILES	1	LS
SITE RESTORATION	1	LS
FENCE, ALUMINUM	50	FT

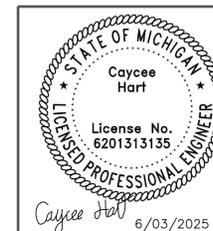
**LEGEND**

- — — — — PROPERTY LINE
- — — — — EXISTING OVERHEAD ELECTRIC LINE
- — — — — EXISTING WATER MAIN



**Call 811 before you dig.**

WOLVERINE PIPE LINE COMPANY 219-844-9510



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

**SCHULTZ PATHWAY**

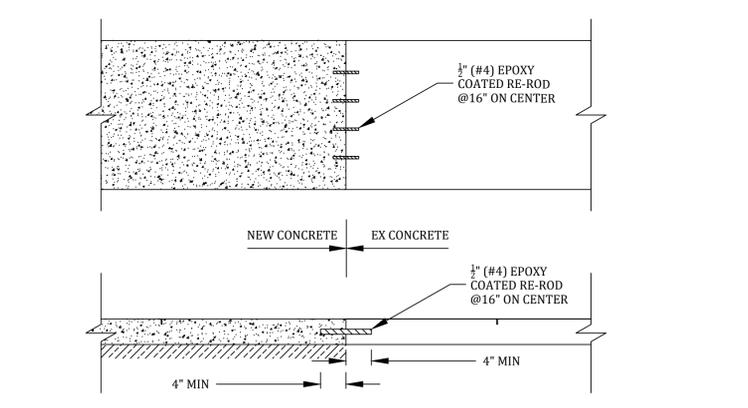
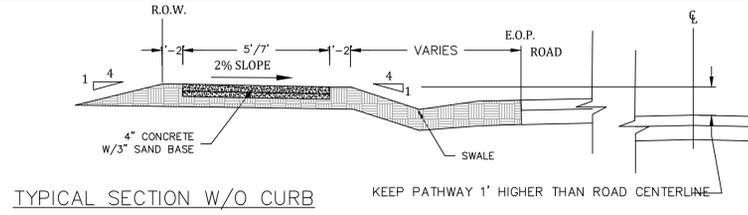
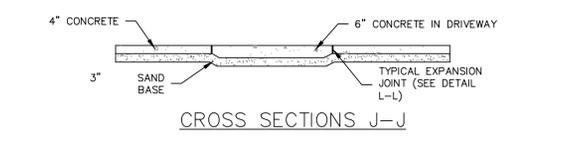
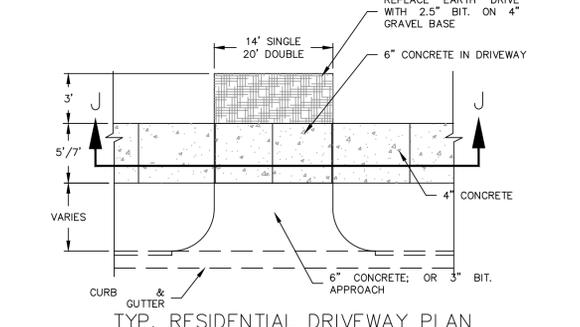
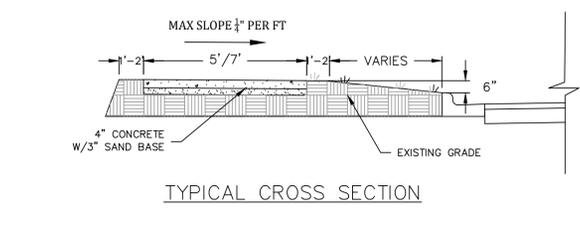
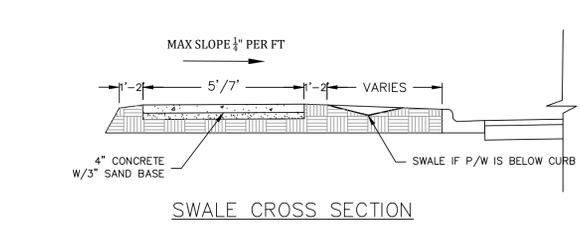
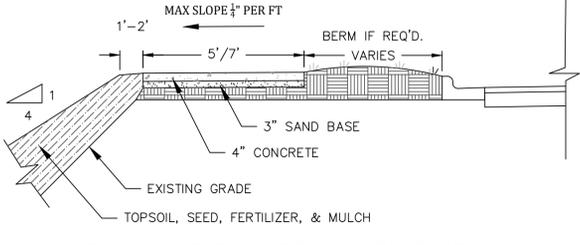
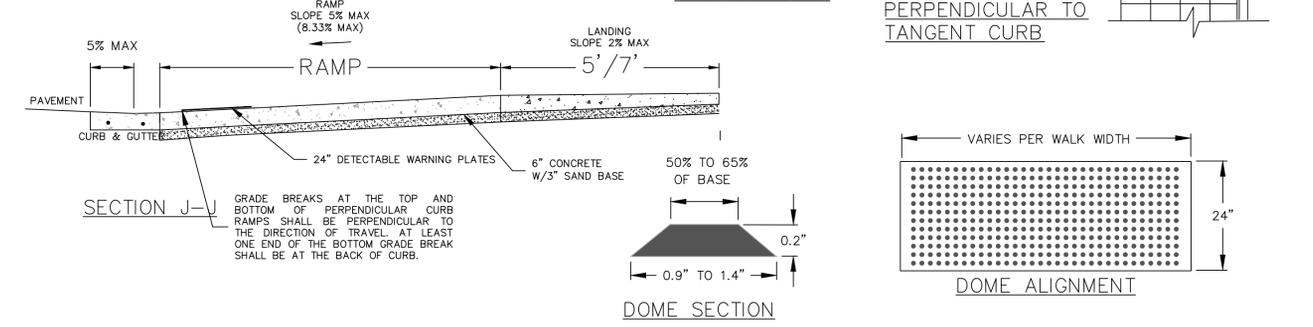
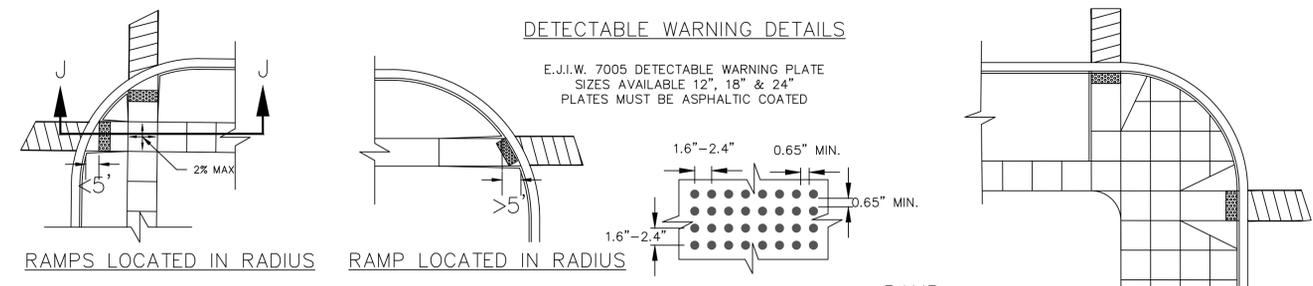
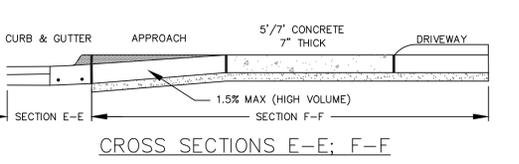
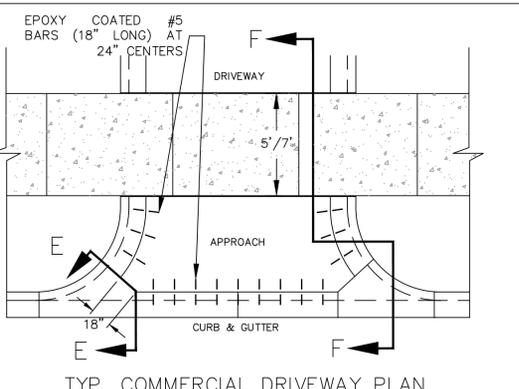
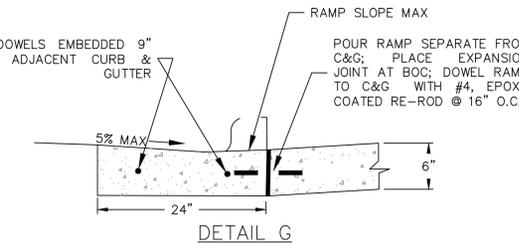
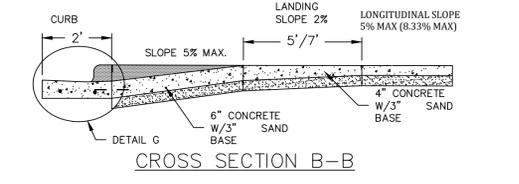
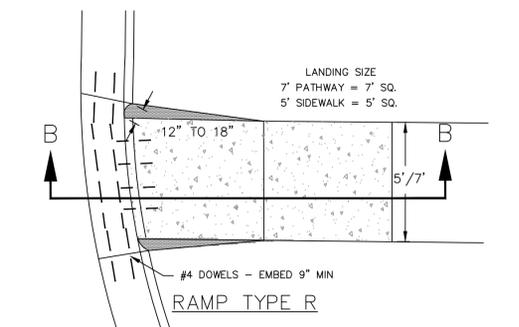
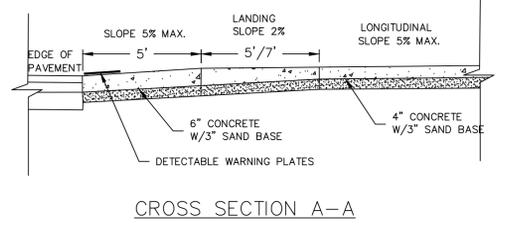
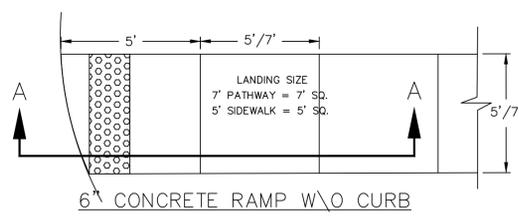
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH

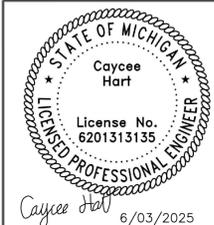
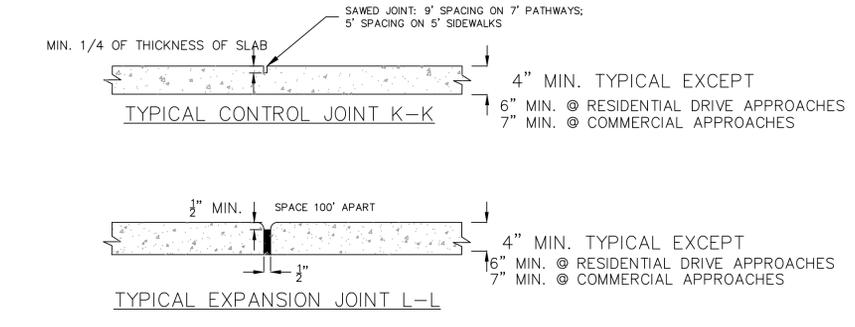
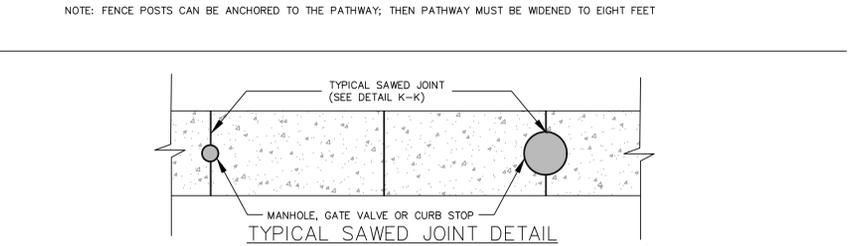
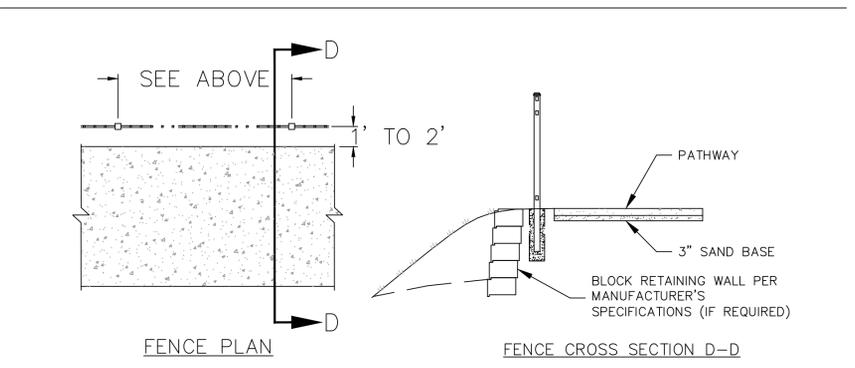
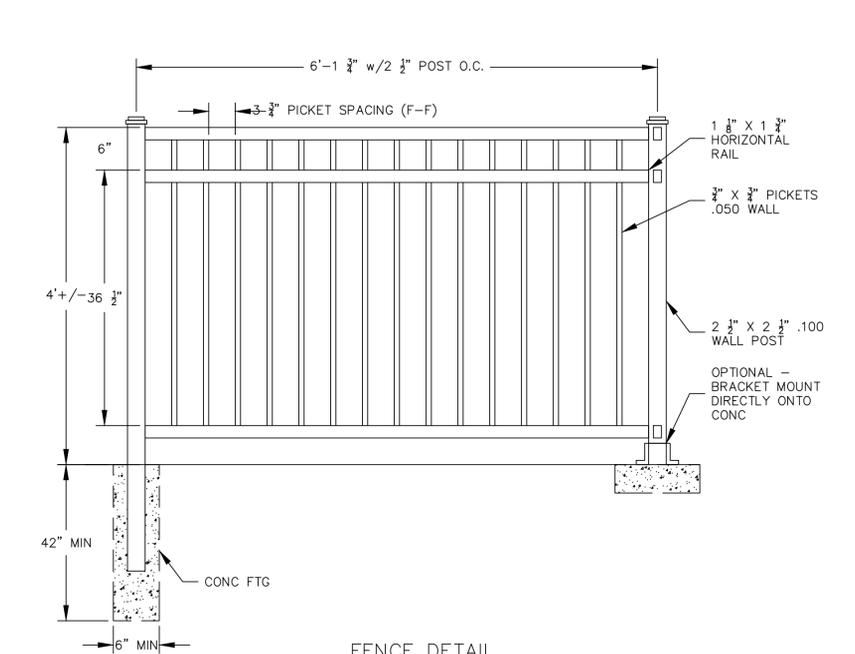
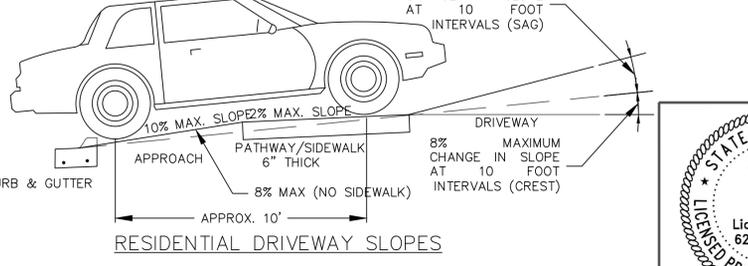
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REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGLE 2ND SUBMITTAL
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5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:



- GENERAL NOTES
1. SIDEWALKS/PATHWAYS SHALL BE 4" THICK CONCRETE EXCEPT AT DRIVEWAYS.
  2. SIDEWALKS/PATHWAYS THRU DRIVES SHALL BE: 6" (RESIDENTIAL); 7" (MULTI-RESIDENTIAL & COMMERCIAL)
  3. 3" OF COMPACTED SAND BASE SHALL BE PLACED UNDER ALL SIDEWALKS/PATHWAYS.
  4. ALL BITUMINOUS APRONS SHALL BE 2 1/2" THICK, UNLESS NOTED OTHERWISE
  5. PROPERTY IRONS SHALL BE MAINTAINED BY THE CONTRACTOR.
  6. ALL EXISTING CONCRETE AND BITUMINOUS TO BE REMOVED SHALL BE SAWCUT. ALL CONCRETE AND BITUMINOUS REMOVAL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
  7. ALL AGGREGATE BASE SHALL BE 22A, 4" THICK.
  8. ALL TREE AND BUSH REMOVAL SHALL BE CONSIDERED PART OF SUB-GRADE PREPARATION.
  9. LOCATION OF NEW PLANT MATERIAL SHALL BE AS DIRECTED BY THE ENGINEER, AND SHALL BE INSTALLED IN ACCORDANCE WITH GUIDELINES ESTABLISHED BY THE A.A.O.N.
  10. ALL PLANT MATERIAL NOT MARKED FOR REMOVAL SHALL BE PROTECTED.
  11. BITUMINOUS DRIVES SHALL BE SAWCUT 18" ON EITHER SIDE OF PROPOSED PATHWAY.



Meridian Charter Township  
Ingham County, Michigan

**PATHWAY**

SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: GH CHECKED BY: YI

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SHEET: 7 - TYPICAL DETAILS

BOARDWALK MATERIALS			EXTREME FIBER BENDING STRENGTH F <sub>b</sub> (PSI)	MODULES OF ELASTICITY E (PSI)
ITEM	DESCRIPTION	SIZE/LENGTH		
1.	8" X 10" BEAMS	9'	2400	1600000
2.	3" X 10" JOISTS	11'	2400	1600000
3.	3" X 10" JOIST SPLICES	18"	2400	1600000
4.	3" X 8" DECK	9'	1500	1800000
5.	4" X 8" RAIL POSTS	4'-6"	1200	1200000
6.	2 X 10 TOP RAILS	11'	1200	1200000
7.	2 X 8 SIDE RAILS	11'	1200	1200000
8.	10" WOOD WOLMANIZED POSTS	5'-7" (VARIES)		
9.	3" X 12" HEADER	9'	2400	1600000
10.	3/8" CARRIAGE BOLTS, NUTS & WASHERS	5-1/2" - 7" (SPLICE PLATES)		
11.	3/4" BOLTS, NUTS & WASHERS	10"		
12.	3/4" BOLTS, NUTS & WASHERS	7-1/2"		
13.	7 GA. GALVANIZED STEEL PLATES	4" x 8"		
14.	5/8" LAG BOLTS	3"		
15.	ICE & WATER CAP	6"		

**MATERIALS:**

**A. WOOD:**

All wood members shall be Coast Region Douglas Fir or Southern Yellow Pine species. Commercial grade lumber for beams, joists, blocking and deck panels shall be similar to 2400f-1.6E(MSR). All other members shall be similar to 1200f-1.2E(MSR). All members shall be conditioned and pressure-treated in accordance with the requirements of AWPAC C2. The preservative chemical used shall meet applicable EPA requirements. The use of waterborne chemicals will not be allowed.

Handrails and posts shall be conditioned and pressure-treated with a clean preservative such as pentachlorophenol.

Joists shall extend over the full width of the supporting 8"x10" beams (except side joists).

Deck members shall be continuous over the deck width with no intermediate splices. Deck members shall lay up with no spaces between them. Deck members shall be in full contact with joists below.

Field cutting and drilling of wood members will not be allowed, unless all cuts and field-drilled holes are brush treated with a 5% pentachlorophenol solution or other approved field-treatment. Creosote solutions will not be approved for field-treatment.

All wood members shall have a smooth surface finish.

Wood posts shall meet ASTM D-25 standards for round timber posts. Posts shall be pressure treated in accordance with APWA standard C3.

All wood posts to have a minimum cover of 5'.

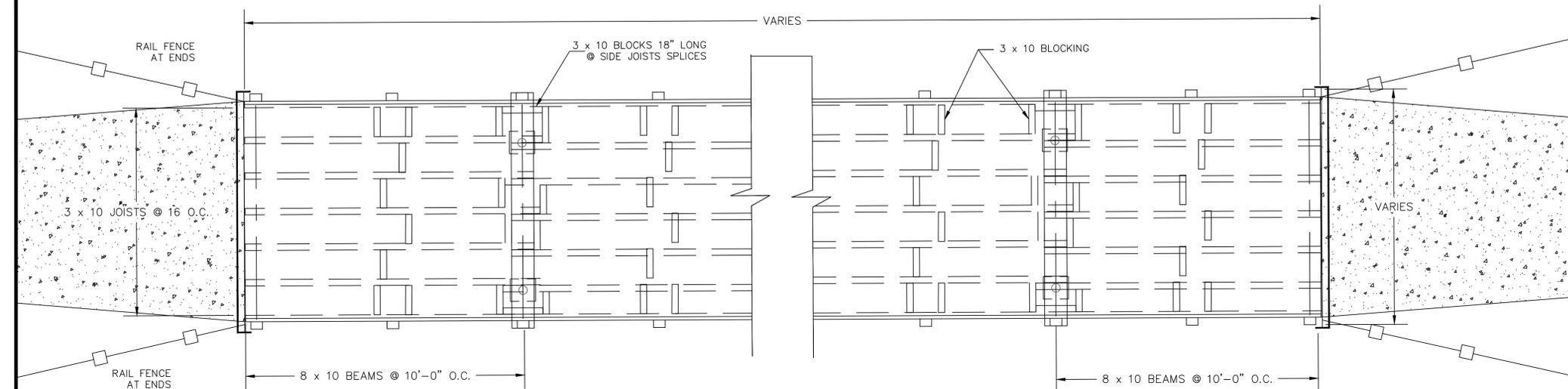
Manufacturer shall submit a certificate attesting to compliance with preservative specifications.

**B. HARDWARE:**

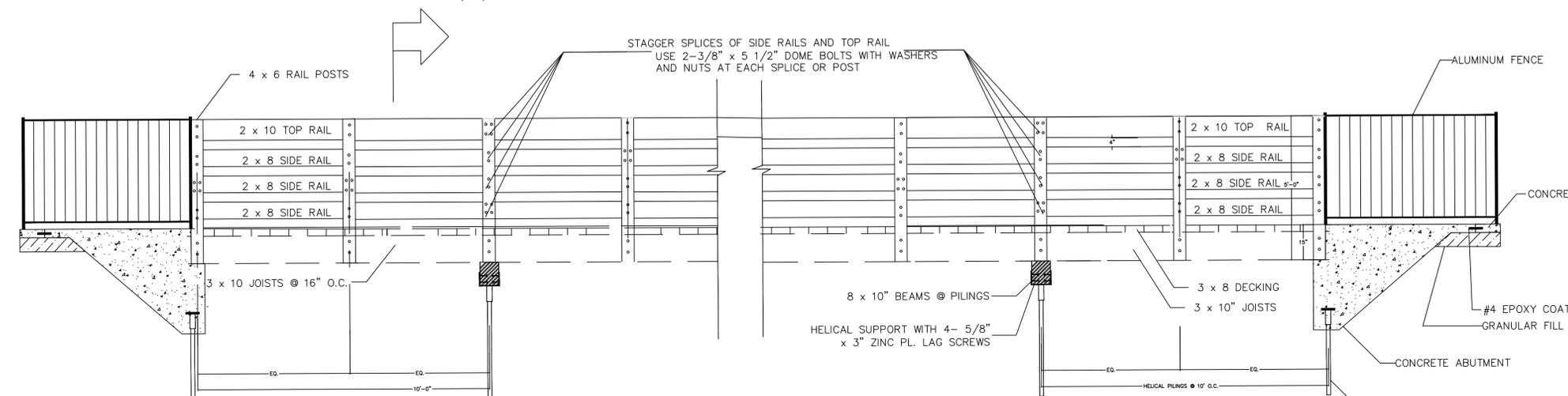
Bolts, nuts, and washers used for assembly shall conform to the requirements of ASTM A 325 and shall be hot-dip galvanized in accordance with ASTM A 153 or stainless steel.

Steel plate brackets used to connect beams to posts shall be ASTM A36 steel with hot-dip galvanized coating conforming to the requirements of ASTM A 153. Dimensions shall be as shown on plan.

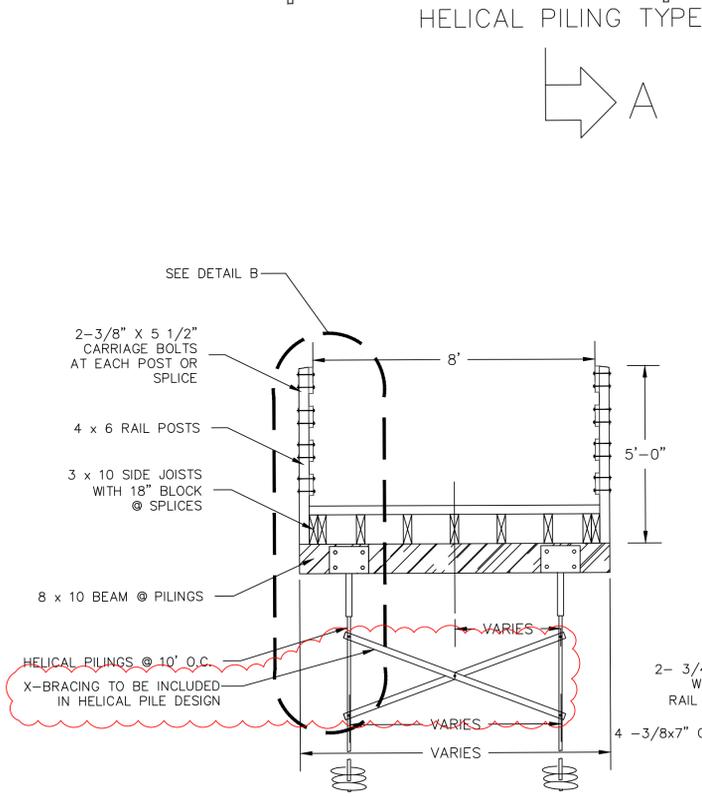
Deck Screws shall be epoxy coated t25 (#10 x 5") coarse thread. Provide two (2) screws per each for the following: joist to beam, joist laps, and blocking. Pre-drill toe-nailed joist to beam members, and deck ends (at side joists) with a 6" ring shank nail, to prevent splitting. Counterset deck screws 1/4", otherwise place as directed.



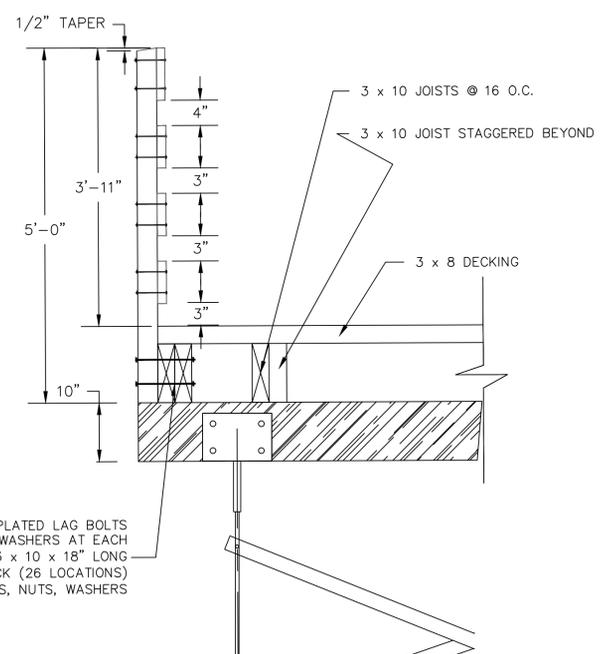
**FRAMING PLAN**



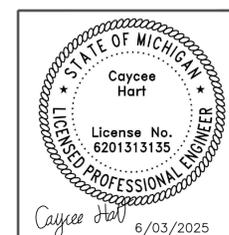
**BOARDWALK ELEVATION**  
SCALE: 1" = 3'



**SECTION A-A**



**DETAIL B**



Meridian Charter Township  
Ingham County, Michigan

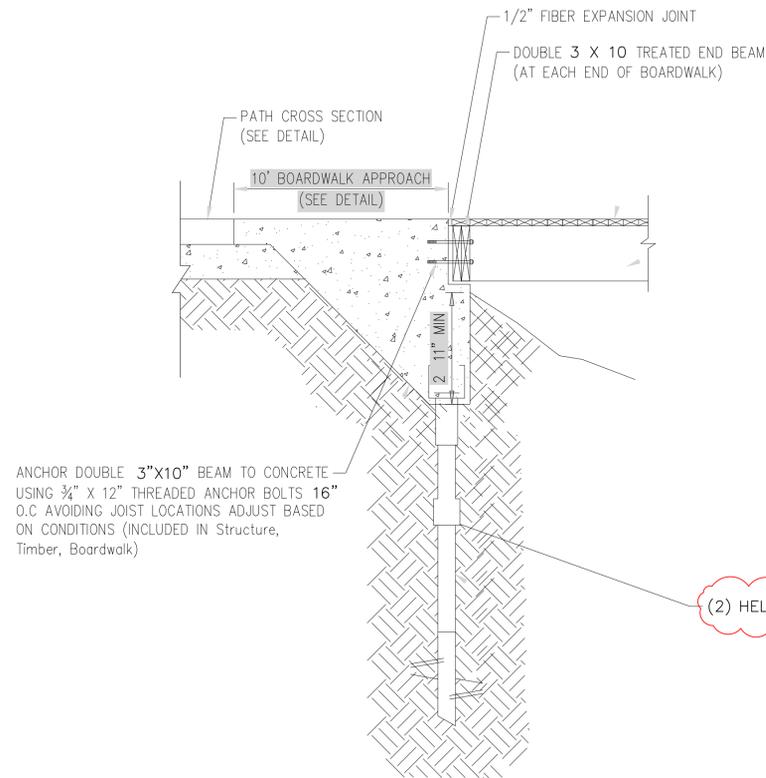
**PATHWAY**

SCHULTZ PATHWAY  
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DRAWN BY: CH CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGLE 2ND SUBMITTAL
2.20.25	CH	EGLE 3RD SUBMITTAL
4.11.25	CH	EGLE 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET: 8 - BOARDWALK DETAILS

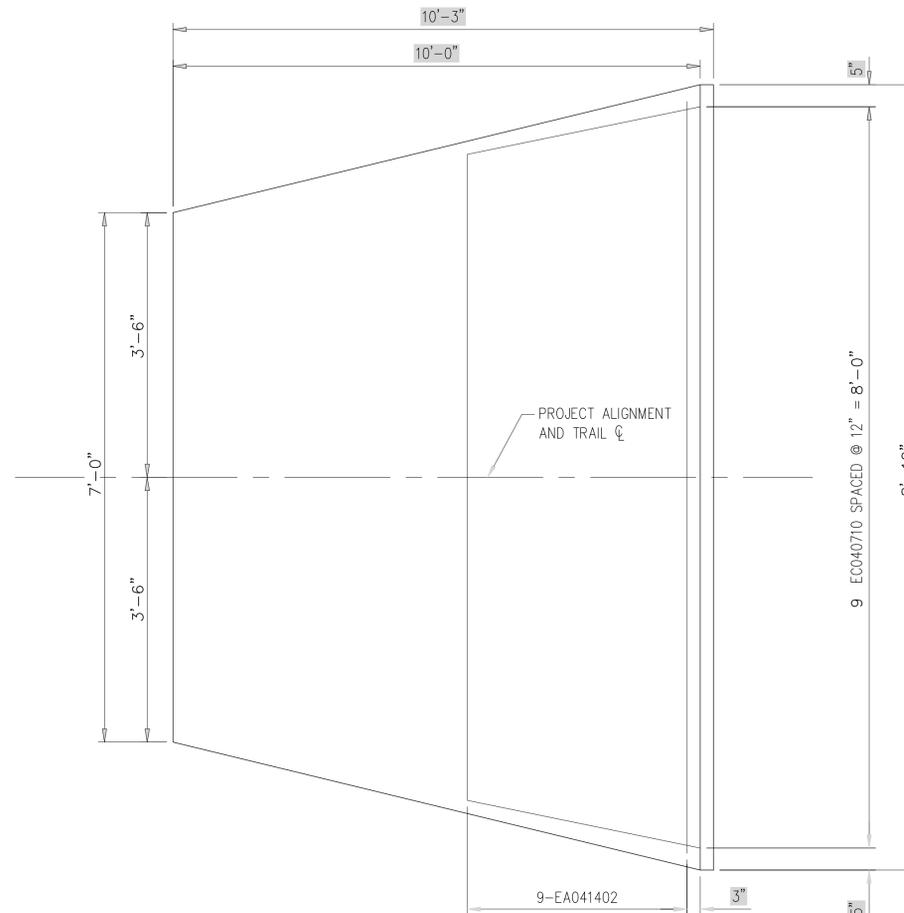


ANCHOR DOUBLE 3"x10" BEAM TO CONCRETE USING 3/4" X 12" THREADED ANCHOR BOLTS 16" O.C AVOIDING JOIST LOCATIONS ADJUST BASED ON CONDITIONS (INCLUDED IN Structure, Timber, Boardwalk)

(2) HELICALS PER ABUTMENT

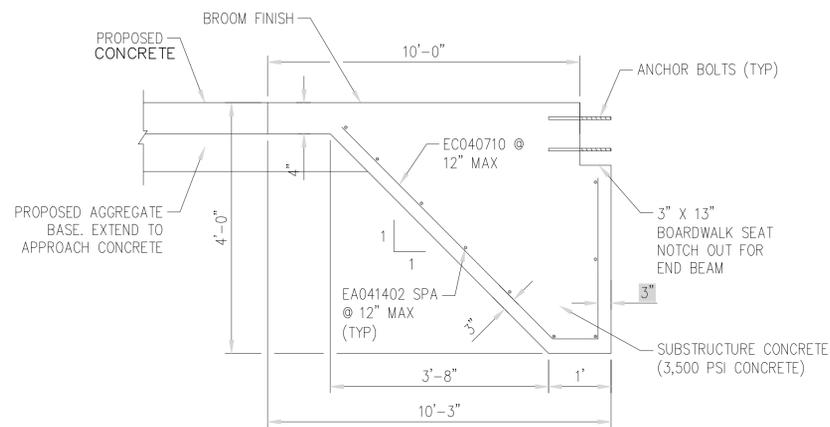
**BEAM/JOIST/POST DETAIL**

NOT TO SCALE



**BOARDWALK APPROACH PLAN**

SCALE: 1/2" = 1'-0"

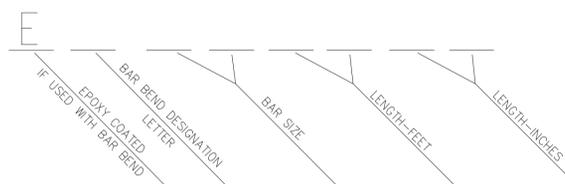


**BOARDWALK APPROACH DETAIL**

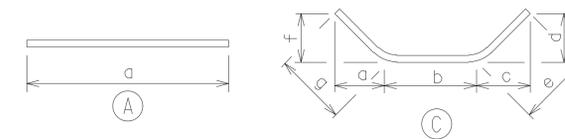
NOT TO SCALE

CUT EA041402 BARS AS REQUIRED.

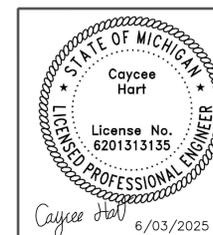
A.S.T.M. STANDARD REINFORCING BARS		
BAR SIZE DESIGNATION	WEIGHT (LBS/FT.)	DIAMETER (INCH)
#2	.167	.250
#3	.376	.375
#4	.668	.500
#5	1.043	.625
#6	1.502	.750
#7	2.044	.875
#8	2.670	1.000
#9	3.400	1.128
#10	4.303	1.270



**STANDARD REINFORCING BAR TYPES**



STEEL REINFORCEMENT										
BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D
	a	b	c	d	e	f	g			
SUBSTRUCTURE										
BOARDWALK APPROACHES										
EA041402	8'-2"							4	8'-2"	18
EC040710	3'-5"	8"	0"	2'-4"	2'-4"	3'-5"	4'-10"	4	7'-10"	105



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

**SCHULTZ PATHWAY**

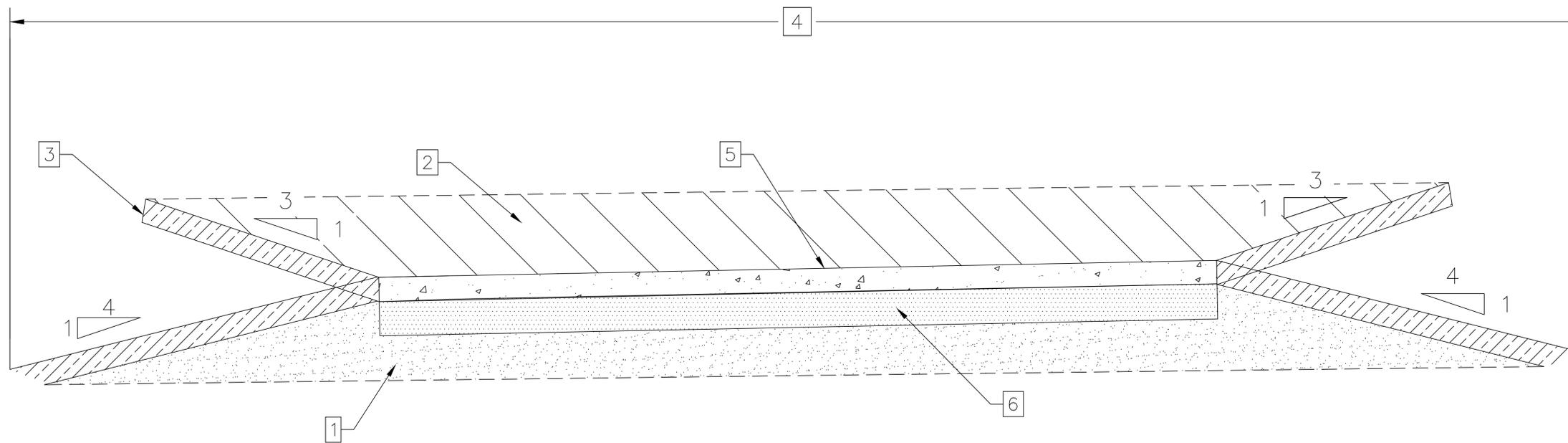
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

DRAWN BY: GH

CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

SHEET:



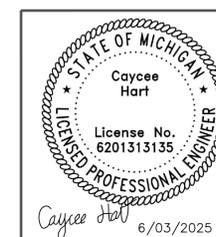
TYPICAL SECTION: CONCRETE PATHWAY

PAY ITEM LEGEND:

- 1 EMBANKMENT, LM
- 2 EXCAVATION, EARTH
- 3 SITE RESTORATION, 3" SCREENED TOPSOIL
- 4 SHARED USE PATH, GRADING
- 5 SHARED USE PATH, 4" CONCRETE
- 6 SHARED USE PATH, AGGREGATE (6" DEPTH)

GENERAL NOTES:

- CROSS-SECTIONS ARE NOT TO SCALE.
- SALVAGE OR REMOVE EXISTING TOPSOIL WITHIN THE GRADING LIMITS, OR AS DIRECTED BY THE ENGINEER. REMOVAL AND DISPOSAL WILL BE PAID FOR AS EXCAVATION, EARTH.
- TOPSOIL FOR SITE RESTORATION MAY BE SALVAGED FROM SITE, BUT MUST BE SCREENED OR RAKED TO REMOVE 1" OR GREATER DEBRIS.
- FOR SITE RESTORATION, USE SEED MEETING MDOT THM MIXTURE.
- EMBANKMENT, LM SHALL BE CLASS II GRANULAR MATERIAL OR ASPHALT MILLINGS.
- FOR EMBANKMENT, LM THE CONTRACTOR MAY USE MILLINGS FROM THE STOCKPILE AT MERIDIAN TOWNSHIP'S SERVICE CENTER. THERE ARE MORE THAN ENOUGH MILLINGS FOR ALL OF THE FILL REQUIRED ON THIS PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE THE LABOR AND EQUIPMENT TO LOAD AND TRANSPORT THE MILLINGS FROM THE STOCKPILE LOCATION TO THE CONSTRUCTION SITE.



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

SCHULTZ PATHWAY

SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH

CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

SHEET:

June 13, 2023  
Project No. 231002

Tim Schmitt  
Charter Township of Meridian  
5151 Marsh Road  
Okemos, MI 48864-1198

**Wetland Delineation in Vicinity of Schultz Veterinarian Clinic  
2770 Bennett Road/4009 Hulett Road  
Charter Township of Meridian, Ingham County, Michigan**

On May 18, 2023, Fishbeck staff conducted a field investigation and delineated wetlands on Parcel No. 33-02-29-300-014, located at 2770 Bennett Road, and Parcel No. 33-02-02-451-002, located at 4009 Hulett Road, Charter Township of Meridian (Township), Michigan (the Site). The area of investigation is located in the southwest quarter of Section 29 of Town 4 North, Range 1 West, and was limited to the south, east, and north sides of Meridian Township Wetland 29-21, as requested by the Township. The Site is bound by forested land and Schultz Veterinary Clinic to the north and west, Bennett Woods Elementary School to the east, and Bennett Road to the south (Figure 1). The results of the investigation are included in this report.

The wetland delineation was conducted in a manner consistent with the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2). The wetland identification and delineation procedures outlined in this manual requires evaluation of site vegetation, soils, and hydrologic characteristics. Dominant wetland vegetation, hydric soil, and wetland hydrology must all be present for an area to be classified as a wetland. Hydrophytic vegetation decisions are based on the wetland indicator status of species that are dominant in the plant community. Species with indicator statuses of obligate wetland (OBL), facultative wetland (FACW), and facultative (FAC) are considered wetland species, while species with indicator statuses of facultative upland (FACU) and upland (UPL) are considered upland species. FAC species are also commonly present in upland plant communities.

## Literature Review

The Township wetland map for Section 29 indicates the area of investigation contains Township Wetland 29-21, an approximately 2.75-acre forested and shrub scrub wetland. According to the U.S. Department of Agriculture Natural Resources Conservation Service *Web Soil Survey*, Colwood-Brookston loams (80% hydric rating) is mapped in the vicinity of this wetland. The adjacent area contains Marlette fine sandy loam, 2% to 6% slopes (2% hydric rating) and Owosso-Marlette sandy loams, 2% to 6% slopes (0% hydric rating) (Attachment 1).

The National Wetlands Inventory (NWI) Map indicates a complex of freshwater forested and shrub scrub wetland is present in generally the same areas mapped with hydric soils (Attachment 2). The NWI Map indicates this wetland extends south across Bennett Road.

The Meridian Township Southwest Drain Map (Attachment 3), obtained online from the Ingham County Drain Commissioner's Public Access Site on May 19, 2023, indicates the Hoskins Drain (H6200) extends through the Site's wetland, traversing from south to north and northeast. It is mapped as an open drain.

## Site Investigation

The Site sloped down into a bowl-like depression that contained cattail marsh, noted as Wetland A on Figure 2. Wetland was verified at Sampling Point SP-A. The surface 12 inches of a soil pit dug to a depth of 14 inches contained very dark gray (10YR 3/1), mucky silt loam, confirming Hydric Soil Indicator F1 (loamy mucky mineral). Soil was saturated at the surface and groundwater was encountered at a depth of 2 inches, confirming wetland hydrology.

The dominant vegetation at SP-A consisted of *Typha latifolia* (broadleaf cattail, OBL) and *Salix nigra* (black willow, OBL). Fishbeck also observed *Phalaris arundinacea* (reed canary grass, FACW) and *Cirsium arvense* (Canada thistle, FACU).

Upland vegetation was confirmed on the adjacent embankment at Sampling Point SP-B. The surface 5 inches of a soil pit dug to a depth of 12 inches contained dark grayish brown (10YR 4/2) silt loam underlain by 7 inches of dark yellowish brown (10YR 3/4) silt loam. The soil pit was dry in its entirety. No hydric soil or wetland hydrology indicators were observed at SP-B.

Fishbeck confirmed dominant upland vegetation at Sampling Point SP-B. Dominant species included *Pinus strobus* (eastern white pine, FACU), *Morus alba* (white mulberry, FACU), *Acer platanoides* (Norway maple, UPL), *Prunus serotina* (black cherry, FACU), *Cirsium arvense* (Canada thistle, FACU), and *Cirsium discolor* (field thistle, UPL).

A U.S. Army Corps of Engineers Wetland Determination Data Form was completed to describe site vegetation, soil, and hydrology at each sampling location (Attachment 4). Photographs of wetland determination sampling points and associated plant communities are included in Attachment 5.

Fishbeck flagged the wetland boundary with pink ribbon on the north, east, south, and southwest sides of Wetland A, as requested by the Township. Wetland boundary flags were labelled A1 through A24. The points were surveyed with a handheld GPS unit with submeter accuracy. The delineated wetland boundary is noted on Figure 2. Due to incomplete delineation of Wetland A, the size of this wetland is not known. However, based on aerial imagery interpretation, Wetland A appears to be approximately 2 acres in size.

Fishbeck did not observe an open drain channel as indicated on the County Drain Map. Stormwater likely drains into Wetland A via a road culvert under Bennett Road and outlets to a buried pipe at the northeast end of Wetland A. However, Fishbeck did not observe these structures due to dense vegetation.

## Conclusions

According to Michigan's Natural Resources and Environmental Protection Act (NREPA), Act 451, Section 30301(d), wetlands "contiguous to the Great Lakes or Lake St. Clair, an inland lake or pond, or a river or stream" or "more than 5 acres in size" are regulated by the State of Michigan. Contiguous is defined as being within 500 feet of an inland lake, pond, river, or stream. A stream is defined as having a defined bed, banks, and evidence of flow. A pond is defined as an area of "natural or permanent artificial" open water with "more than one acre, but less than five acres" in size. In addition, the Township regulates wetlands greater than 2 acres in size which are not contiguous to a water body and wetlands between 0.25 acre and 2 acres in size that are determined to be essential to the preservation of the natural resources of the Township.

Wetland A is less than 5 acres in size. No regulating water features (i.e., river, stream, lake, or pond) were identified within 500 feet of this wetland. However, if the Hoskins Drain is present as indicated in the County

Drain Map, this drain provides a hydraulic connection from Wetland A to Herron Creek, and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) may deem Wetland A regulated under Part 303 of NREPA.

Wetland A is close to 2 acres in size. If it is greater than 2 acres, it is regulated by the Township's wetland ordinance. If it is 2 acres or less, a determination of essentiality is needed to determine whether it is regulated by the Township. It is Fishbeck's opinion that the determination of essentiality would confirm the wetland is regulated by the Township due to its stormwater and wildlife habitat functions.

A wetland use permit would be required from EGLE for the following activities within regulated wetlands:

- Placing fill or permitting the placement of fill in the wetland.
- Dredging, removing, or permitting the removal of soil or minerals from the wetland.
- Constructing, operating, or maintaining any use or development in the wetland.
- Draining surface water from the wetland.

A wetland use permit would be required from the Township for the following activities within wetlands regulated by the Township:

- Placing fill or permitting the placement of fill in the wetland.
- Dredging, removing, or permitting the removal of soil or minerals from the wetland.
- Constructing, operating, or maintaining any use or development in the wetland.
- Draining surface water from the wetland.
- Discharging water into the wetland.

In addition, the Township requires that all structures and grading activities during site development be set back 40 feet from the delineated wetland boundary and a natural vegetation strip be maintained within 20 feet of the wetland boundary.

If you have any questions regarding this letter, the wetland permitting process, or any other wetland-related issues, please contact me at 616.464.3738 or [ehtripp@fishbeck.com](mailto:ehtripp@fishbeck.com).

Sincerely,



**Elise Hansen Tripp, PWS**  
Senior Wetland Scientist

Attachments

By email

Copy: Keith Chapman – Meridian Township

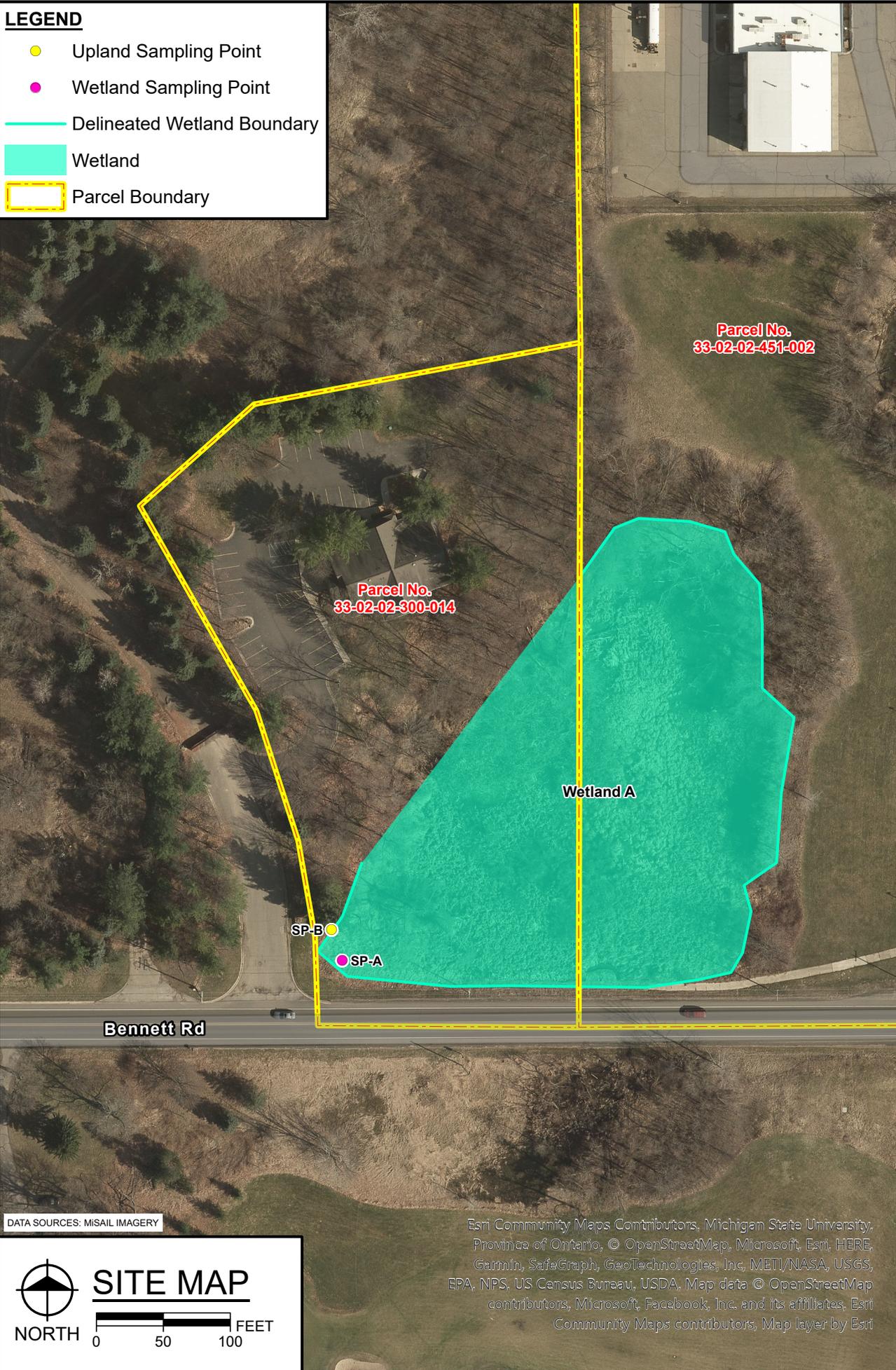
# Figures

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**LEGEND**

- Upland Sampling Point
- Wetland Sampling Point
- Delineated Wetland Boundary
- Wetland
- Parcel Boundary



DATA SOURCES: MISAIL IMAGERY



**SITE MAP**

NORTH

0 50 100 FEET

Esri Community Maps Contributors, Michigan State University, Province of Ontario, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri



Hard copy is intended to be 8.5"x11" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

**2770 Bennett Road/4009 Hulett Road**

Charter Township of Meridian, Ingham County, Michigan

**Wetland Delineation**

PROJECT NO.  
231002

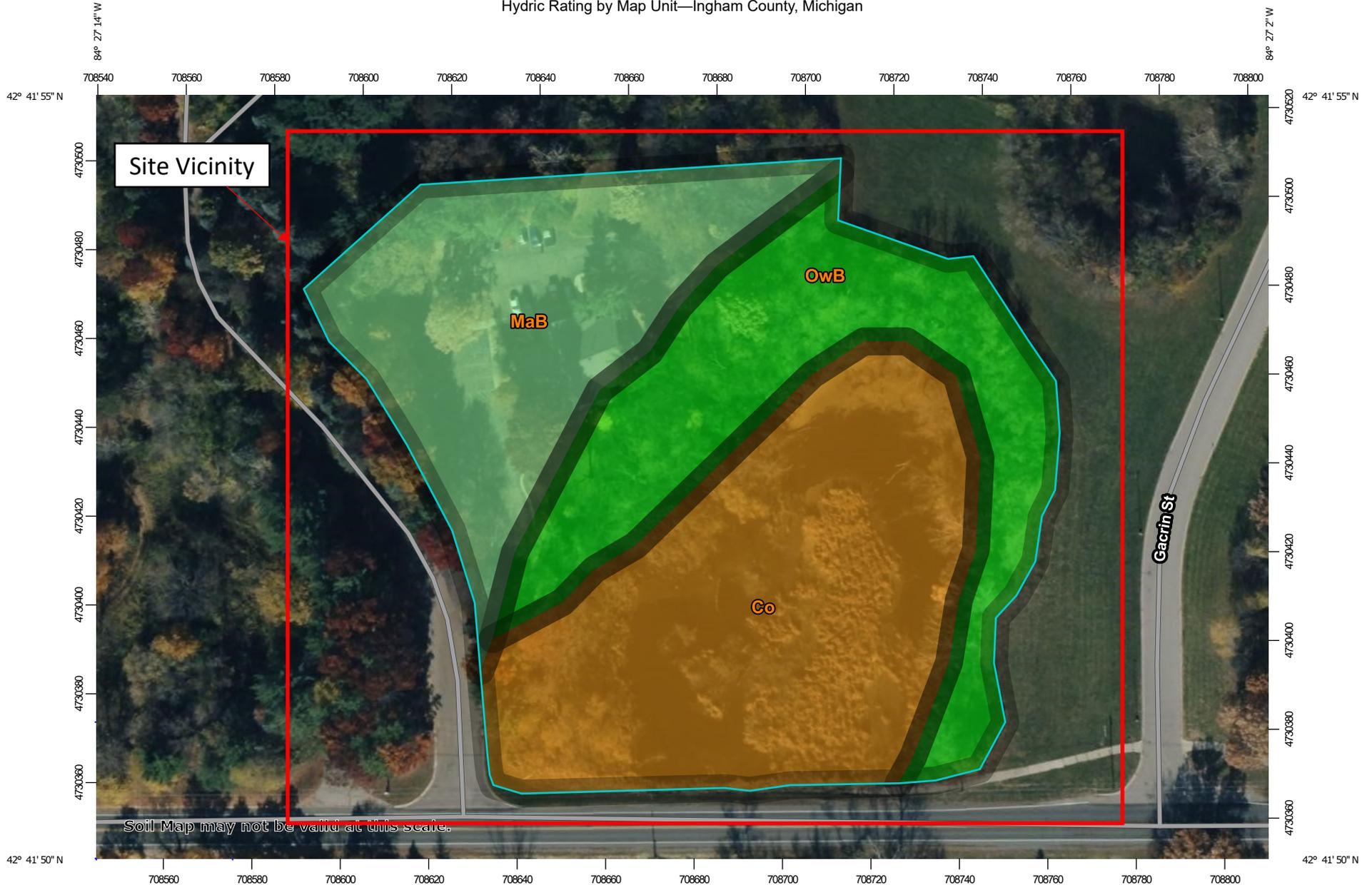
FIGURE NO.  
**2**

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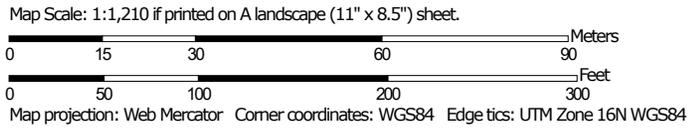
# Attachment 1

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Hydric Rating by Map Unit—Ingham County, Michigan



Soil Map may not be valid at this scale.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

#### Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

#### Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

### Water Features

 Streams and Canals

### Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

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

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Ingham County, Michigan  
 Survey Area Data: Version 20, Aug 26, 2022

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

Date(s) aerial images were photographed: Oct 9, 2022—Oct 28, 2022

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

## Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Co	Colwood-Brookston loams	80	1.9	41.7%
MaB	Marlette fine sandy loam, 2 to 6 percent slopes	2	1.3	29.2%
OwB	Owosso-Marlette sandy loams, 2 to 6 percent slopes	0	1.3	29.1%
<b>Totals for Area of Interest</b>			<b>4.5</b>	<b>100.0%</b>

## Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

### References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

## Rating Options

### *Aggregation Method: Percent Present*

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

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

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

The aggregation method "Percent Present" returns the cumulative percent composition of all components of a map unit for which a certain condition is true. For example, attribute "Hydric Rating by Map Unit" returns the cumulative percent composition of all components of a map unit where the corresponding hydric rating is "Yes". Conditions may be simple or complex. At runtime, the user may be able to specify all, some or none of the conditions in question.

### *Component Percent Cutoff: None Specified*

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

### *Tie-break Rule: Lower*

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

# Attachment 2

---



May 19, 2023

### Wetlands

- |   |                                |   |                                   |   |          |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake     |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other    |
|   |                                |  | Freshwater Pond                   |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# Attachment 3

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# MERIDIAN TOWNSHIP SW, T.4N. - R.1W. , INGHAM COUNTY, MICHIGAN



PATRICK E. LINDEMANN  
INGHAM COUNTY DRAIN COMMISSIONER

**PRELIMINARY**

MERIDIAN TOWNSHIP SW DRAIN MAP  
T.4N. - R.1W.  
INGHAM COUNTY, MICHIGAN



**LEGEND**

- MUNICIPAL BOUNDARIES
- SECTIONS
- COUNTY
- DRAINAGE DISTRICT BOUNDARIES
- OPEN DRAIN
- CLOSED DRAIN
- ROADS
- RAILROADS
- NATURAL WATERCOURSE

RED = FORMERLY KNOWN AS

**DISCLAIMER:**

This map is a generalized representation of established drain routes and courses and/or drainage district boundaries. It is provided by the Ingham County Drain Commissioner for reference and display purposes only and does not confirm, create, refute, remove, expand, alter or otherwise affect any rights or obligations recognized or imposed by federal, state or local law, ordinance, regulation or rule.

0 0.13 0.25 0.5 Miles

1 INCH = 500 FEET

**DRAIN INDEX**

DRAIN NO	DRAIN NAME	DRAIN NO	DRAIN NAME	DRAIN NO	DRAIN NAME
A0900	ARMORE DRAIN	G2101	GRETENBURGER RELIEF DRAIN	N1300	NORTHWIND DRAIN
A2100	ADDISON DRAIN	H0300	HANNAH FARM DRAIN	O0200	OKEMOS PRESERVE DRAIN
B2804	BUTTON SPRING LAKES BRANCH DRAIN	H2100	HERRON CREEK DRAIN	O0400	OKEMOS DRAIN
B3600	BRIARWOOD DRAIN	H6200	HOSKINS DRAIN	O0900	OKEMOS TILE DRAIN
B4013	BANTA CONSOLIDATED DRAIN	I0200	INDIAN HILLS DRAIN	P1500	PROCTOR DRAIN
B5100	BIEBESHIEMER DRAIN	I0600	INDIAN LAKES DRAIN	R0100	RABY DRAIN
B5200	BENNETT DRAIN	I0602	INDIAN LAKES NO. 2 DRAIN	R1500	RIVERWOOD DRAIN AND BRANCHES DRAIN
C1000	CHIPPEWA HILLS DRAIN	I0603	INDIAN LAKES MAUMEE BRANCH DRAIN	S0200	SANCTUARY DRAIN
C8100	CIBA GEIGY DRAIN	K0400	KENT DRAIN	S2600	SPROSS DRAIN
D0202	DANIELS EXTENSION DRAIN	K1100	KINAWA VIEW DRAIN	S4520	SMITH CONSOLIDATED DRAIN
E0300	EBERY DRAIN	M1700	MEADOWS DRAIN	S6000	SHAKER HEIGHTS DRAIN
E1600	EAST GATE DRAIN	M1800	MUD LAKE OUTLET DRAIN	T1800	SANDERS-TACOMA HILLS DRAIN
F0900	FOREST HILLS DRAIN	M2900	MEIERS DRAIN	T2100	TWYCKINGHAM DRAIN
G2100	GRETENBURGER DRAIN	N1200	NILSON DRAIN	U0200	UNRUH DRAIN

# Attachment 4

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## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Meridian Twp/2770 Bennett City/County: Meridian Twp/Ingham Sampling Date: 05/18/2023  
 Applicant/Owner: Meridian Township State: Michigan Sampling Point: SP-A  
 Investigator(s): Elise Tripp Section, Township, Range: S29, T4N, R1W  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR L Lat: 42.69746367 Long: -84.4527405 Datum: WGS84  
 Soil Map Unit Name: Colwood-Brookston loams (80% Hydric Rating) NWI classification: PSS1/EM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland A</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>          </u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:

**VEGETATION - Use scientific names of plants.**

Sampling Point: SP-A

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Salix nigra / Black willow</u>	10	Yes	OBL	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	10	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	0	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Typha latifolia / Broadleaf cattail, Broad-leaved cattail</u>	90	Yes	OBL	
2. <u>Phalaris arundinacea / Reed canary grass</u>	5	No	FACW	
3. <u>Cirsium arvense / Canada thistle</u>	3	No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	98	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= 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	<u>100</u>	x 1 =	<u>100</u>	
FACW species	<u>5</u>	x 2 =	<u>10</u>	
FAC species	<u>0</u>	x 3 =	<u>0</u>	
FACU species	<u>3</u>	x 4 =	<u>12</u>	
UPL species	<u>0</u>	x 5 =	<u>0</u>	
Column Totals:	<u>108</u>	(A)	<u>122</u>	(B)

Prevalence Index = B/A = 1.13

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

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

**Definitions of Vegetation Strata**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  
**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vines** - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Explain alternative procedures here or in a separate report.)





**VEGETATION - Use scientific names of plants.**

Sampling Point: SP-B

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: <u>30'</u> )			
1. <i>Pinus strobus</i> / Eastern white pine	45	Yes	FACU
2. <i>Morus alba</i> / Mulberry, White mulberry	25	Yes	FACU
3. <i>Acer platanoides</i> / Norway maple	20	Yes	UPL
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	90	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
Sapling/Shrub Stratum (Plot size: <u>15'</u> )			
1. <i>Prunus serotina</i> / Black cherry	10	Yes	FACU
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	10	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
Herb Stratum (Plot size: <u>5'</u> )			
1. <i>Cirsium arvense</i> / Canada thistle	20	Yes	FACU
2. <i>Cirsium discolor</i> / Field thistle	20	Yes	UPL
3. <i>Barbarea vulgaris</i> / Yellow rocket	10	No	FAC
4. <i>Phalaris arundinacea</i> / Reed canary grass	10	No	FACW
5. <i>Typha latifolia</i> / Broadleaf cattail, Broad-leaved cattail	2	No	OBL
6. <i>Parthenocissus quinquefolia</i> / Virginia creeper	1	No	FACU
7. <i>Asclepias syriaca</i> / Common milkweed	1	No	UPL
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	64	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
Woody Vine Stratum (Plot size: <u>30'</u> )			
1. <i>Vitis riparia</i> / River-bank grape	2	Yes	FAC
2. <i>Parthenocissus quinquefolia</i> / Virginia creeper	1	Yes	FACU
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	3	= 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: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>2</u>	x 1 = <u>2</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>12</u>	x 3 = <u>36</u>
FACU species <u>102</u>	x 4 = <u>408</u>
UPL species <u>41</u>	x 5 = <u>205</u>
Column Totals: <u>167</u> (A)	<u>671</u> (B)

Prevalence Index = B/A = 4.02

**Hydrophytic Vegetation Indicators:**

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index ≤3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

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

**Definitions of Vegetation Strata**

**Tree** - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No  X

Remarks: (Explain alternative procedures here or in a separate report.)



# Attachment 5

---



Wetland Adjacent to SP-A



Sampling Point SP-A



Upland Adjacent to SP-B



Sampling Point SP-B



Wetland A, Viewed from the South

UTILITY COMPANY UTILITIES

AT&T  
337 N. ABBOTT, RM. 201  
EAST LANSING, MI 48823  
517.337.3660

TELEPHONE

CONSUMERS ENERGY  
530 W. WILLOW ST.  
P.O. BOX 30162  
LANSING, MI 48909  
517.373.6100

GAS  
ELECTRIC

COMCAST  
1070 TROWBRIDGE ROAD  
EAST LANSING, MI 48823  
517.332.1012

CABLE TV

MERIDIAN TOWNSHIP  
5151 MARSH RD.  
OKEMOS, MI 48864  
517.853.4440

WATER MAINS  
SANITARY SEWER  
PATHWAYS

WOLVERINE PIPE LINE  
8105 VALLEYWOOD LANE  
PORTAGE, MI 49024-5251  
231.323.2491

PETROLEUM PIPELINE

INGHAM COUNTY DRAIN  
COMMISSIONER  
707 BUHL ST.  
MASON, MI 48854  
517.676.8395

DRAINS  
STORM SEWER

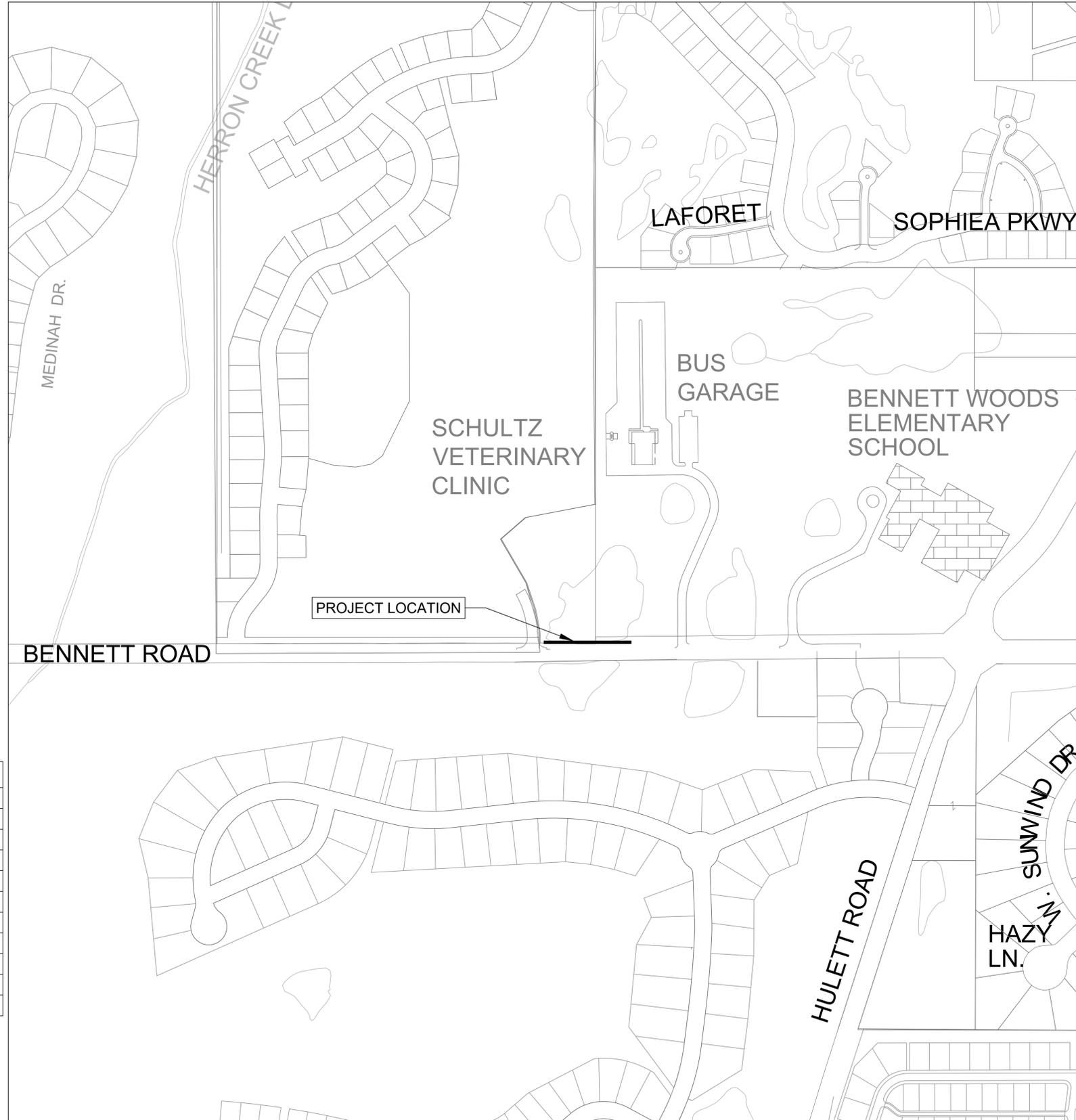
INGHAM COUNTY ROAD DEPT  
301 BUSH ST.  
MASON, MI 48854  
517.676.9722

PUBLIC ROADS AND  
RIGHTS OF WAY

# SCHULTZ PATHWAY CONSTRUCTION PLANS FOR MERIDIAN TOWNSHIP INGHAM COUNTY, MICHIGAN



**Call 811 before you dig.**



**STANDARD CONSTRUCTION NOTES**

1. The Contractor shall notify the Charter Township of Meridian, Department of Public Works, Office of Engineering 517-853-4440 a minimum of 72 hours prior to the start of construction of public utilities or of construction within the public right-of-way.
2. All construction shall conform to the current standards and specifications of the Charter Township of Meridian which are included as part of these plans in effect at the time of construction.
3. After the completion of construction of public utilities or construction within public right-of-way, the contractor must request a final inspection. Any punchlist items resulting from the final inspection must be resolved prior to final release and acceptance.
4. The existing utilities indicated on the plans are in accordance with available information. It shall be the contractor's obligation to verify the exact location of all existing utilities, which might affect this job.
5. The contractor shall notify "MISS DIG" 1-800-482-7171 at least 72 hours prior to the start of construction.
6. The contractor shall at all times be aware of inconvenience caused to the abutting property owners and the general public. Where the contractor does not remedy undue inconveniences, the Charter Township of Meridian, upon four hours notice, reserves the right to perform the work and deduct the cost therefore from the money due the contractor.
7. A Registered Land Surveyor provided by the contractor at the contractor's expense shall replace all property irons and monuments disturbed or destroyed by the contractor's operations.
8. Contractor shall provide Owner and Township Engineer a copy of written permission to use private property for storage of equipment and materials or for his construction operations.
9. Trench backfill under existing or proposed roadways, driveways, and parking areas, shall be sand or gravel, placed in 12" layers (maximum) and consolidated to 95% of maximum density as measured by modified proctor unless otherwise noted.
10. Trees and shrubs are to be protected during construction and bored where necessary.
11. Existing fences shall be removed and restored to their original condition or better where in conflict with construction.
12. Driveways, culverts, ditches, drain tile, tile fields, drainage structures, etc., that are disturbed by the contractor's operations shall be immediately restored.
13. All established lawn areas disturbed by the contractor's operations shall be resodded with matching sod. All other areas shall be seeded and mulched. Seeding and mulching shall be done in accordance with the General Specifications.
14. All ditch slopes shall have established vegetation and be protected from erosion.
15. All utility poles in close proximity to construction shall be supported in a manner satisfactory to the utility owner.
16. Onsite parking and sanitary facilities shall be provided for construction workers. The facilities shall be constructed and operated (with minimal impact to the surrounding area) to the satisfaction of the Township.

**PATHWAY NOTES**

1. Pathways and sidewalks shall be four (4) inch thick concrete except at driveways where they shall be six (6) inch (residential) or seven (7) inch (commercial) thick concrete.
2. Three (3) inches of compacted sand base shall be placed under all pathways and sidewalks.
3. All bituminous aprons shall be two and one-half (2½) inches thick, unless otherwise noted.
4. Property irons shall be maintained by the Contractor.
5. All existing concrete and bituminous to be removed shall be sawcut. All bituminous removal shall be considered incidental to construction.
6. All aggregate base material shall be four (4) inches of 22A.
7. All tree (less than 6") and shrub removal shall be considered part of subgrade preparation.
8. Location of new plant material shall be as directed by the Engineer, and shall be installed in accordance with guidelines established by the A.N.L.A.
9. All plant material not marked for removal shall be protected.
10. Bituminous drives shall be sawcut 18" on either side of proposed pathway.
11. The maximum longitudinal slope is 5% (up to an absolute maximum of 8½% at the direction of the Engineer) and the maximum cross slope is 2%.
13. Expansion joints shall be placed at approximately 100' intervals and shall be ½" thick. Contraction joints shall be sawcut to a depth of ¼ of the depth of the concrete.
14. All lumber to be pressure treated (Osmose 33 or equal) to 0.4 retention.
15. All items not covered under a specific pay item shall be considered incidental.

**Sheet List Table**

Sheet Number	Sheet Title
1	COVER SHEET
2	SESC PLAN
3	SESC NOTES AND DETAILS
4	SESC NOTES AND DETAILS
5	GRADING PLAN
6	SITE PLAN
7	TYPICAL DETAILS
8	BOARDWALK DETAILS
9	BOARDWALK DETAILS
10	TYPICAL SECTIONS



**SEQUENCE OF CONSTRUCTION**

1. INSTALL CONSTRUCTION ENTRANCE, INLET PROTECTION, AND SILT FENCE.
2. CONSTRUCT BOARDWALK BY DRIVING PILES, CONSTRUCTING THE SUPPORT SPAN OF BOARDWALK BETWEEN THE PILES. CONSTRUCTION MAT WILL BE PLACED OVER THE WETLAND AND WILL BE USED TO ACCESS THE BOARDWALK DURING CONSTRUCTION.
3. DEMOLISH THE EXISTING CONCRETE PATHWAY.
4. CONSTRUCT THE PROPOSED CONCRETE PATHWAY
5. PERMANENTLY SEED AREAS ONCE THEY HAVE REACHED FINAL GRADE.
6. REMOVE SESC MEASURES ONCE THE SITE IS FULLY STABILIZED.

**RECOMMENDED CONSTRUCTION SCHEDULING & SEQUENCING**

INSTALL SESC MEASURES

CONSTRUCT BOARDWALK AND ABUTMENTS

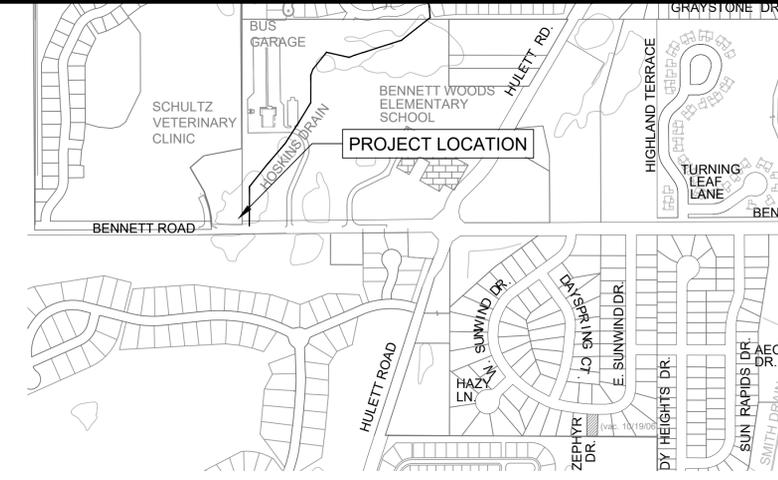
DEMOLISH EXISTING CONCRETE PATHWAY

CONSTRUCT CONCRETE PATHWAY

SITE CLEANUP AND RESTORATION

REMOVE SESC MEASURES

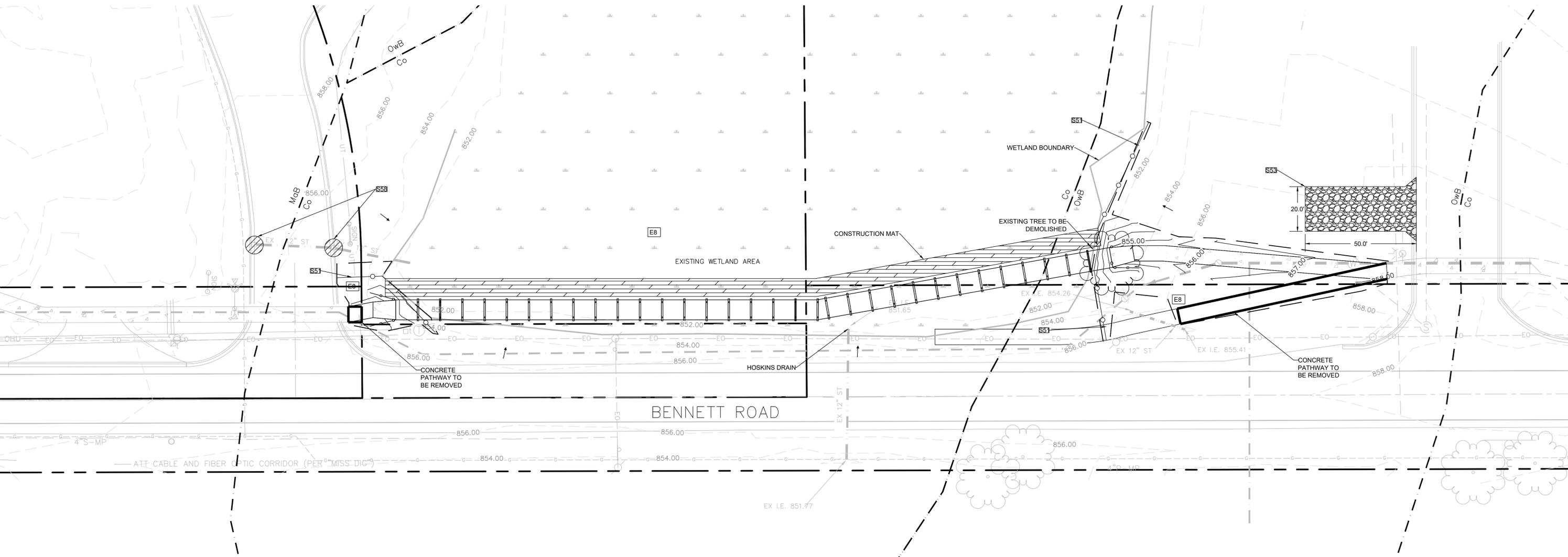
JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY



THE PROJECT IS LOCATED WITHIN 0' OF THE >1 ACRE WETLAND AND HOSKINS DRAIN.

**PAY ITEMS (THIS SHEET)**

EROSION CONTROL, GRAVEL ACCESS APPROACH	1	EA
EROSION CONTROL, SILT FENCE	165	FT
EROSION CONTROL, INLET PROTECTION	2	EA
SIDEWALK, REMOVAL	85	SY
TREE REMOVAL, 19 TO 36 INCH	1	EA

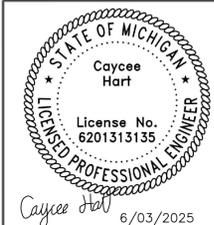
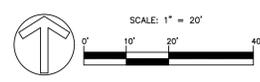


**SOILS:**  
 Co - Colwood-Brookston loams  
 MaB - Marlette Fine Sandy Loam, 2 to 6 percent slopes  
 OwB - Owosso-Marlette Sandy Loams, 2 to 6 percent slopes

**LEGEND**

	PROPERTY LINE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	SILT FENCE
	LIMITS OF DISTURBANCE
	SOIL BOUNDARY
	INLET PROTECTION
	CONSTRUCTION ENTRANCE

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
SEDIMENT CONTROLS			
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.
S58	INLET PROTECTION FABRIC DROP		Use at stormwater inlets, especially at construction sites.
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).



Meridian Charter Township  
 Ingham County, Michigan  
**PATHWAY**

SCHULTZ PATHWAY  
 SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
 INGHAM COUNTY, MICHIGAN

DRAWN BY: CH      CHECKED BY: YI

**REVISIONS:**

DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

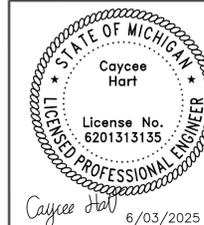
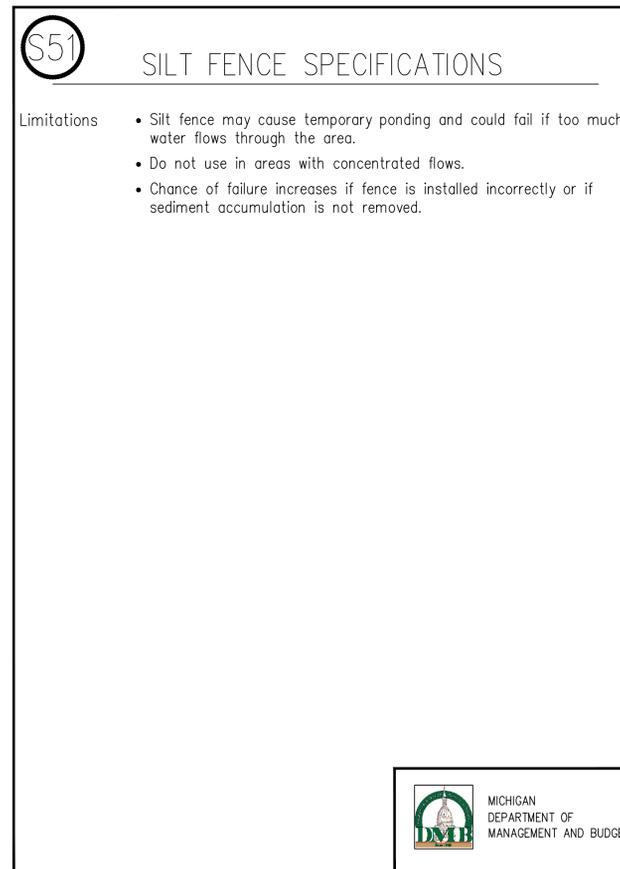
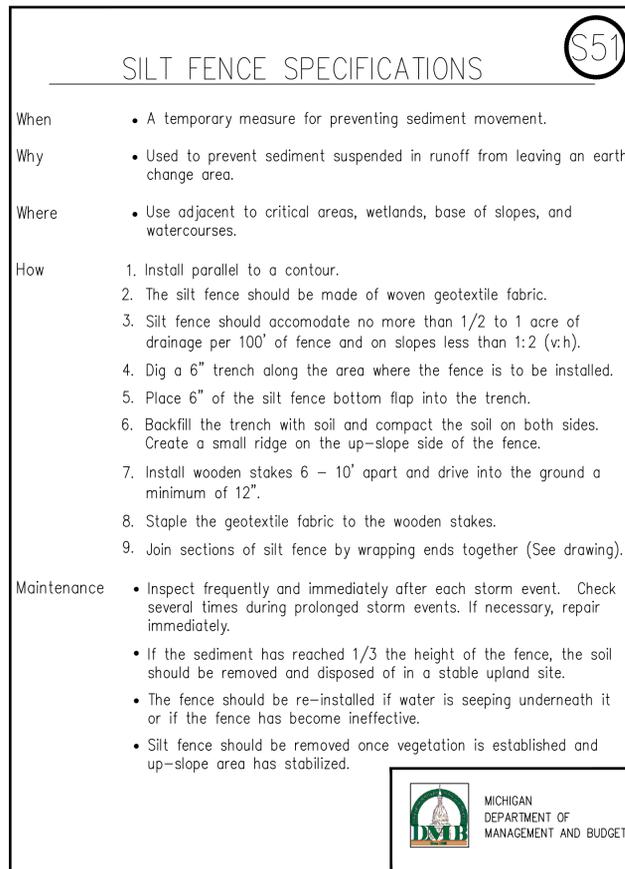
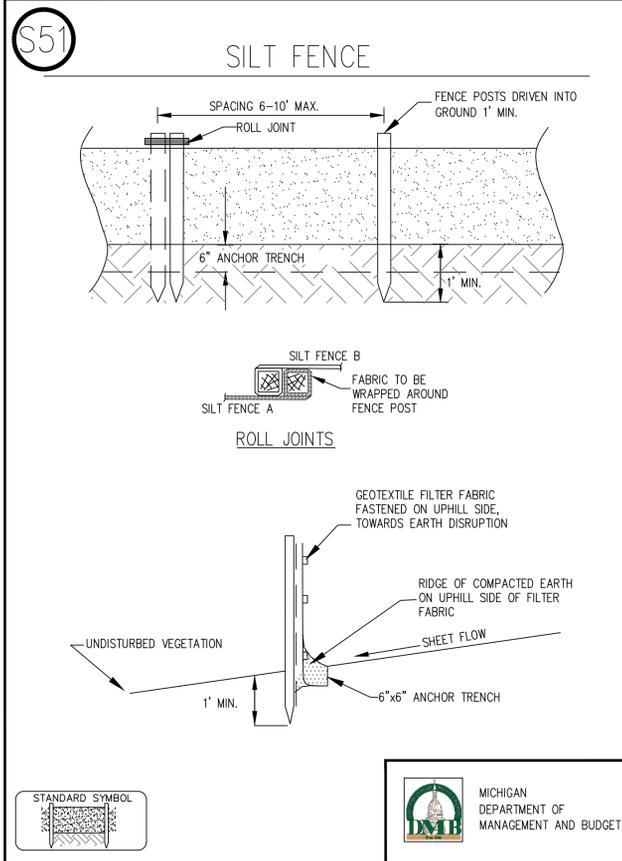
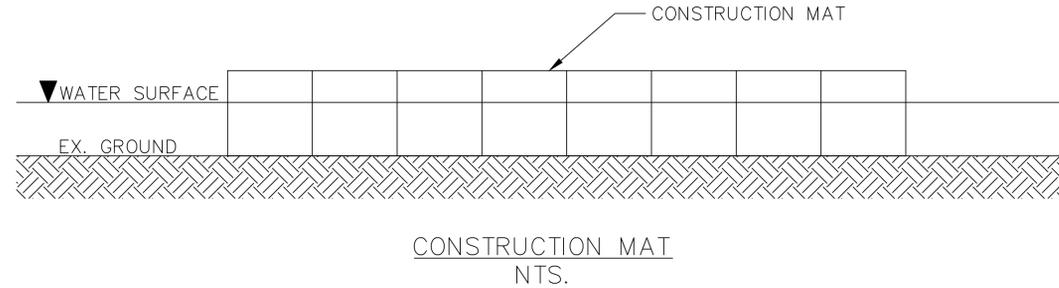
SHEET:

TAX ID: 29-300-014  
 LEGAL DESCRIPTION: M 29-15-3- BEG AT S 1/4 COR SD SEC 29 -W ON S SEC LN 200 FT -N 0 DEG 18'55"W, 60.77 FT -ON CURVE LEFT 174.36 FT HAVING A 333 FT RAD & A CHD OF 172.37 FT. BRG N 15 DEG 18'55"W, -N 30 DEG 18'55"W, 175.77 FT -N 49 DEG 08'47" E, 114 FT -N 79 DEG 14'28" E, 250 FT TO NS 1/4 LN -S 0 DEG 18'55" E, 500 FT ON 1/4 LINE TO POB. SEC 29 T4NR1W 2.73 AC ML

TAX ID: 29-451-002  
 LEGAL DESCRIPTION: COM @ THE S 1/4 COR SEC 29 - N 80 RODS TO N LN OF S 1/2 OF SE 1/4 - E ON N LN 1314.7 FT - S 426.5 FT - E 537.1 FT TO C/L HULETT RD - SWLY ON C/L 1036.22 FT TO S SEC LN - W ON S SEC LN 1324.92 FT TO THE POB. EXC R/W FOR BENNETT & HULETT RD DESC AS COM @ THE S 1/4 COR SEC 29 - N 33 FT TO THE POB. - N 17 FT - N 89 DEG 29'35" E, 1211.32 FT - N 48 DEG 18'54" E, 103.79 FT - ALONG CURVE RT 170 FT HAVING A 314.36 FT RADIUS & A CHD OF 167.94 FT BRG N 29 DEG 40'35" E - N 45 DEG 10' 08" E 125.64 FT - ON CURVE LEFT 140 FT HAVING A 534.53 FT RADIUS & A CHD OF 139.60 FT BRG N 37 DEG 39'56" E - N 30 DEG 09' 44" E, 484.33 FT - N 90 DEG E 30.76 FT - S 30 DEG 25' 06" W 984.28 FT - S 89 DEG 29' 35" W 1322.15 FT TO THE POB SEC 29 T4NR1W 44.26 AC +/-

**SOIL EROSION & SEDIMENTATION CONTROL NOTES**

- All soil erosion and sediment control (SESC) work shall conform to the standards and specifications of the Ingham County Drain Commissioner's Office and Meridian Township.
- Daily inspections shall be made by the contractor for effectiveness of SESC measures. Any necessary repairs shall be performed without delay.
- Erosion of any sediment from work on the site shall be contained on-site and not allowed to collect on any off-site areas or in waterways. Waterways include both natural and man-made open ditches, streams, storm drains, lakes, ponds, and wetlands.
- The Contractor shall apply temporary SESC measures when required and as directed on these plans. The Contractor shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other changes have been established.
- Staging the work shall be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
- Soil erosion control practice shall be established in the early stages of construction by the Contractor. Sedimentation control practices shall be applied as a perimeter defense against any transporting of soil off the site.
- The Contractor shall preserve natural vegetation as much as possible.
- Vegetative stabilization of all disturbed areas shall be established within 15 days of completion of the final grading.



Meridian Charter Township Ingham County, Michigan	
<b>PATHWAY</b>	
SCHULTZ PATHWAY SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN	
DRAWN BY: CH	CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

SHEET:

**3 - SESC NOTES AND DETAILS**

**S58** INLET PROTECTION – FABRIC DROP

INLET GRATE

2'-0"

4'-0"

5"

1" REBAR FOR BAG REMOVAL FROM INLET

ISOMETRIC VIEW

INSTALLATION DETAIL

STANDARD SYMBOL

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**S58** INLET PROTECTION – FABRIC DROP SPECIFICATIONS

**When**

- When sediment laden stormwater requires treatment before entering a stormwater drainage system.

**Why**

- To prevent sediment from entering stormwater systems.

**Where**

- Use in or at stormwater inlets, especially at construction sites or in streets.

**How**

1. A filter fabric bag is hung inside the inlet, beneath the grate.
2. Replace grate, which will hold bag in place.
3. Anchor filter bag with 1" rebar for removal from inlet.
4. Flaps of bag that extend beyond the bag can be buried in soil in earth areas.

**Maintenance**

- Drop inlet filters should be inspected routinely and after each major rain event.
- Damaged filter bags should be replaced.
- Clean and/or replace filter bag when 1/2 full.
- Replace clogged fabric immediately.
- If needed, initiate repairs immediately upon inspection.
- Remove entire protective mechanism when upgradient areas are stabilized and streets have been swept.

**Limitations**

- Can only accommodate small flow quantities.
- Requires frequent maintenance.
- Ponding may occur around storm drains if filter is clogged.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**E8** PERMANENT SEEDING SPECIFICATIONS

**When**

- To finalize stabilization of temporary seeding areas or when an area needs permanent stabilization following completion of construction. Also used when vegetative establishment can correct existing soil erosion or sedimentation problem.
- Within 5 days of final grade.

**Why**

- To stabilize soil and prevent or reduce soil erosion/sedimentation problems from developing.

**Where**

- Used on construction and earth change sites which require permanent vegetative stabilization.

**How**

1. Review SESC plan and construction phasing to identify areas in need of permanent vegetative stabilization.
2. Select perennial grass and ground cover for permanent cover.
3. Seed mixes vary. However, they should contain native species.
4. Seed mixes should be selected through consultation with a certified seed provider and with consideration of soil type, light, moisture, use applications, and native species content.
5. Soil tests should be performed to determine the nutrient and pH levels in the soil. The pH may need to be adjusted to between 6.5 and 7.0.
6. Prepare a 3–5" deep seedbed, with the top 3–4" consisting of topsoil.
7. Slopes steeper than 1:3 should be roughened.
8. Apply seed as soon as possible after seedbed preparation. Seed may be broadcast by hand, hydroseeding, or by using mechanical drills.
9. Mulch immediately after seeding.
10. Dormant seed mixes are for use after the growing season, using seed which lies dormant in the winter and begins growing as soon as site conditions become favorable.

STANDARD SYMBOL

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**E8** PERMANENT SEEDING SPECIFICATIONS

**How (cont.)**

11. Protect seeded areas from pedestrian or vehicular traffic.
12. Divert concentrated flows away from the seeded area until vegetation is established.

**Maintenance**

- Inspect weekly and within 24 hours following each rain event in the first few months following installation to be sure seed has germinated and permanent vegetative cover is being established.
- Add supplemental seed as necessary.

**Limitations**

- Seeds need adequate time to establish.
- May not be appropriate in areas with frequent traffic.
- Seeded areas may require irrigation during dry periods.
- Seeding success is site specific, consider mulching or sodding when necessary.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET

**E8** PERMANENT SEEDING

Planting Zones:	Lower Peninsula (South of T20N) Zone 1	Lower Peninsula (North of T20N) Zone 2	Upper Peninsula Zone 3
Seeding Window Permanent Seeding	4/15 – 10/10	5/1 – 10/1	5/1 – 9/20
Seeding Window Dormant Seeding*	11/15 – Freeze	11/01 – Freeze	11/01 – Freeze

Source: Adapted from MDOT Interim 2003 Standard Specifications for Construction

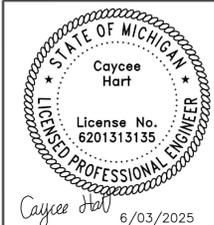
	Zone 1 Lower Peninsula (South of U.S. 10)	Zone 2 Lower Peninsula (North of U.S. 10)	Zone 3 Upper Peninsula
Seeding Dates (with Irrigation or Mulch)	4/1 – 8/1	5/1 – 9/20	5/1 – 9/10
Seeding Dates (w/o Irrigation or Mulch)	4/1 – 5/20 or 8/10 – 10/1	5/1 – 6/10 or 8/1 – 9/20	5/1 – 6/15 or 8/1 – 9/20
Dormant Seeding Dates*	11/1 – Freeze	10/25 – Freeze	10/25 – Freeze

Source: Adapted from USDA NRCS Technical Guide #342 (1999)

\* Dormant seeding is for use in the late fall after the soil temperature remains consistently below 50°F, prior to the ground freezing. This practice is appropriate if construction on a site is completed in the fall but the seed was not planted prior to recommended seeding dates. No seed germination will take place until spring. A cool season annual grass may be added in an attempt to have some fall growth.

- Mulch must be used with dormant seed.
- Do not seed when the ground is frozen or snow covered.
- Do not use a dormant seed mix on grassed waterways.

MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET



Meridian Charter Township  
Ingham County, Michigan

**PATHWAY**

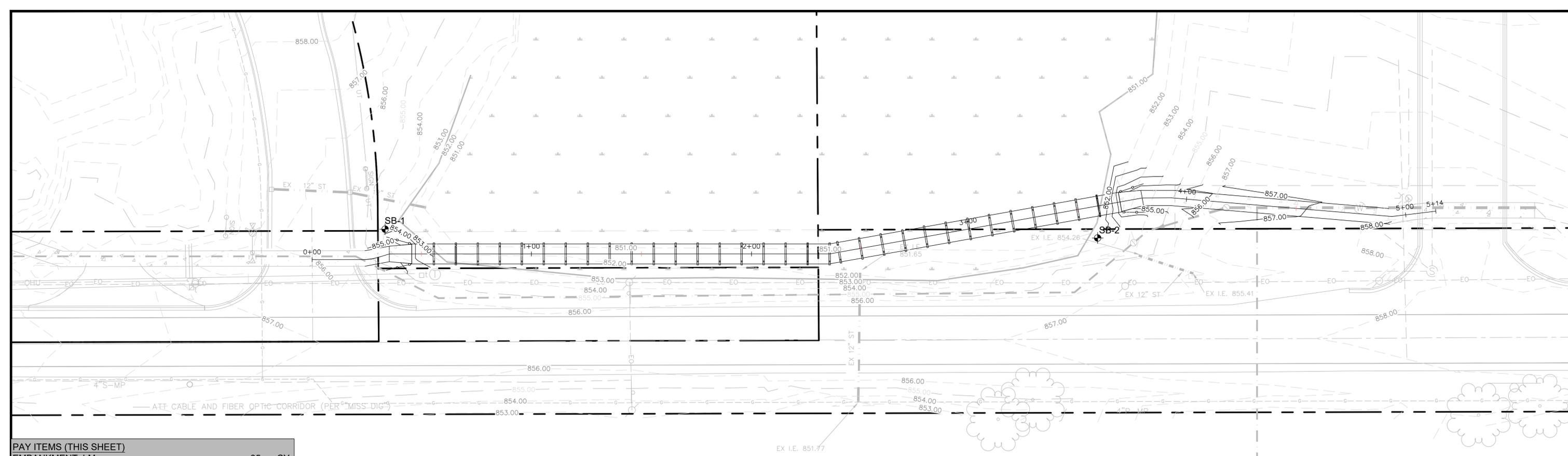
SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

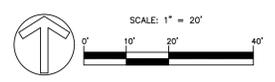
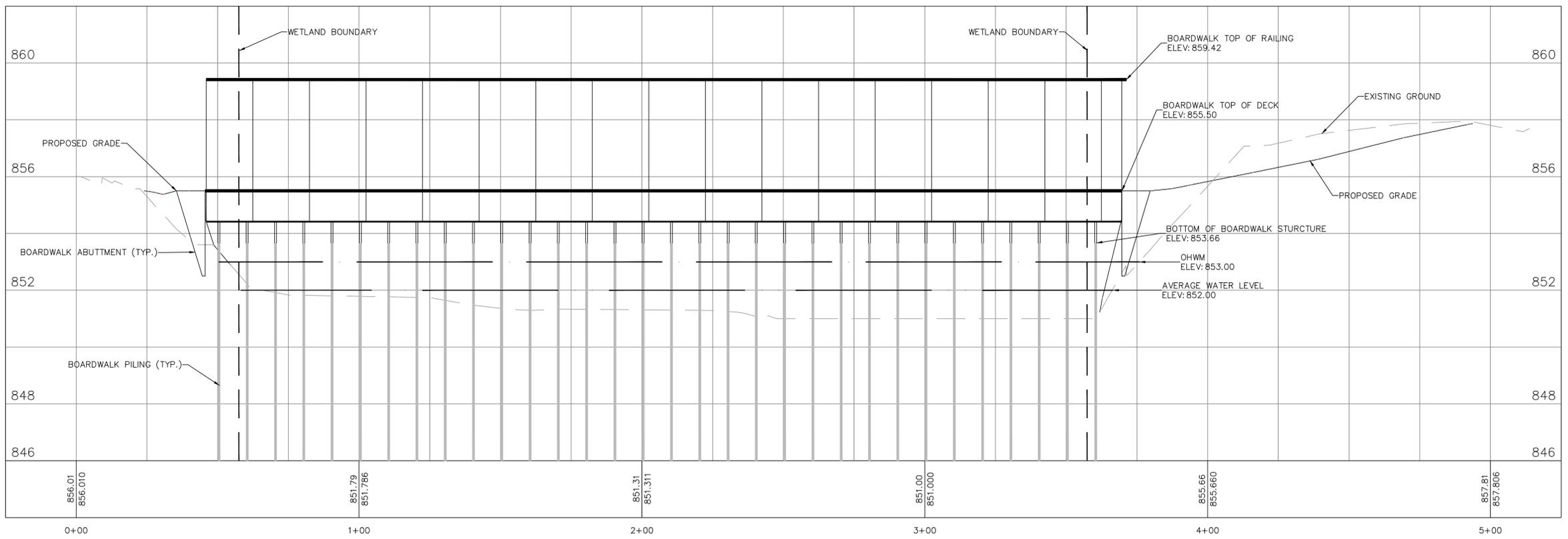
SHEET:

4 - SESC NOTES AND DETAILS



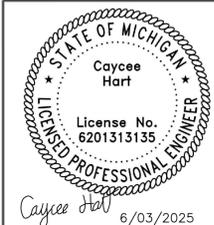
PATHWAY PROFILE

PAY ITEMS (THIS SHEET)		
EMBANKMENT, LM	35	CY
EXCAVATION, EARTH	75	CY
SHARED USE PATH GRADING	140	FT



**Call 811 before you dig.**

WOLVERINE PIPE LINE COMPANY 219-844-9510



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH CHECKED BY: YI

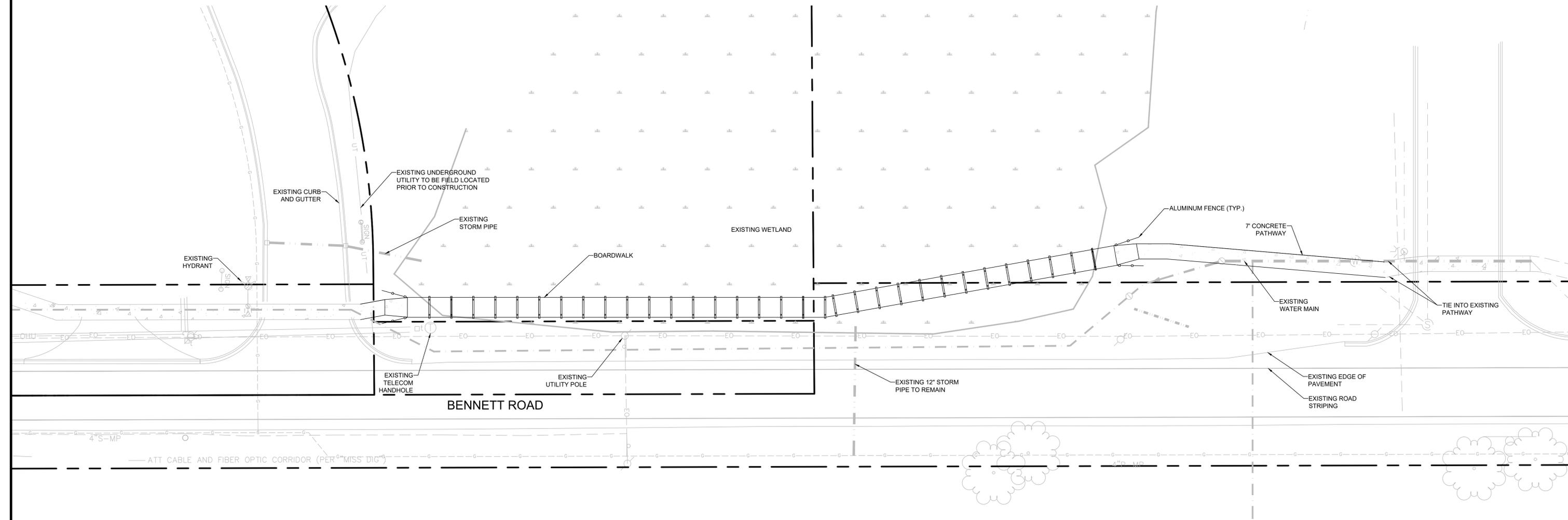
REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGLE 2ND SUBMITTAL
2.20.25	CH	EGLE 3RD SUBMITTAL
4.11.25	CH	EGLE 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:

PAY ITEMS (THIS SHEET)		
SHARED USE PATH, CONCRETE	115	SY
SHARED USE PATH, AGGREGATE	40	TN
CONCRETE ABUTMENT	2	EA
TREATED TIMBER BOARDWALK	335	FT
BOARDWALK STRUCTURAL PILES	1	LS
SITE RESTORATION	1	LS
FENCE, ALUMINUM	50	FT

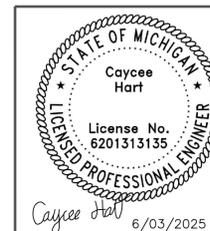
**LEGEND**

- — — — — PROPERTY LINE
- — — — — EXISTING OVERHEAD ELECTRIC LINE
- — — — — EXISTING WATER MAIN



**Call 811 before you dig.**

WOLVERINE PIPE LINE COMPANY 219-844-9510



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

**SCHULTZ PATHWAY**

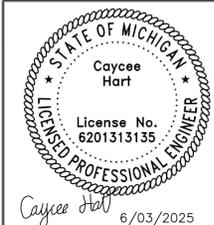
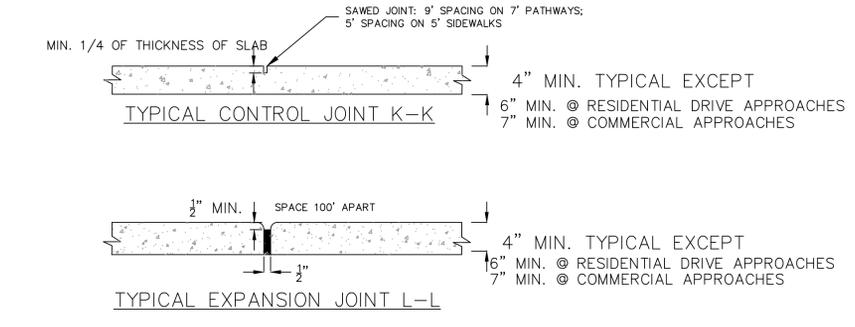
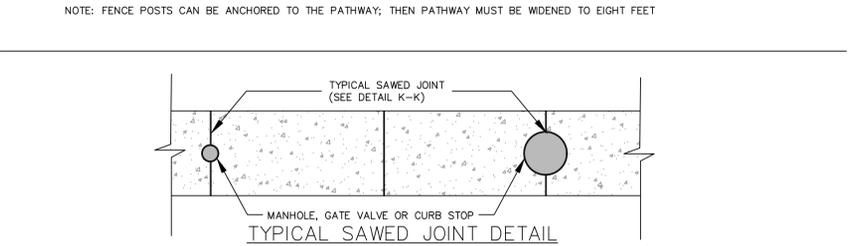
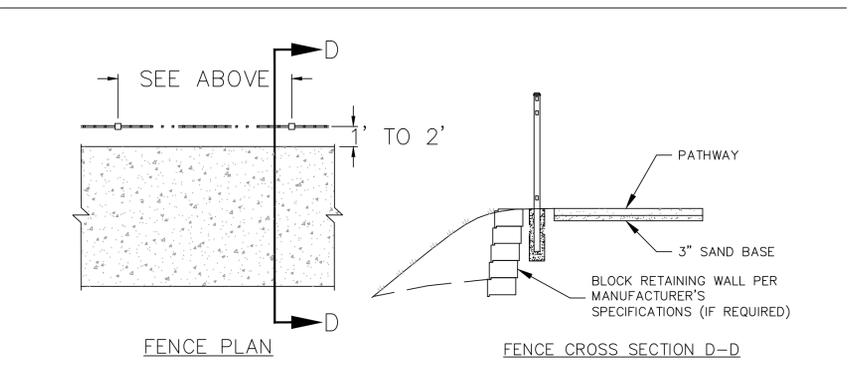
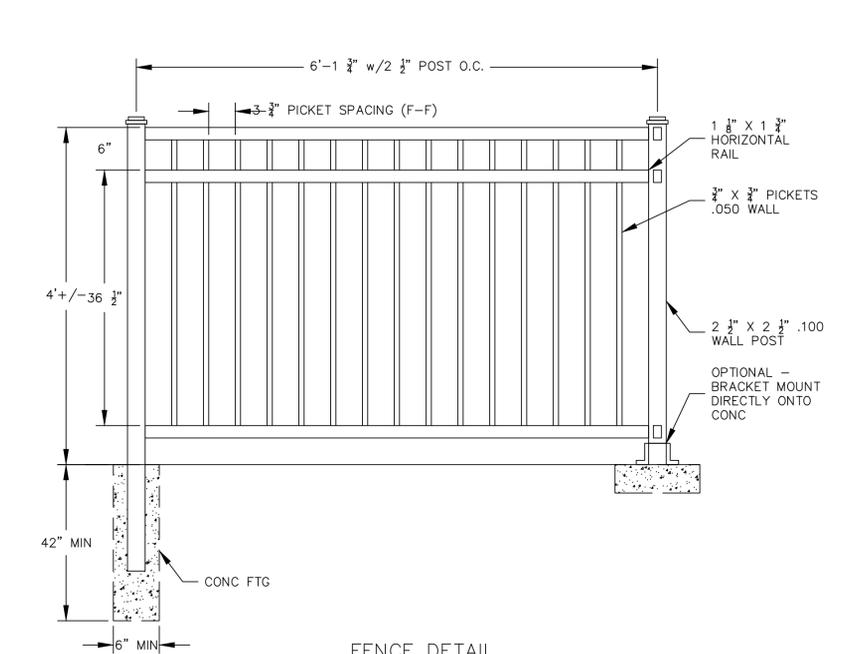
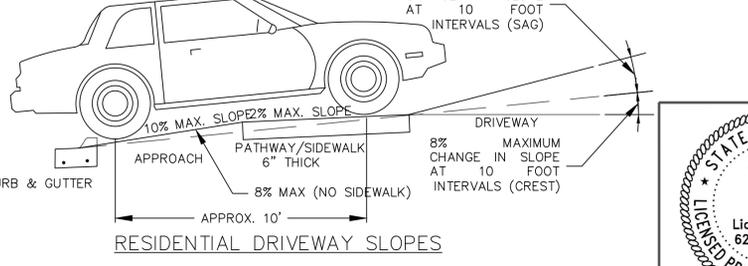
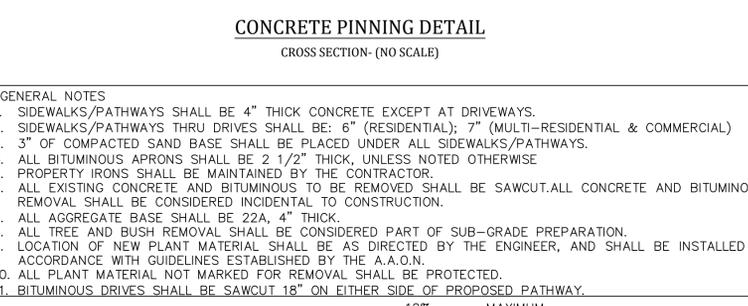
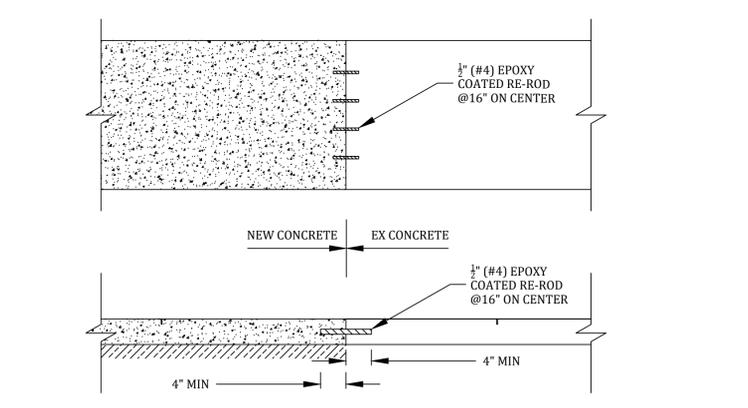
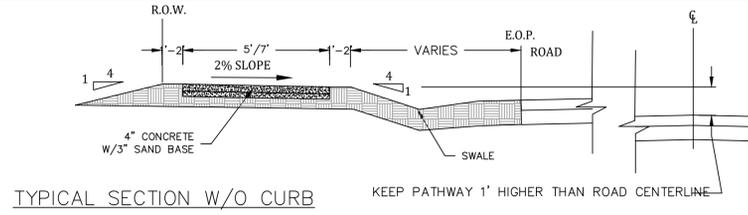
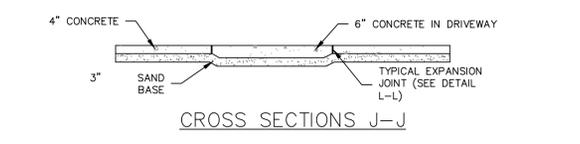
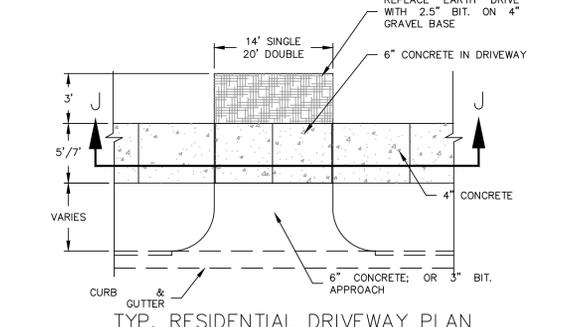
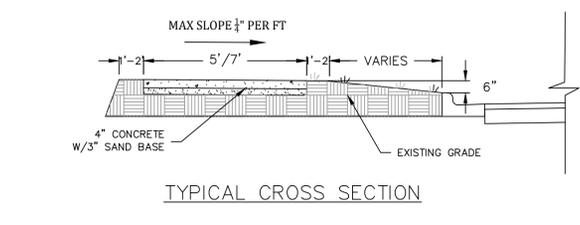
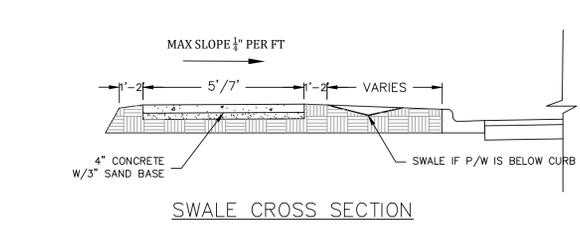
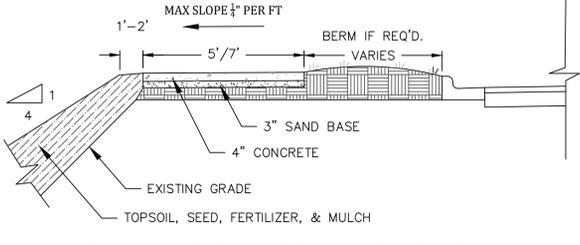
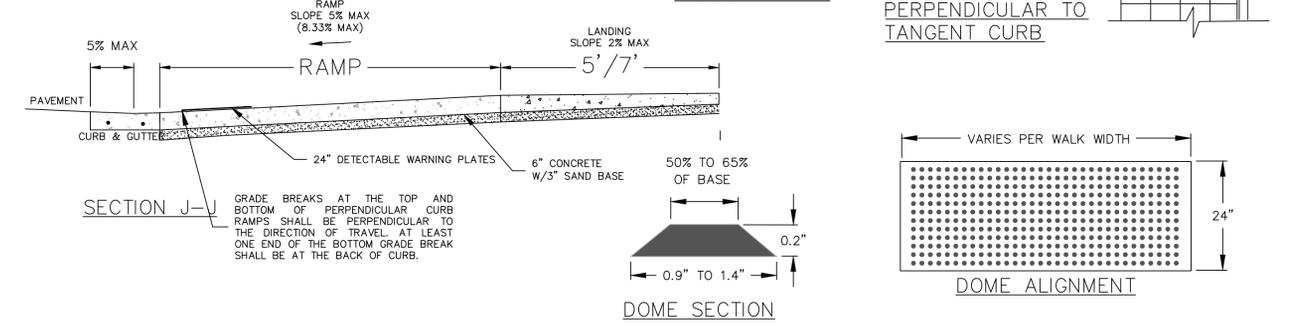
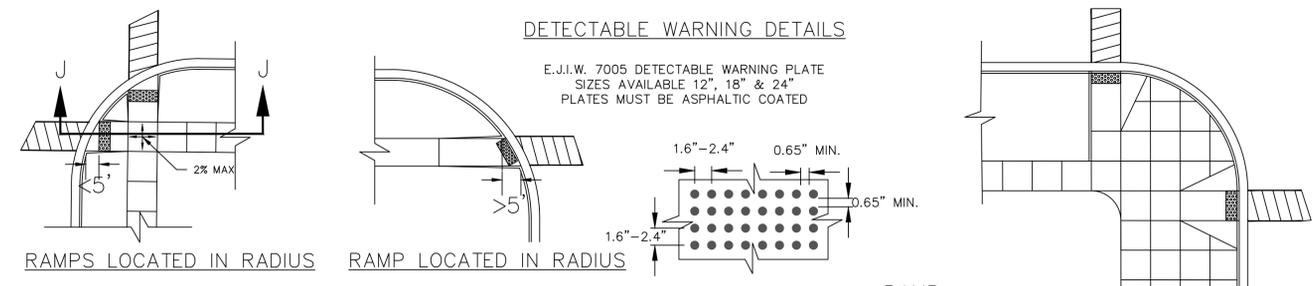
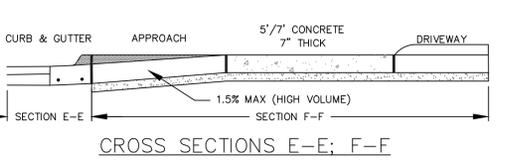
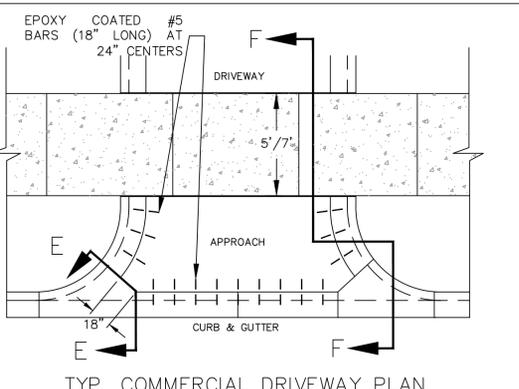
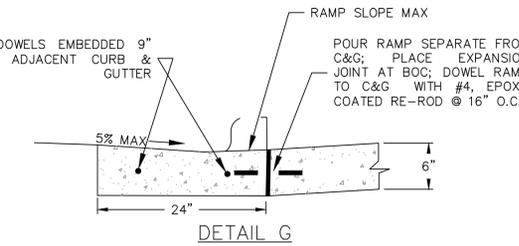
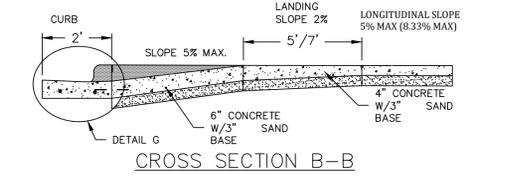
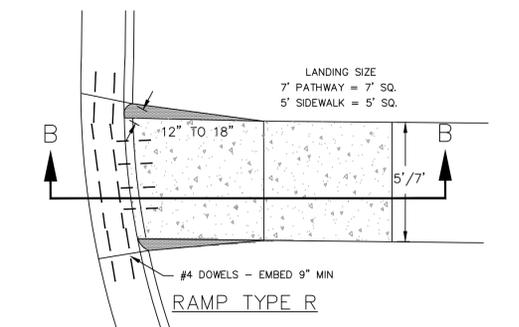
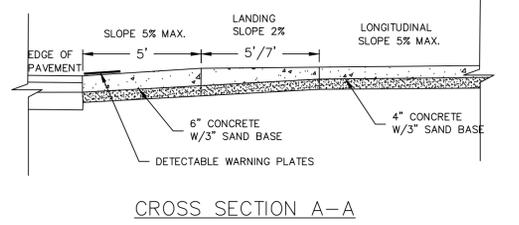
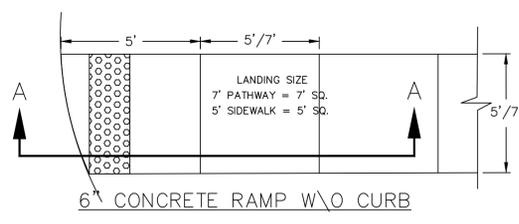
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH

CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGLE 2ND SUBMITTAL
2.20.25	CH	EGLE 3RD SUBMITTAL
4.11.25	CH	EGLE 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:



Meridian Charter Township  
Ingham County, Michigan

**PATHWAY**

SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: GH CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGLE 2ND SUBMITTAL
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5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:

6/03/2025

BOARDWALK MATERIALS			EXTREME FIBER BENDING STRENGTH F <sub>b</sub> (PSI)	MODULES OF ELASTICITY E (PSI)
ITEM	DESCRIPTION	SIZE/LENGTH		
1.	8" X 10" BEAMS	9'	2400	1600000
2.	3" X 10" JOISTS	11'	2400	1600000
3.	3" X 10" JOIST SPLICES	18"	2400	1600000
4.	3" X 8" DECK	9'	1500	1800000
5.	4" X 8" RAIL POSTS	4'-6"	1200	1200000
6.	2 X 10 TOP RAILS	11'	1200	1200000
7.	2 X 8 SIDE RAILS	11'	1200	1200000
8.	10" WOOD WOLMANIZED POSTS	5'-7" (VARIES)		
9.	3" X 12" HEADER	9'	2400	1600000
10.	3/8" CARRIAGE BOLTS, NUTS & WASHERS	5-1/2" - 7" (SPUCE PLATES)		
11.	3/4" BOLTS, NUTS & WASHERS	10"		
12.	3/4" BOLTS, NUTS & WASHERS	7-1/2"		
13.	7 GA. GALVANIZED STEEL PLATES	4" X 8"		
14.	5/8" LAG BOLTS	3"		
15.	ICE & WATER CAP	6"		

MATERIALS:

A. WOOD:

All wood members shall be Coast Region Douglas Fir or Southern Yellow Pine species. Commercial grade lumber for beams, joists, blocking and deck panels shall be similar to 2400f-1.6E(MSR). All other members shall be similar to 1200f-1.2E(MSR). All members shall be conditioned and pressure-treated in accordance with the requirements of AWPAC C2. The preservative chemical used shall meet applicable EPA requirements. The use of waterborne chemicals will not be allowed.

Handrails and posts shall be conditioned and pressure-treated with a clean preservative such as pentachlorophenol.

Joists shall extend over the full width of the supporting 8"x10" beams (except side joists).

Deck members shall be continuous over the deck width with no intermediate splices. Deck members shall lay up with no spaces between them. Deck members shall be in full contact with joists below.

Field cutting and drilling of wood members will not be allowed, unless all cuts and field-drilled holes are brush treated with a 5% pentachlorophenol solution or other approved field-treatment. Creosote solutions will not be approved for field-treatment.

All wood members shall have a smooth surface finish.

Wood posts shall meet ASTM D-25 standards for round timber posts. Posts shall be pressure treated in accordance with APWA standard C3.

All wood posts to have a minimum cover of 5'.

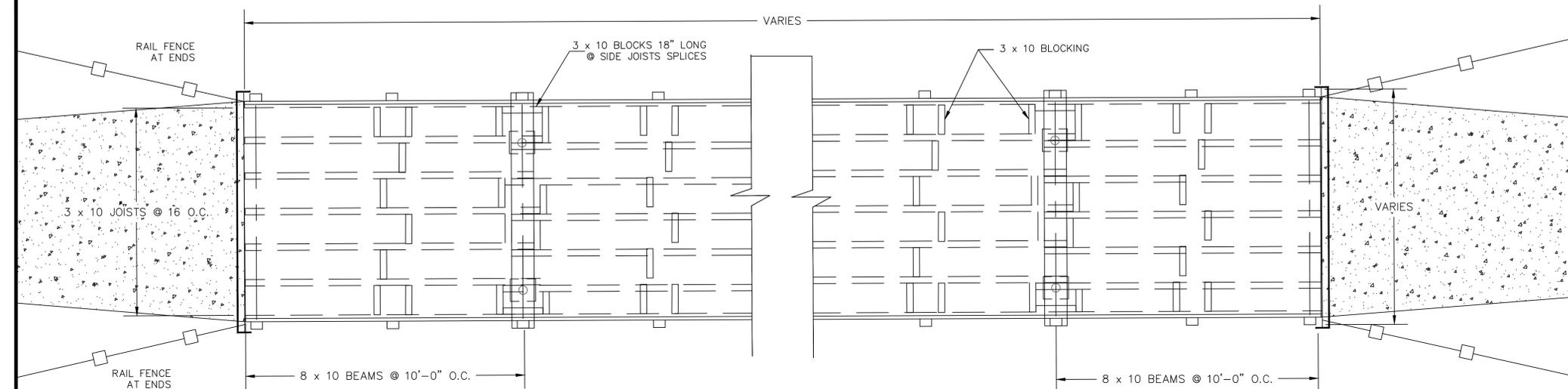
Manufacturer shall submit a certificate attesting to compliance with preservative specifications.

B. HARDWARE:

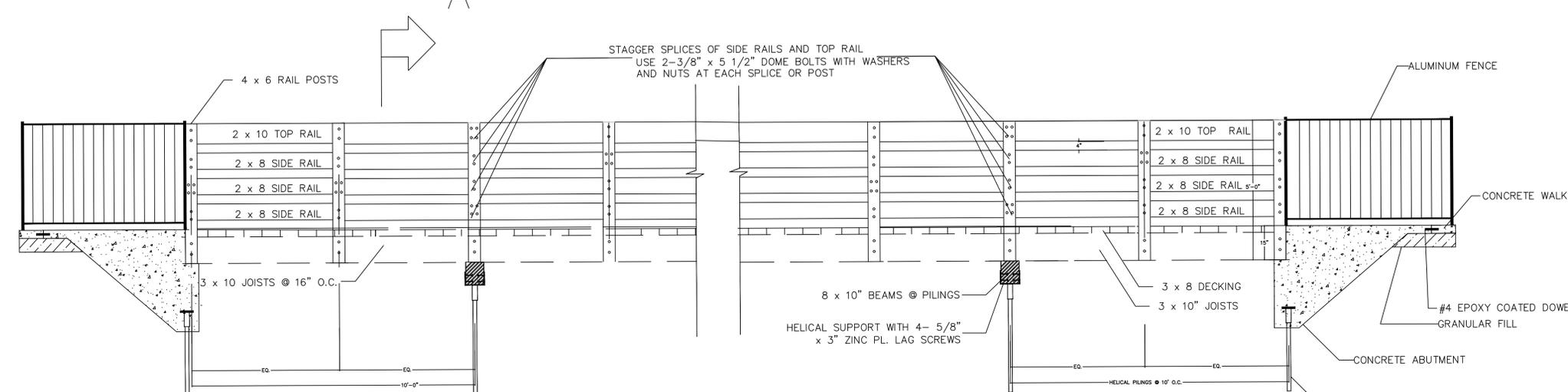
Bolts, nuts, and washers used for assembly shall conform to the requirements of ASTM A 325 and shall be hot-dip galvanized in accordance with ASTM A 153 or stainless steel.

Steel plate brackets used to connect beams to posts shall be ASTM A36 steel with hot-dip galvanized coating conforming to the requirements of ASTM A 153. Dimensions shall be as shown on plan.

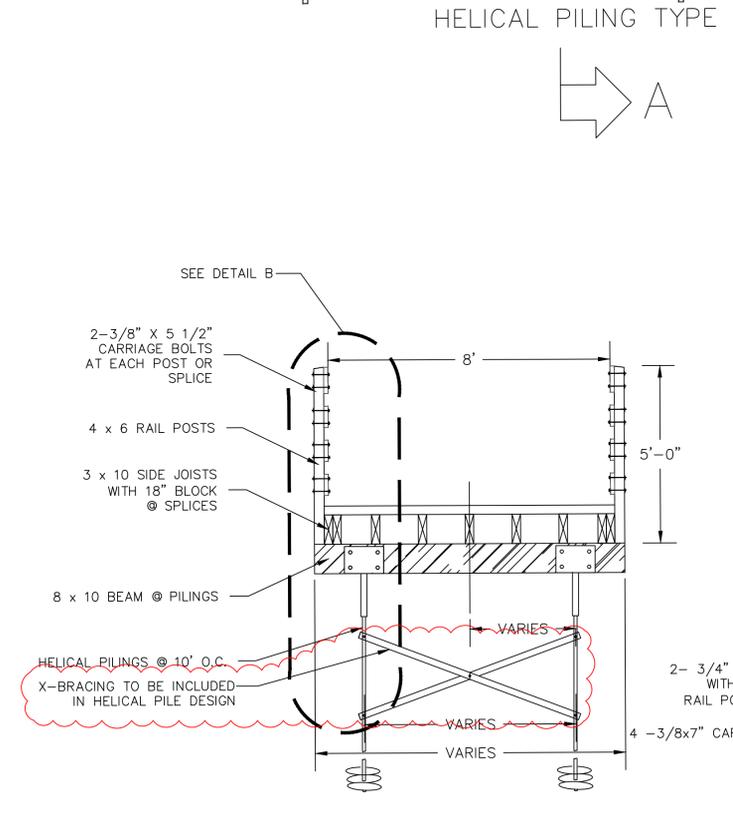
Deck Screws shall be epoxy coated t25 (#10 x 5") coarse thread. Provide two (2) screws per each for the following: joist to beam, joist laps, and blocking. Pre-drill toe-nailed joist to beam members, and deck ends (at side joists) with a 6" ring shank nail, to prevent splitting. Counterset deck screws 1/4", otherwise place as directed.



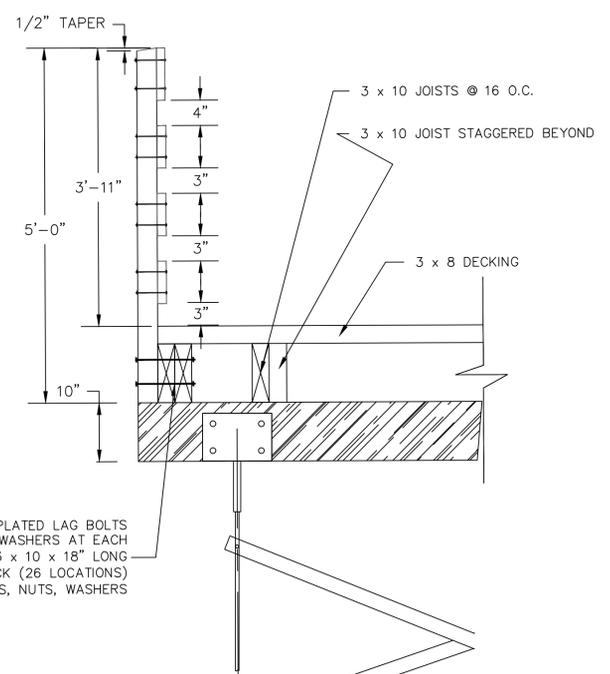
FRAMING PLAN



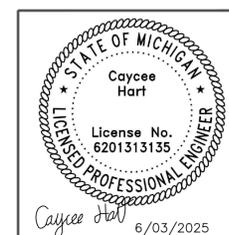
BOARDWALK ELEVATION  
SCALE: 1" = 3'



SECTION A-A



DETAIL B



Meridian Charter Township  
Ingham County, Michigan

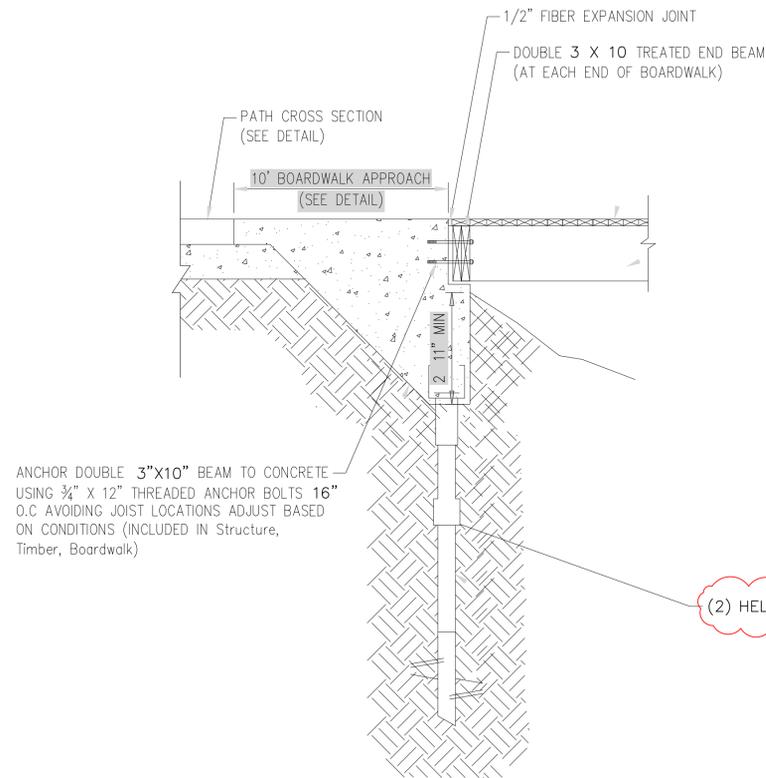
**PATHWAY**

SCHULTZ PATHWAY  
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGLE 2ND SUBMITTAL
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6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:

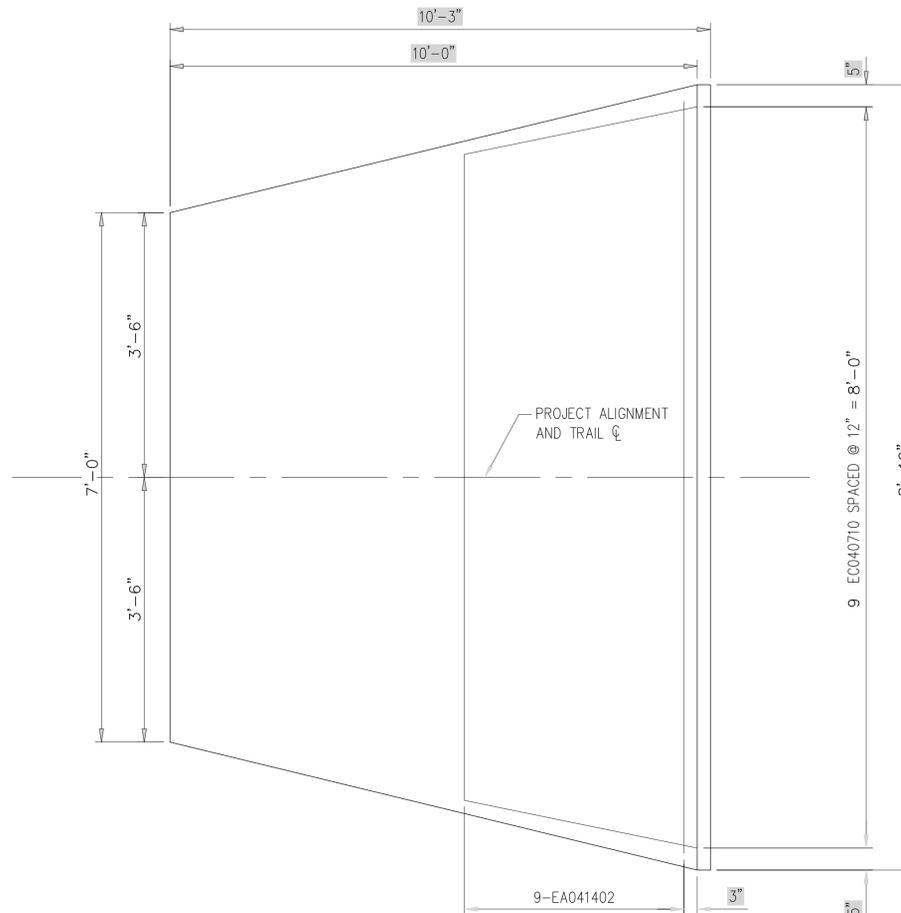


ANCHOR DOUBLE 3"x10" BEAM TO CONCRETE USING 3/4" X 12" THREADED ANCHOR BOLTS 16" O.C AVOIDING JOIST LOCATIONS ADJUST BASED ON CONDITIONS (INCLUDED IN Structure, Timber, Boardwalk)

(2) HELICALS PER ABUTMENT

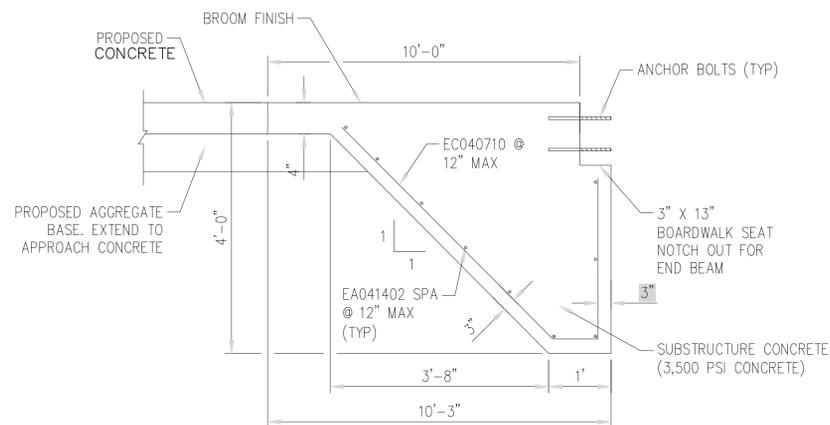
**BEAM/JOIST/POST DETAIL**

NOT TO SCALE



**BOARDWALK APPROACH PLAN**

SCALE: 1/2" = 1'-0"

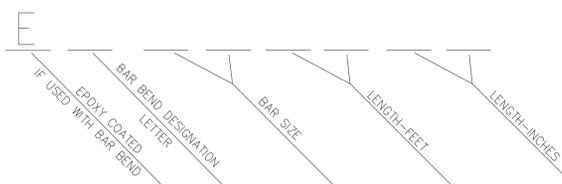


**BOARDWALK APPROACH DETAIL**

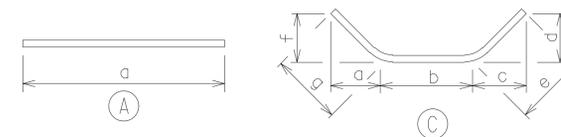
NOT TO SCALE

CUT EA041402 BARS AS REQUIRED.

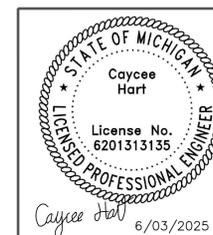
A.S.T.M. STANDARD REINFORCING BARS		
BAR SIZE DESIGNATION	WEIGHT (LBS/FT.)	DIAMETER (INCH)
#2	.167	.250
#3	.376	.375
#4	.668	.500
#5	1.043	.625
#6	1.502	.750
#7	2.044	.875
#8	2.670	1.000
#9	3.400	1.128
#10	4.303	1.270



**STANDARD REINFORCING BAR TYPES**



STEEL REINFORCEMENT										
BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D
	a	b	c	d	e	f	g			
SUBSTRUCTURE										
BOARDWALK APPROACHES										
EA041402	8'-2"							4	8'-2"	18
EC040710	3'-5"	8"	0"	2'-4"	2'-4"	3'-5"	4'-10"	4	7'-10"	105



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

**SCHULTZ PATHWAY**

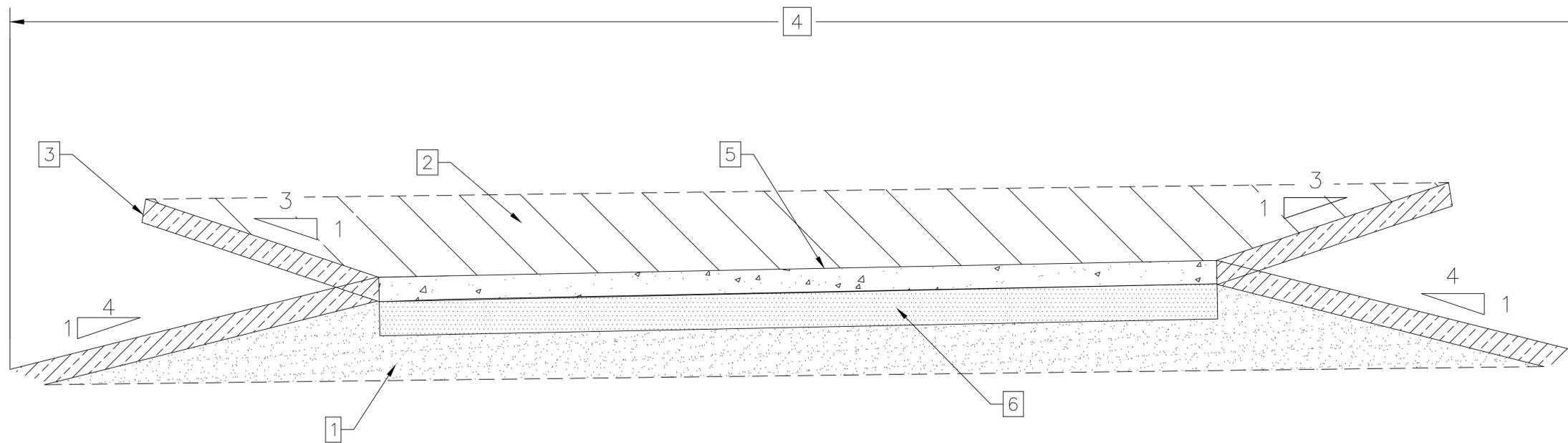
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

DRAWN BY: GH

CHECKED BY: YI

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6.03.25	CH	EGLE: CONST. MAT REVISION

SHEET:



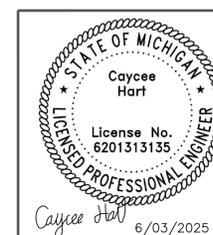
TYPICAL SECTION: CONCRETE PATHWAY

PAY ITEM LEGEND:

- 1 EMBANKMENT, LM
- 2 EXCAVATION, EARTH
- 3 SITE RESTORATION, 3" SCREENED TOPSOIL
- 4 SHARED USE PATH, GRADING
- 5 SHARED USE PATH, 4" CONCRETE
- 6 SHARED USE PATH, AGGREGATE (6" DEPTH)

GENERAL NOTES:

- CROSS-SECTIONS ARE NOT TO SCALE.
- SALVAGE OR REMOVE EXISTING TOPSOIL WITHIN THE GRADING LIMITS, OR AS DIRECTED BY THE ENGINEER. REMOVAL AND DISPOSAL WILL BE PAID FOR AS EXCAVATION, EARTH.
- TOPSOIL FOR SITE RESTORATION MAY BE SALVAGED FROM SITE, BUT MUST BE SCREENED OR RAKED TO REMOVE 1" OR GREATER DEBRIS.
- FOR SITE RESTORATION, USE SEED MEETING MDOT THM MIXTURE.
- EMBANKMENT, LM SHALL BE CLASS II GRANULAR MATERIAL OR ASPHALT MILLINGS.
- FOR EMBANKMENT, LM THE CONTRACTOR MAY USE MILLINGS FROM THE STOCKPILE AT MERIDIAN TOWNSHIP'S SERVICE CENTER. THERE ARE MORE THAN ENOUGH MILLINGS FOR ALL OF THE FILL REQUIRED ON THIS PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE THE LABOR AND EQUIPMENT TO LOAD AND TRANSPORT THE MILLINGS FROM THE STOCKPILE LOCATION TO THE CONSTRUCTION SITE.



Meridian Charter Township  
Ingham County, Michigan  
**PATHWAY**

SCHULTZ PATHWAY

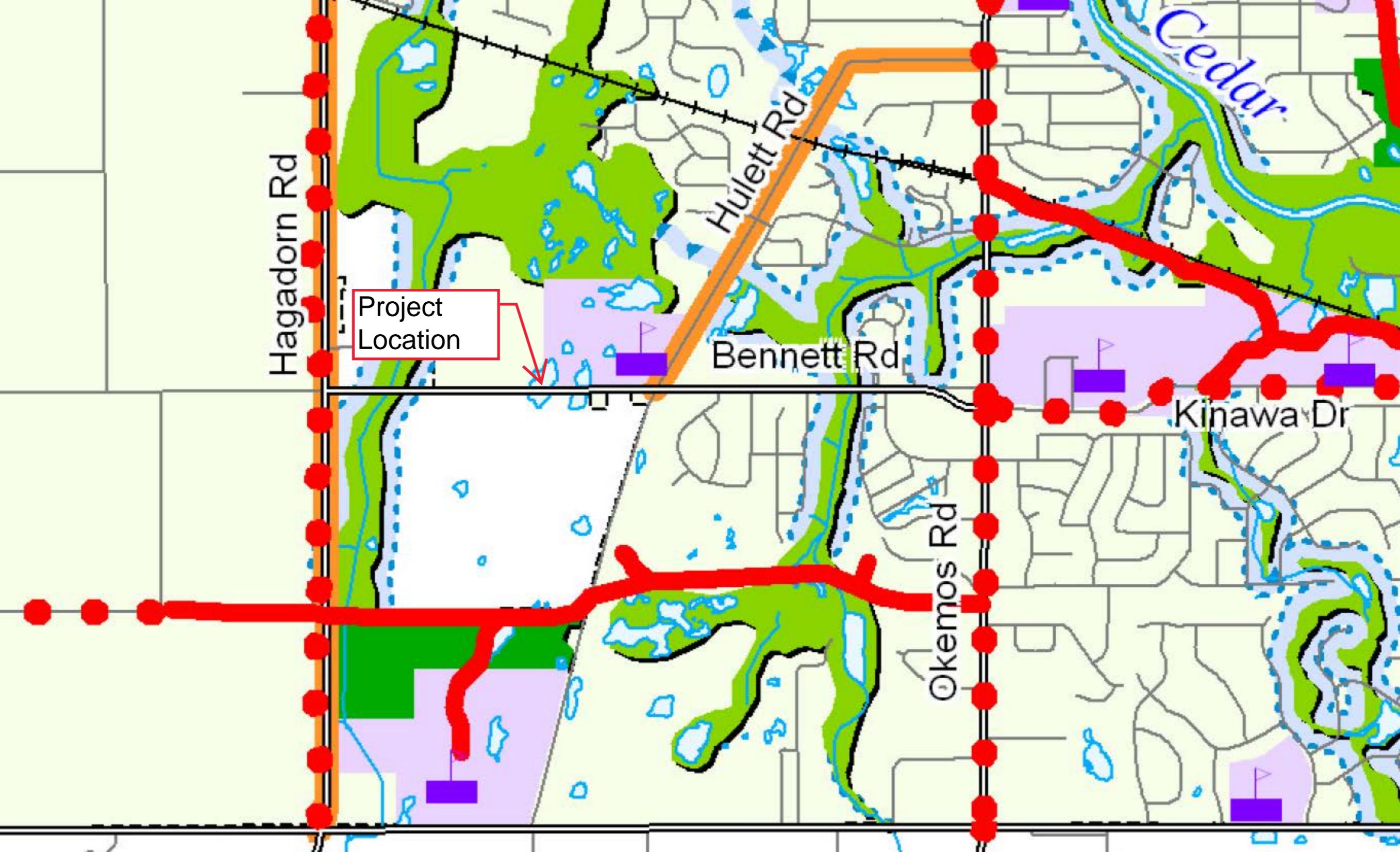
SE 1/4 AND SW 1/4 SECTION 29, T4N, R1W, MERIDIAN TOWNSHIP,  
INGHAM COUNTY, MICHIGAN

DRAWN BY: CH

CHECKED BY: YI

REVISIONS:		
DATE	BY:	COMMENTS:
11.02.24	CH	EGL 2ND SUBMITTAL
2.20.25	CH	EGL 3RD SUBMITTAL
4.11.25	CH	EGL 4TH SUBMITTAL
5.02.25	CH	BID SET
5.23.25	CH	BID SET; ADDENDUM #1
6.03.25	CH	EGL: CONST. MAT REVISION

SHEET:



Hagadorn Rd

Project Location

Hulett Rd

Bennett Rd

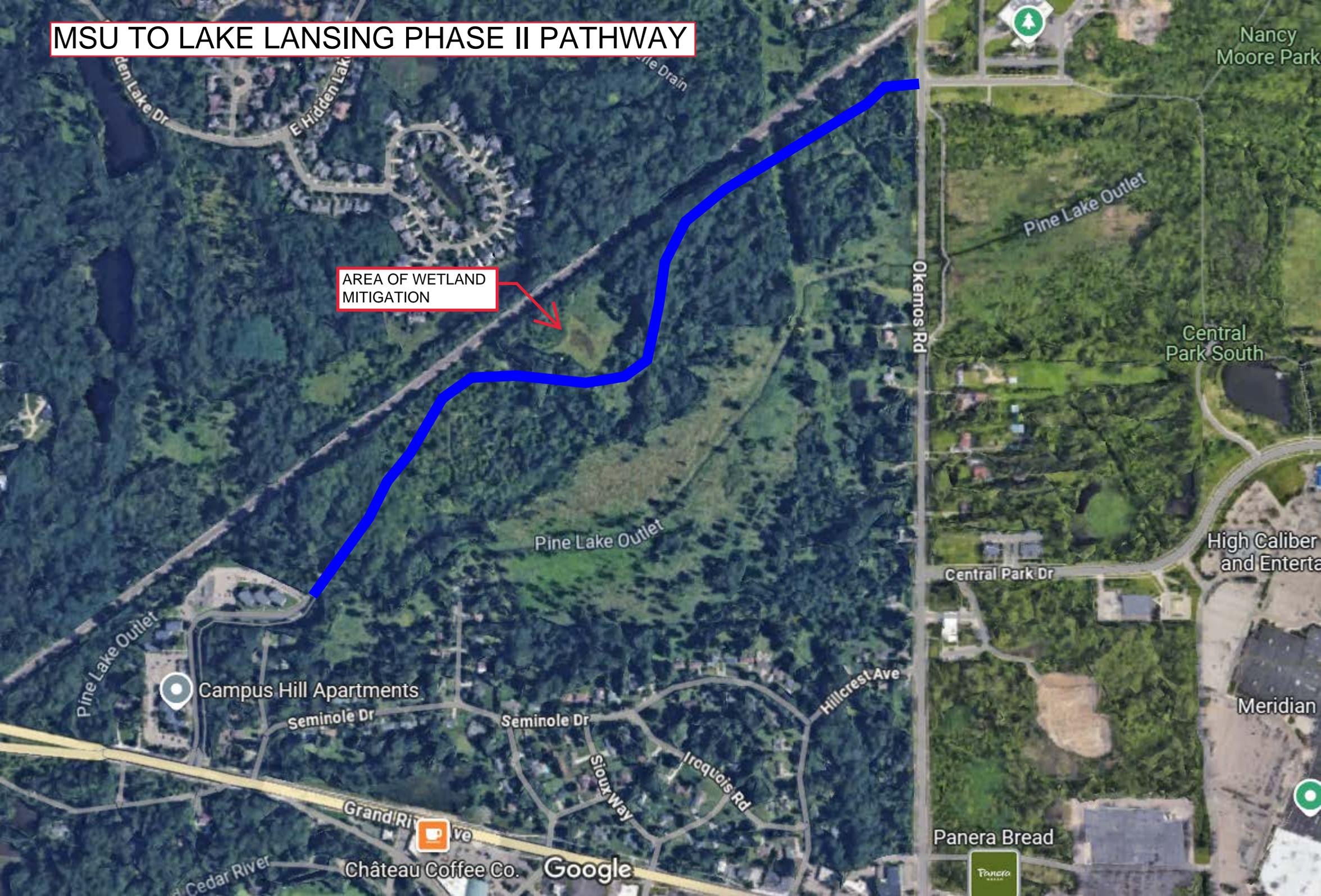
Cedar

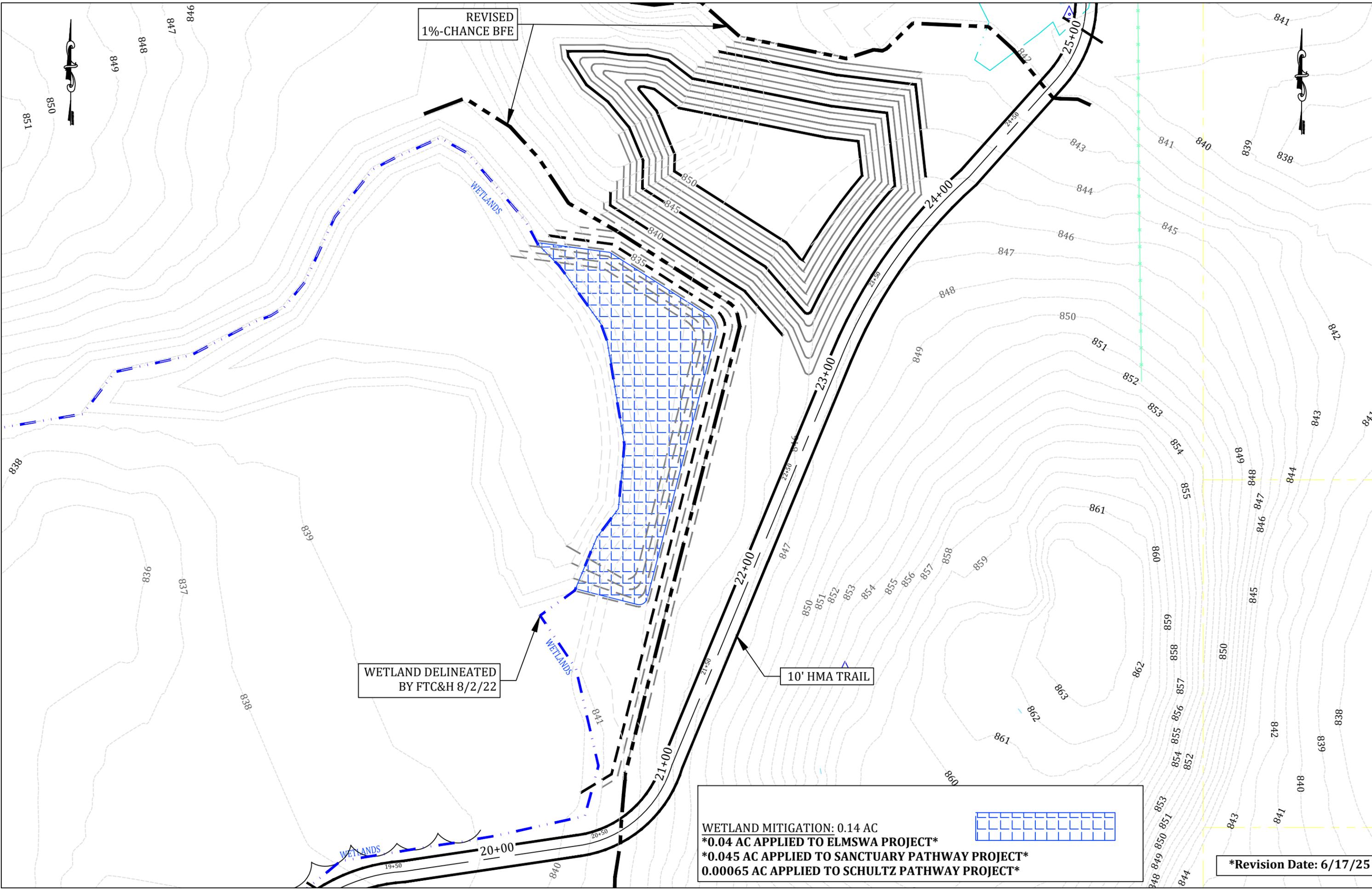
Kinawa Dr

Okemos Rd

# MSU TO LAKE LANSING PHASE II PATHWAY

AREA OF WETLAND MITIGATION





REVISED  
1%-CHANCE BFE

WETLAND DELINEATED  
BY FTC&H 8/2/22

10' HMA TRAIL

WETLAND MITIGATION: 0.14 AC  
\*0.04 AC APPLIED TO ELMSWA PROJECT\*  
\*0.045 AC APPLIED TO SANCTUARY PATHWAY PROJECT\*  
0.00065 AC APPLIED TO SCHULTZ PATHWAY PROJECT\*



\*Revision Date: 6/17/25