



AGENDA
CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION – REGULAR MEETING
June 25, 2018 7PM

1. CALL MEETING TO ORDER
2. PUBLIC REMARKS
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
 - A. June 11, 2018 Regular Meeting
5. COMMUNICATIONS
 - A. Carolyn Beia RE: Rezoning #18070
6. PUBLIC HEARINGS
 - A. Special Use Permit #18061 (Meridian Township), replace drain structure in the floodplain of the Pine Lake Outlet Drain adjacent to the Old Raby Trail located east of Raby Road, south of Haslett Road, and west of Marsh Road.
7. UNFINISHED BUSINESS
 - A. Commercial Planned Unit Development #18024 (Affinity 9 Investments), construct 4,534 square foot Panera restaurant with drive-through window at 2080 Grand River Avenue.
 - B. Special Use Permit #18051 (Singh), construct a multiple family housing development with seven dwelling units at 1954 Saginaw Highway.
8. OTHER BUSINESS
 - A. Commission Review #18073 (Meridian Township), Section 61 Review of the character, location, and extent for the installation of a solar panel array at 5151 Marsh Road.
 - B. Future Land Use Map review.
9. TOWNSHIP BOARD, PLANNING COMMISSION OFFICER, COMMITTEE CHAIR, AND STAFF COMMENTS OR REPORTS
10. PROJECT UPDATES
 - A. New Applications - NONE
 - B. Site Plans Received - NONE
 - C. Site Plans Approved – NONE
11. PUBLIC REMARKS
12. ADJOURNMENT
13. POST SCRIPT: DAVID PREMEOE

AGENDA page 2
CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION MEETING
June 25, 2018 7:00 pm

TENTATIVE PLANNING COMMISSION AGENDA

July 9, 2018

1. PUBLIC HEARINGS
 - A. Rezoning #18080 (Giguere Homes), rezone approximately 7.36 acres located at 3760 Hulett Road from RR (Rural Residential) to RA (Single Family-Medium Density).

2. UNFINISHED BUSINESS
 - A. Mixed Use Planned Unit Development #18034 (Meridian Investment Group, LLC), construct 70,213 square foot mixed use building with 88 dwelling units at 2875 Northwind Drive.
 - B. Special Use Permit #18031 (Meridian Investment Group, LLC), construct building greater than 25,000 square feet in size at 2875 Northwind Drive.
 - C. Special Use Permit #18041 (Meridian Investment Group, LLC), placement of fill and grading in the floodplain of the Red Cedar River at 2875 Northwind Drive.
 - D. Special Use Permit #18061 (Meridian Township), replace drain structure in the floodplain of the Pine Lake Outlet Drain adjacent to the Old Raby Trail located east of Raby Road, south of Haslett Road, and west of Marsh Road.

3. OTHER BUSINESS
 - A. Future Land Use Map review.

Individuals with disabilities requiring auxiliary aids or services should contact the Meridian Township Board by contacting:
Township Manager Frank L. Walsh, 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
PLANNING COMMISSION
REGULAR MEETING MINUTES**

DRAFT

June 11, 2018

5151 Marsh Road, Okemos, MI 48864-1198

517-853-4560, Town Hall Room, 7:00 P.M.

PRESENT: Commissioners Richards, Cordill, Ianni, Premoe, Scott-Craig, Stivers, Trezise, Shrewsbury, and Lane

ABSENT: None

STAFF: Principal Planner Peter Menser, Assistant Planner Justin Quagliata, Planning Intern Juliana Boblitz

1. Call meeting to order

Chair Ianni called the regular meeting to order at 7:02 P.M.

2. Public Remarks - None

3. Approval of Agenda

Commissioner Richards moved to approve the agenda as written.

Supported by Vice-Chair Scott-Craig.

VOICE VOTE: Motion approved unanimously.

4. Approval of Minutes

A. May 21, 2018 Regular Meeting

Commissioner Premoe moved to approve the minutes as written.

Supported by Commissioner Cordill.

VOICE VOTE: Motion approved unanimously.

5. Communications - None

6. Public Hearings

A. Commercial Planned Unit Development #18024 (Affinity 9 Investments), construct a 4,534 square foot Panera restaurant with drive-through window at 2080 Grand River Avenue.

Chair Ianni opened the public hearing at 7:04 p.m.

Principal Planner Menser outlined C-PUD #18024 for discussion.

Mr. Jeff Kyes of KEBS Engineering spoke representing the applicant. He commented the existing site does not meet a number of ordinance requirements and under the proposed plan they worked hard to minimize the number of waivers required. He stated a traffic study was reviewed by the Michigan Department of Transportation and they were in agreement with the proposed plans for the time being.

There was no public comment.

Commissioner Richards asked about the quality of the existing wetland.

Principal Planner Menser replied the quality was high enough that the wetland is regulated by the Michigan Department of Environmental Quality as well as the Township.

Vice-Chair Scott-Craig asked for details about installing a right turn lane from Grand River Avenue.

Mr. Kyes stated installing a dedicated right turn lane on westbound Grand River Avenue for traffic to turn into the business can only be done if the Michigan Department of Transportation determines it's necessary.

Vice-Chair Scott-Craig asked if the compensating cut in the floodplain would remove the possibility of a secondary access road.

Mr. Kyes stated the compensating cut would not limit a secondary access drive because it is between the parking lot and sidewalk.

Vice-Chair Scott-Craig asked about the reduced parking.

Mr. Kyes explained the parking reduction was kept to the very minimum but was warranted to reduce the amount of impervious surface.

Vice-Chair Scott-Craig stated the surrounding intersections already have failing Level of Service traffic grades and while the proposed project won't help, it certainly won't make it too much worse. He said he was concerned about flooding in the area and stated the topic would have to be addressed.

Commissioner Cordill stated she was glad to see the improvement to the site that the proposed development offers but said the number of waivers is still very significant.

Principal Planner Menser explained the waivers requested based on the proposed plan and stated the C-PUD waiver process takes the place of the variance process.

Commissioner Cordill stated she was not in favor of having a drive-thru in this location as she would like to see less impact on traffic for this area.

Mr. Kyes explained the business needs the drive-thru and the proposed plan has maximized every possible area on the lot to accommodate the drive-thru.

Commissioner Stivers asked if the building could be moved closer to Grand River Avenue to conform to the possible adoption of Form Based Code.

Mr. Kyes explained with the access required for the drive-thru and any emergency vehicles that would have to get around the building it would not be possible to move the building closer to Grand River Avenue.

Commissioner Lane asked how the square footage of the proposed development compared to the applicant's existing site in the Township.

Mr. Brian Barnard, a representative of Panera Bread, stated the square footage was close to the same for the proposed and existing sites.

A straw poll indicated the Planning Commission would be in favor of recommending approval of the proposed C-PUD at the next meeting.

Chair Ianni closed the public hearing at 7:32 p.m.

B. Special Use Permit #18051 (Singh), construct a multiple family housing development with seven dwelling units at 1954 Saginaw Highway.

Chair Ianni opened the public hearing at 7:33 p.m.

Principal Planner Menser outlined Special Use Permit #18051 for discussion.

Mr. Jeff Kyes spoke representing the applicant. He gave details about the development and said the proposal was to build in phases. The existing home would remain and the detached garage would be converted into a dwelling with an attached two car garage. The revenue generated from renting those two units would be used to run water to the property so phase two construction could begin.

There was no public comment.

Commissioner Premoe asked if the existing garage and home were separate buildings.

Mr. Kyes explained the existing garage is separate from the home and is not a living unit at this time but would be converted into a dwelling with an attached garage.

Commissioner Lane asked if there was adequate parking for two dwellings.

Mr. Kyes replied the plan calls for creating two parking spaces for the existing home and the converted garage would have an attached garage for parking.

Vice-Chair Scott-Craig commented he was happy to see the plan called for leaving as many of the mature trees as possible on the lot.

Principal Planner Menser stated a RDD special use permit would be valid for one year and with the possibility of a one year extension if necessary.

Vice-Chair Scott-Craig asked about the fact that the existing structures are in the setback areas of the lot.

Mr. Kyes explained the footprint of neither structure would change under the proposed plan.

A straw poll indicated the Planning Commission would be in favor of approval of SUP #18051.

Chair Ianni closed the public hearing at 7:55 p.m.

- C. Mixed Use Planned Unit Development #18034 (Meridian Investment Group, LLC), construct 70,213 square foot mixed use building with 88 dwelling units at 2875 Northwind Drive.
- D. Special Use Permit #18031 (Meridian Investment Group, LLC), construct building greater than 25,000 square feet in size at 2875 Northwind Drive.
- E. Special Use Permit #18041 (Meridian Investment Group, LLC), placement of fill and grading in the floodplain of the Red Cedar River at 2875 Northwind Drive.

Chair Ianni opened the public hearing combining items C, D, and E at 7:56 p.m.

Principal Planner Menser outlined MUPUD #18034 and SUP #18031 and SUP #18041 for discussion.

Mr. Ron Calhoun spoke representing the applicant. He commented the building currently on the property was built in 1978. The proposed redevelopment would decrease the amount of impervious surface and would result in a net reduction in traffic on the road. He said the proposed building would be primarily residential with some professional offices on the first floor. The number of proposed dwelling units is 88 with a total of 111 bedrooms and would have a façade similar to the Red Cedar Flats project.

Commissioner Lane asked if improvements were planned for the private portion of Northwind Drive.

Mr. Calhoun responded the road is scheduled to have improvements prior to construction starting.

Commissioner Stivers asked if the applicant had an idea of what type of retail tenants would occupy the commercial space.

Mr. Calhoun stated the commercial space would likely be destination related or professional office space due to being removed from Grand River Avenue.

Vice-Chair Scott-Craig asked if the area's demographics supported a project of this size and what type of resident would most likely be living there.

Mr. Calhoun remarked the market has shown a need for larger one to two bedroom apartments which would seem to appeal to young professionals.

Vice-Chair Scott-Craig asked about the trail easement related to the property.

Mr. Calhoun replied the trail easement would provide pedestrian and bicycle access along the Red Cedar River and will require improvements along the river's edge.

Mr. Kyes gave a brief explanation of the grading and fill on the site.

Vice-Chair Scott-Craig stated by his count the residential building would have 116 parking spaces and 36 overflow spaces adjacent to the property, the majority of which would be in the floodplain. He asked what the emergency parking plan was during flooding.

Mr. Calhoun responded during flood events stack parking may need to occur.

Vice-Chair Scott-Craig said flooded parking areas is a major issue and he would like to know exactly how many spaces would be in the flooding area. He also asked how far above the flood plain the lower level apartments are planned.

Mr. Calhoun replied the lower level apartments would be one foot above the floodplain.

Vice-Chair Scott-Craig asked what building materials are proposed for the exterior of the proposed building.

Mr. Calhoun replied it would be cement block similar to the Red Cedar Flats project.

Vice-Chair Scott-Craig reminded the applicant that the amenities are meant for the public as well as the residents and while the river trail is a great amenity they should keep the public in mind as they select the other amenities.

Commissioner Stivers asked if the detention basin would help with the flooding issue.

Mr. Kyes responded the detention basin is a pre-treatment system for storm water discharge, and is utilized to slow down the flow of storm water but would not be enough to keep the area from flooding.

Commissioner Richards asked if a study was done to determine the number of units that are needed for the area. He asked if the market was already saturated.

Mr. Calhoun responded the development was primarily driven by market demand for an overall blend of housing.

Commissioner Cordill remarked there was too much impervious surface included in the project.

A straw poll indicated five Commissioners would likely recommend approval of the request. Two Commissioners were undecided and two would not recommended approval.

Chair Ianni closed the public hearing at 8:53 p.m.

7. Unfinished Business -None

8. Other Business-None

9. TOWNSHIP BOARD, PLANNING COMMISSION OFFICER, COMMITTEE CHAIR, AND STAFF COMMENTS OR REPORTS

Commissioner Cordill stated a review of the amenities list in the MUPUD ordinance should be done. She stated public Wi-Fi shouldn't count as an amenity, and connecting to the Township pathway system is a requirement and therefore should not be counted as an amenity.

Vice-Chair Scott-Craig gave a brief summary of the most recent Economic Development Corporation meeting.

Principal Planner Menser commented the Township Board may review the MUPUD ordinance, including possible revision of the amenities list. He announced Justin Quagliata has graduated from Michigan State University and is now a full-time Assistant Planner for the Township. Principal Planner Menser also introduced Juliana Boblitz, the new Planning Intern.

10. PROJECT UPDATES

- A. New Applications - None
- B. Site Plan Received
 - 1. Site Plan Review #18-07 (Wieland), construct 29,270 square foot church at 6322 Newton Road.
- C. Site Plans Approved -None

11. PUBLIC REMARKS - NONE

12. ADJOURNMENT

Commissioner Cordill moved to adjourn the meeting.
Supported by Vice-Chair Scott-Craig.
VOICE VOTE: Motion carried unanimously.

Chair Ianni adjourned the regular meeting at 8:58 p.m.

Respectfully Submitted,

Angela M. Ryan
Recording Secretary

June 1, 2018

Peter Menser
Principal Planner
Meridian Township
5151 Marsh Rd.
Okemos, MI 48864

RECEIVED

JUN 12 2018

Dear Mr. Menser:

As a homeowner on the east side of Ridgepond Place, I have a vested interest in rezoning issue #18070. I'm sorry I couldn't attend the public hearing last week (while the letter was dated April 24, the postmark was in early June and I didn't receive it until a week before the meeting and I had a commitment), but I hope my comments arrive in time to be considered before the zoning issue is decided.

My property directly overlooks the parcel in question. I purchased it knowing that it was zoned for multiple residences and knew it might sometime be developed. The prospect of commercial development, however, is an entirely different matter.

Your website lists three categories of commercial development, but I could not locate any descriptions of them. Also, the master plan indicates that the categories are to be merged anyway. Therefore the type of commercial development becomes a major factor for our future peace, livability, and property value. A medical, professional, or office building would be more desirable, for example, than a late-night entertainment venue. We would strongly oppose any zoning that allowed for taverns, nightclubs, water parks, light industrial, or other enterprises that create noise or unattractive facilities.

For three years we have treasured the privacy, solitude, natural beauty, and long views of our back yard, from the windows facing that area in winter and from the patio in summer. If the property is to be developed at all, the township should require that the new businesses are quiet and attractive ones, and insist that a green strip be maintained to screen the buildings from the adjacent neighborhood.

Sincerely,



Carolyn Beia
6410 Ridgepond Pl.
East Lansing, MI 48823



To: Planning Commission

From: Peter Menser, Principal Planner

Justin Quagliata, Assistant Planner

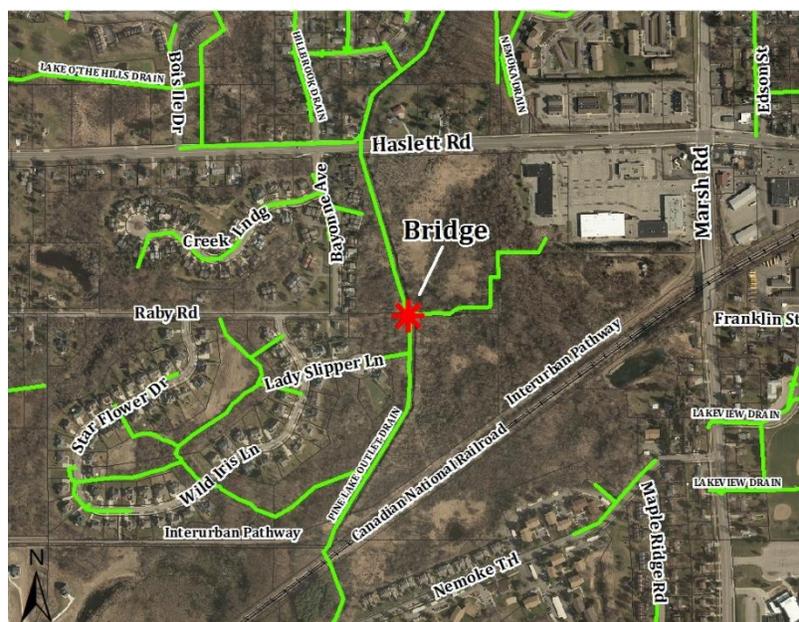
Date: June 20, 2018

Re: Special Use Permit #18061 (Meridian Township), replace a drain structure in the floodplain of the Pine Lake Outlet Drain adjacent to the Meridian Township Old Raby Trail located east of Raby Road, south of Haslett Road, and west of Marsh Road.

The Department of Public Works and Engineering of the Charter Township of Meridian has applied for a special use permit to replace a drain structure in the floodplain of the Pine Lake Outlet Drain adjacent to the Meridian Township Old Raby Trail located east of Raby Road, south of Haslett Road, and west of Marsh Road. The project will improve deteriorating infrastructure in the Pine Lake Outlet Drain.

The existing drain structure, a concrete bridge with steel beams and concrete deck, is proposed to be replaced with an aluminum arch. In order to construct the new bridge the floodplain will need to be excavated (cut) underneath the bridge on the north and south sides of the Pine Lake Outlet Drain. A total of 71.7 cubic yards will be cut from the floodplain to accommodate the new bridge. No fill is proposed in the floodplain.

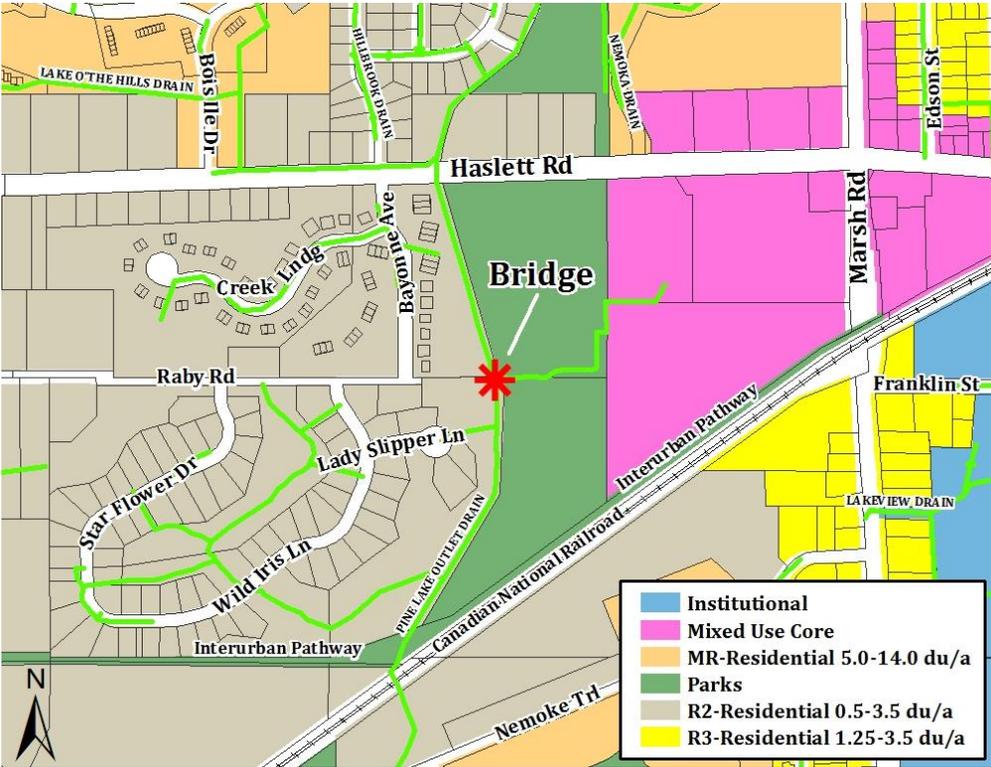
LOCATION MAP



Master Plan

The 2017 Master Plan designates the subject site in the R2-Residential 0.5-3.5 dwelling units per acre category.

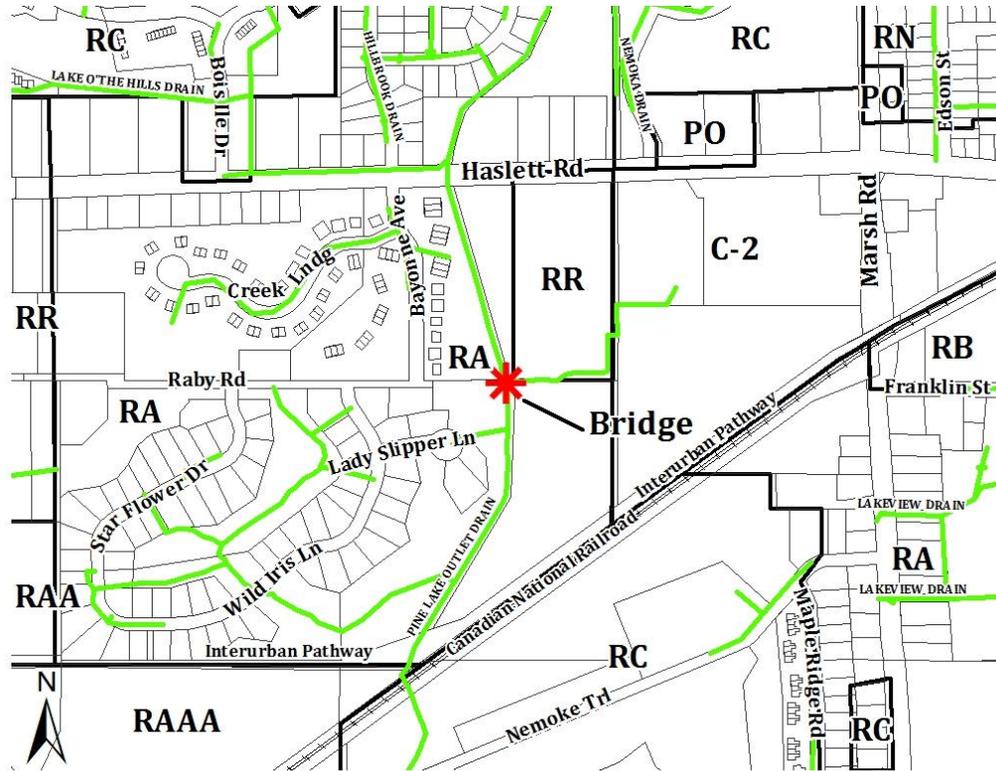
FUTURE LAND USE MAP



Zoning

The subject site is zoned RA (Single Family-Medium Density).

ZONING MAP



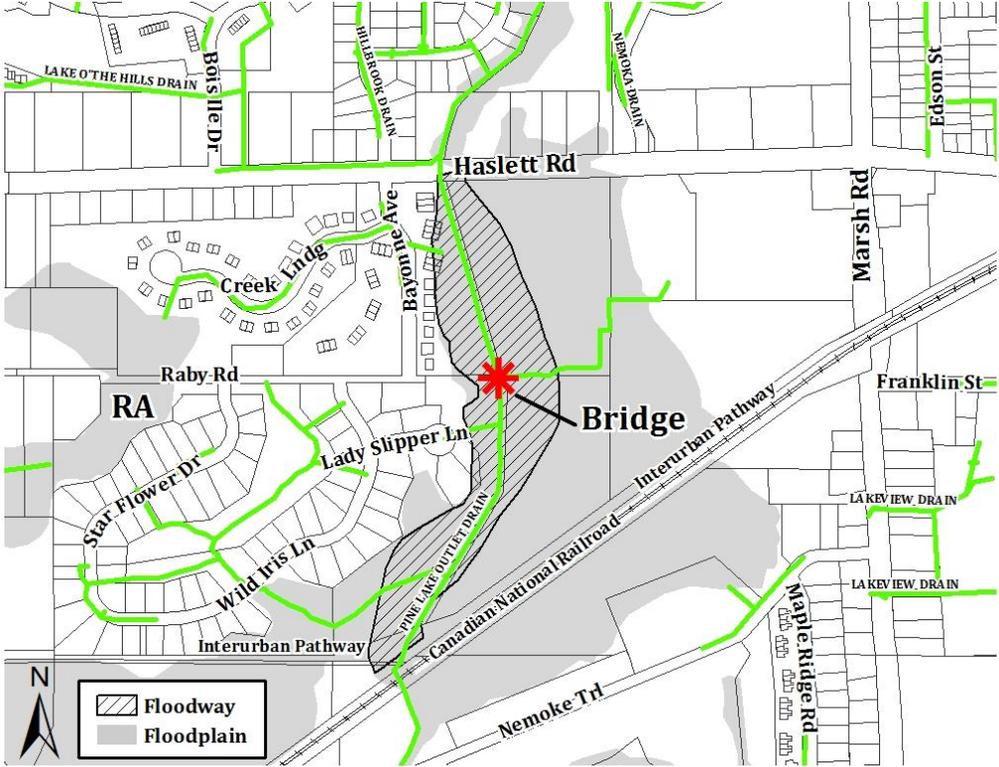
Physical Features

The site is part of the Old Raby Trail, which intersects with the Pine Lake Outlet Drain which flows from north to south. The site elevation is relatively level, ranging from approximately 843 feet to 849 feet above mean sea level.

Floodplain

The existing bridge is located within a 100-year floodplain of the Pine Lake Outlet Drain. The applicant proposes to cut 71.7 cubic yards from the floodplain to facilitate the project. No fill is proposed in the floodplain. A 100-year floodplain (floodway fringe) is present on the site, indicated by the gray area in the map on the following page. The elevation of the floodplain is approximately 847.5 feet above mean sea level.

FLOODPLAIN MAP



Public Utilities and Storm Water Management

The Pine Lake Outlet Drain flows north to south through this project area. In addition to the required special use permit, the applicant has also applied for a Michigan Department of Environmental Quality (MDEQ) permit for the work in the floodplain.

Staff Analysis

The applicant proposes to excavate (cut) 71.7 cubic yards from the floodplain at the bridge site to enlarge the width and depth under the bridge. Township regulations require a special use permit to excavate within the 100-year floodplain. The special use permit criteria found in Section 86-126 of the Code of Ordinances should be used when evaluating the proposed special use permit. Section 86-436(n) of the Code of Ordinances provides additional standards for projects in the floodplain, which are as follows:

1. All new residential structures and residential structures requiring substantial improvement shall have the lowest floor, including basement, elevated to one foot above the level of the base flood elevation.
2. All new nonresidential structures and nonresidential structures requiring substantial improvements shall have the lowest floor, including basement, elevated to one foot above the level of the base flood elevation or shall be floodproofed to one foot above the level of the base flood elevation.
3. Excavation and shaping of the floodway fringe shall be conducted in such a manner as to maintain or improve the natural impoundment capacity of the base flood elevation. In no case shall the impoundment capacity of the floodway fringe be reduced.

As proposed, with excavation of 71.7 cubic yards this project will improve the impoundment capacity of the floodplain.

Planning Commission Options

The Planning Commission may approve, approve with conditions, or deny the special use permit. A resolution will be provided at a future meeting.

Attachments

1. Special use permit application and attachments.
2. Site Plan prepared by the Meridian Township Engineering Department dated May 30, 2018, received by the Township on June 1, 2018.

G:\Commun Plng & Dev\Plng\Special Use Permits (SUP)\2018\SUP 18061 (Meridian Township)\SUP 18061.pc1.docx

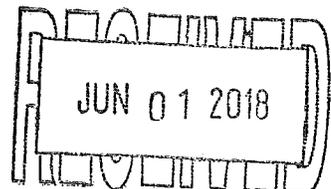
CHARTER TOWNSHIP OF MERIDIAN
DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT
5151 MARSH ROAD, OKEMOS, MI 48864
PLANNING DIVISION PHONE: (517) 853-4560, FAX: (517) 853-4095

SPECIAL USE PERMIT APPLICATION

Before submitting this application for review, an applicant may meet with the Director of Community Planning and Development to discuss the requirements for a special use permit and/or submit a conceptual plan for review to have preliminary technical deficiencies addressed prior to submittal of the application. If the property or land use is located in the following zoning districts RD, RC, RCC, RN then the applicant must meet with the Planning Director to discuss technical difficulties before filing a formal application.

Part I

- A. Applicant Meridian Township
Address of Applicant 5151 Marsh Road, Okemos, MI 48864
Telephone - Work (517)853-4468 Home n/a Fax (517)853-4095 Email nunn@meridian.mi.us
Interest in property (circle one): Owner Tenant Option Other Easement Holder
(Please attach a list of all persons with an ownership interest in the property.)
- B. Site address / location / parcel number Meridian Old Raby Trail 33-02-02-10-376-005
Legal description (please attach if necessary) (attached)
Current zoning RA
Use for which permit is requested / project name Old Raby Culvert Replacement
Corresponding ordinance number 86-436 CV District
- C. Developer (if different than applicant) n/a
Address _____
Telephone – Work _____ Home _____ Fax _____
- D. Architect, Engineer Planner or Surveyor responsible for design of project if different from applicant:
Name n/a
Address _____
Telephone – Work _____ Home _____ Fax _____
- E. Acreage of all parcels in the project: Gross 11.06 Net _____
- F. Explain the project and development phases: Replacement of an existing drain structure under an existing off-road trail, over the Pine Lake (Outlet) Drain. The existing structure is a bridge with steel beams and a concrete deck, to be replaced with an aluminum arch. The project includes 71.7 cubic yards of cut from the floodplain.
- G. Total number of:
Existing: structures 0 bedrooms 0 offices 0 parking spaces 0 carports 0 garages 0
Proposed: structures 0 bedrooms 0 offices 0 parking spaces 0 carports 0 garages 0
- H. Square footage: existing buildings 0 proposed buildings 0
Usable Floor area: existing buildings 0 proposed buildings 0
- I. If employees will work on the site, state the number of full time and part time employees working per shift and hours of operation: n/a
- J. Existing Recreation: Type Off-road, pedestrian/bicycle trail. Acreage 0.2
Proposed Recreation: Type Off-road, pedestrian/bicycle trail. Acreage 0.2
Existing Open Space: Type Woodlands Acreage 10.4
Proposed Open Space: Type Woodlands Acreage 10.4
- K. If Multiple Housing: n/a



Township Code of Ordinances, Section 86-126

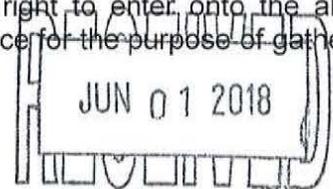
Applications for Special Land Uses will be reviewed with the standards stated below. An application that complies with the standards stated in the Township Ordinance, conditions imposed pursuant to the Ordinance, other applicable Ordinances, and State and Federal statutes will be approved. Your responses to the questions below will assist the Planning Commission in its review of your application.

- (1) The project is consistent with the intent and purposes of this chapter.
- (2) The project is consistent with applicable land use policies contained in the Township's Master Plan of current adoption.
- (3) The project is designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and that such a use will not change the essential character of the same area.
- (4) The project will not adversely affect or be hazardous to existing neighboring uses.
- (5) The project will not be detrimental to the economic welfare of surrounding properties or the community.
- (6) The project is adequately served by public facilities, such as existing roads, schools, stormwater drainage, public safety, public transportation, and public recreation, or that the persons or agencies responsible for the establishment of the proposed use shall be able to provide any such service.
- (7) The project is adequately served by public sanitation facilities if so designed. If on-site sanitation facilities for sewage disposal, potable water supply, and storm water are proposed, they shall be properly designed and capable of handling the longterm needs of the proposed project.
- (8) The project will not involve uses, activities, processes, materials, and equipment and conditions of operation that will be detrimental to any persons, property, or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare, or odors.
- (9) The project will not directly or indirectly have a substantial adverse impact on the natural resources of the Township, including, but not limited to, prime agricultural soils, water recharge areas, lakes, rivers, streams, major forests, wetlands, and wildlife areas.

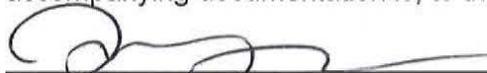
Part III

I (we) hereby grant permission for members of the Charter Township of Meridian's Boards and/or Commissions, Township staff member(s) and the Township's representatives or experts the right to enter onto the above described property (or as described in the attached information) in my (our) absence for the purpose of gathering information including but not limited to the taking and the use of photographs.

Yes No (Please check one)



By the signature(s) attached hereto, I (we) certify that the information provided within this application and accompanying documentation is, to the best of my (our) knowledge, true and accurate


Signature of Applicant

06 01
01/28/2018
Date

Nyal Nunn
Type/Print Name

Fee: _____

Received by/Date:  6/4/18

Housing Residential Developments the following is required:

1. Existing and proposed contours of the property at two foot intervals based on United States Geological Survey (USGS) data.
2. Preliminary engineering reports in accordance with the adopted Township water and sewer standards, together with a letter of review from the Township Engineer.
3. Ten copies of a report on the intent and scope of the project including, but not limited to: Number, size, volume, and dimensions of buildings; number and size of living units; basis of calculations of floor area and density and required parking; number, size, and type of parking spaces; architectural sketches of proposed buildings.
4. Seven copies of the project plans which the Township shall submit to local agencies for review and comments.

O. In addition to the above requirements, a special use application in zoning district **RP** requires the following material as part of the site plan:

1. A description of the operations proposed in sufficient detail to indicate the effects of those operations in producing traffic congestion, noise, glare, air pollution, water pollution, fire hazards or safety hazards or the emission of any potentially harmful or obnoxious matter or radiation.
2. Engineering and architectural plans for the treatment and disposal of sewerage and industrial waste tailings, or unusable by-products.
3. Engineering and architectural plans for the handling of any excessive traffic congestion, noise, glare, air pollution, or the emission of any potentially harmful or obnoxious matter or radiation.

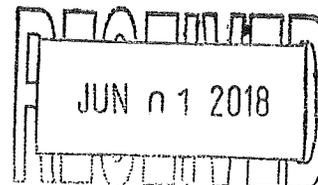
P. In addition to the above requirements, a special use application for a use in the Floodway Fringe of zoning district **CV** requires the following:

1. A letter of approval from the State Department of Environmental Quality.
2. A location map including existing topographic data at two-foot interval contours at a scale of one inch representing 100 feet.
3. A map showing proposed grading and drainage plans including the location of all public drainage easements, the limits, extent, and elevations of the proposed fill, excavation, and occupation.
4. A statement from the County Drain Commissioner, County Health Department, and Director of Public Works and Engineering indicating that they have reviewed and approved the proposal.

Q. In addition to the above requirements, a special use application for a use in the Groundwater Recharge area or zoning district **CV** requires the following:

1. A location map including existing topographic data at two-foot interval contours.
2. A map showing proposed grading and drainage plans including the location of all public drainage easements, the limits and extent of the proposed fill, excavation, and occupation.
3. A statement from the County Drain Commissioner, County Health Department, and Director of Public Works and Engineering indicating that they have reviewed and approved the proposal.

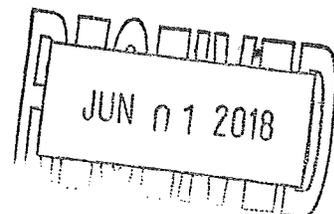
R. In addition to the above requirements, the Township Code of Ordinances, Article VI, should be reviewed for the following special uses: group housing residential developments, mobile home parks, nonresidential structures and uses in residential districts, planned community and regional shopping center developments, sand or gravel pits and quarries, sod farms, junk yards, sewage treatment and disposal installations, camps and clubs for outdoor sports and buildings greater than 25,000 square feet in gross floor area.



**Special Use Permit Application Attachment
Site Plan Requirements Per Section 86-124(c)(4)**

A site plan, drawn to a legible scale, containing the following information where applicable:

- a. Boundaries of the subject property.
- b. Total area of the subject property.
- c. Location of all existing and proposed structures.
- d. Approximate location and distance of all structures within 100 feet of the subject property.
- e. Uses of existing and proposed buildings, on the subject site.
- f. Proposed means of vehicular and pedestrian ingress and egress to the subject property.
- g. Public and private roads and streets, rights-of-way, and easements, indicating names and widths, which abut or cross the site.
- h. Existing and proposed parking spaces, and vehicular and pedestrian circulation patterns.
- i. The buildable area of the subject property indicating all required setbacks, yards and open space.
- j. Zoning classification of the subject and adjacent properties.
- k. Existing and proposed fencing, screening, landscaping, and buffers.
- l. Location and sizes of existing utilities including power lines and towers, both above and below the ground.
- m. Amount and location of all impervious surfaces.
- n. The verified boundaries of all natural water features and required setback lines.





Meridian Township
5151 Marsh Road
Okemos, MI 48864

P 517.853.4000
F 517.853.4096

Township Board:

Ronald J. Styka
Township Supervisor

Brett Dreyfus
Township Clerk

Julie Brixie
Township Treasurer

Phil Deschaine
Township Trustee

**Patricia Herring
Jackson**
Township Trustee

Dan Opsommer
Township Trustee

Kathy Ann Sundland
Township Trustee

Frank L. Walsh
Township Manager

06/01/2018

Mr. Peter Menser
Principal Planner
Community Planning & Development
Meridian Township
5151 Marsh Road,
Okemos, MI 48864

Dear Mr. Menser:

Subject: Old Raby Culvert Replacement – SUP Application

33-02-02-10-376-005: WILDFLOWER PARK IN WILDFLOWER EST. SEC 10 T4NR1W

Part II Responses:

(1) The project is consistent with the intent and purposes of this chapter.

This project will enhance the existing access to these natural areas by increasing the safety for trail users while simultaneously increasing the capacity of the floodplain.

(2) The project is consistent with applicable land use policies contained in the Township's Master Plan of current adoption.

This project is in service to one of the primary off-road trails in Meridian Township. Such trails strongly support the Township's goals of non-motorized transportation, walkability, and recreational opportunities.

(3) The project is designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and that such a use will not change the essential character of the same area.

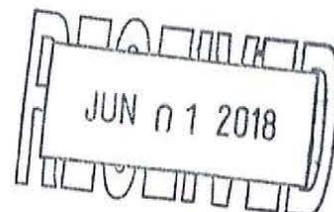
This project seeks to replace an existing drainage structure, the outcome of which will retain the existing land use while increasing the safety for users. Additionally, by increasing the capacity of the floodplain, the community as a whole will benefit.

(4) The project will not adversely affect or be hazardous to existing neighboring uses.

All existing uses will remain the same with this project. The trail is existing, and by replacing the drainage structure there will be no alteration to the uses of the site or the neighboring properties.

(5) The project will not be detrimental to the economic welfare of surrounding properties or the community.

By supporting and enhancing the usability of this trail, this project will be a benefit to the surrounding properties and to the community as a whole.



(6) *The project is adequately served by public facilities, such as existing roads, schools, stormwater drainage, public safety, public transportation, and public recreation, or that the persons or agencies responsible for the establishment of the proposed use shall be able to provide any such service.*

As enhancement to an existing trail, the only facilities which are utilized by this project are those for stormwater drainage. By increasing the floodplain capacity this project is increasing the drainage facilities.

(7) *The project is adequately served by public sanitation facilities if so designed. If on-site sanitation facilities for sewage disposal, potable water supply, and storm water are proposed, they shall be properly designed and capable of handling the long term needs of the proposed project.*

There are no sanitary sewer or potable water systems involved in this project. The stormwater requirements for both the Ingham County Drain Commissioner and the Michigan Department of Environmental Quality are being met. The appropriate permits are being obtained from each agency.

(8) *The project will not involve uses, activities, processes, materials, and equipment and conditions of operation that will be detrimental to any persons, property, or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare, or odors.*

This project involves standard construction practices with the minimum necessary equipment. Such practices and equipment are commonplace in the proposed areas and throughout the community. Additionally, Township requirements for working hours will be enforced.

(9) *The project will not directly or indirectly have a substantial adverse impact on the natural resources of the Township, including, but not limited to, prime agricultural soils, water recharge areas, lakes, rivers, streams, major forests, wetlands, and wildlife areas.*

This project will have a positive impact on the Township's natural resources by increasing the capacity of the floodplain. Moreover, by supporting the Township's priority of non-motorized transportation, this project strives to reduce the impact of automotive congestion in the community.

Sincerely,



Nyal Nunn, CFM

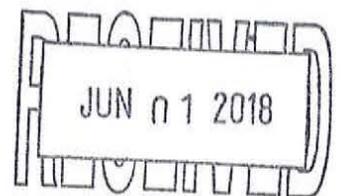
Senior Project Engineer/DPW

nunn@meridian.mi.us

W 517.853.4468 | F 517.853.4095

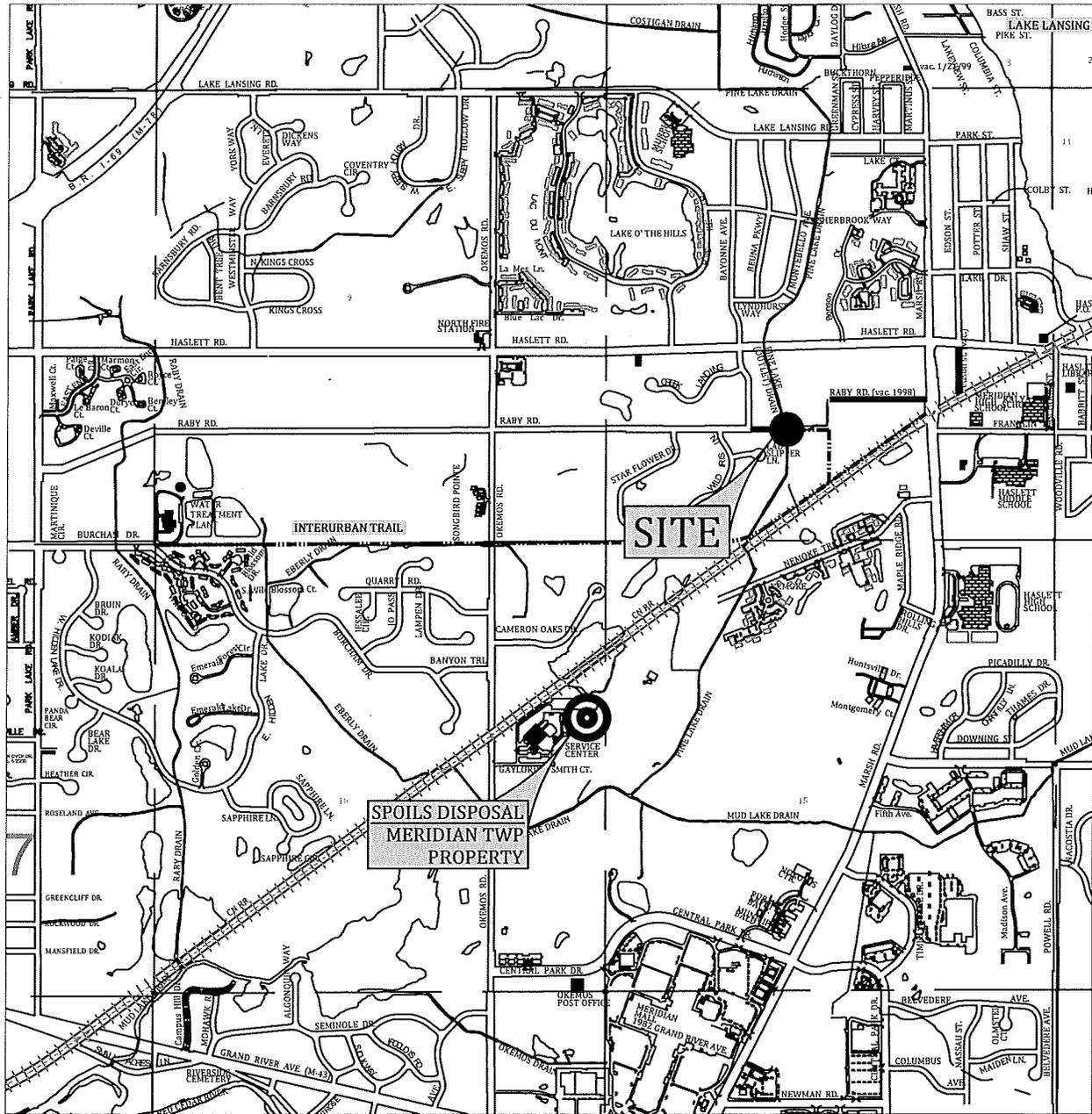
5151 Marsh Road | Okemos, MI 48864

meridian.mi.us



OLD RABY CULVERT REPLACEMENT

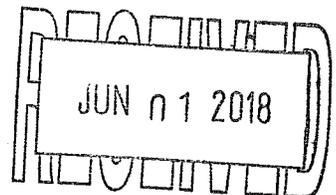
CONSTRUCTION PLANS for MERIDIAN TOWNSHIP INGHAM COUNTY, MICHIGAN



SHEET INDEX

SHT #	TITLE
1	COVER SHEET
2	OLD RABY CULVERT PLAN

SOILS:
Hn - HOUGHTON MUCK



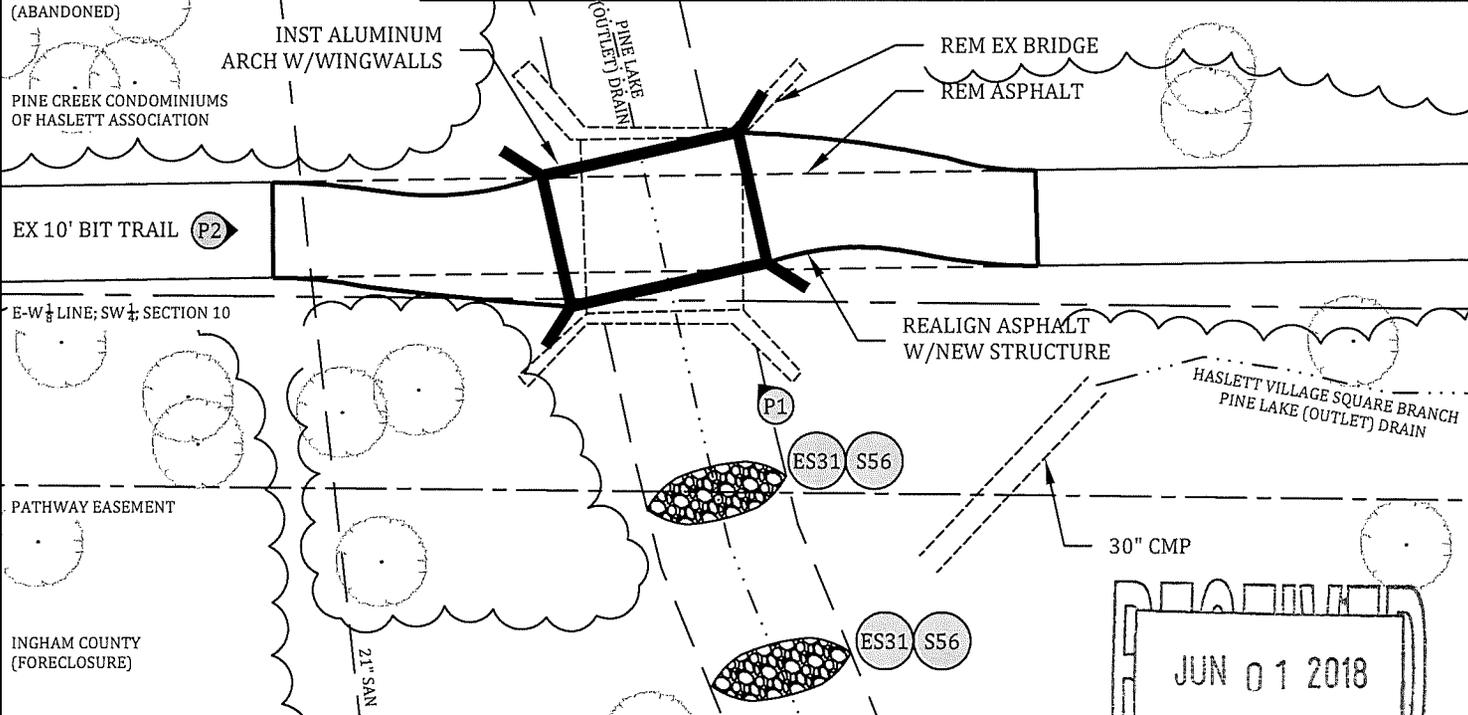
RECOMMENDED CONSTRUCTION SCHEDULING & SEQUENCING

	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
INSTALL SESC MEASURES												
REMOVE EX STRUCTURE												
INSTALL NEW ARCH CULVERT												
RESTORATION												
REMOVE SESC MEASURES												



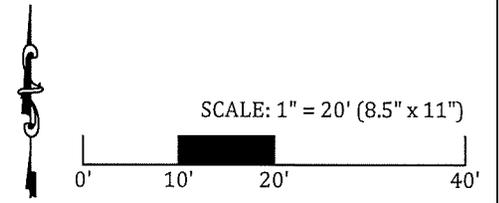
72 HOURS
(3 WORKING DAYS)
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
(TOLL FREE)

SA	ES31	CHECK DAM, STONE		Used to reduce surface flow velocities within constructed and existing flow corridors.	S56	SEDIMENT TRAP		In small drainage areas, along construction site perimeters, and above check dams or drain outlets.
----	------	------------------	--	--	-----	---------------	--	---



PAY ITEMS:

SLOPE RESTORATION, TYPE D	75	SY
DRAIN CROSSING STR, 20 FOOT SPAN	14	FT
DRAIN CROSSING STR, WINGWALL	4	EA
DRAIN CROSSING STR, REM, EXTRA	1	EA
PAVT, REM	75	SY
EXCAVATION, EARTH, RABY	1	LS
EROSION CONTROL, CHECK DAM, STONE	50	FT
EROSION CONTROL, SEDIMENT TRAP	2	EA
GEOTEXTILE, SEPARATOR	50	SY
HMA, 13A	20	TN
AGGREGATE, 21AA	5	CY
AGGREGATE, CRUSHED	10	CY
RIPRAP, PLAIN, LM	20	CY
ROOT, INHIBITOR	1	LS
FENCE, ALUMINUM	84	FT



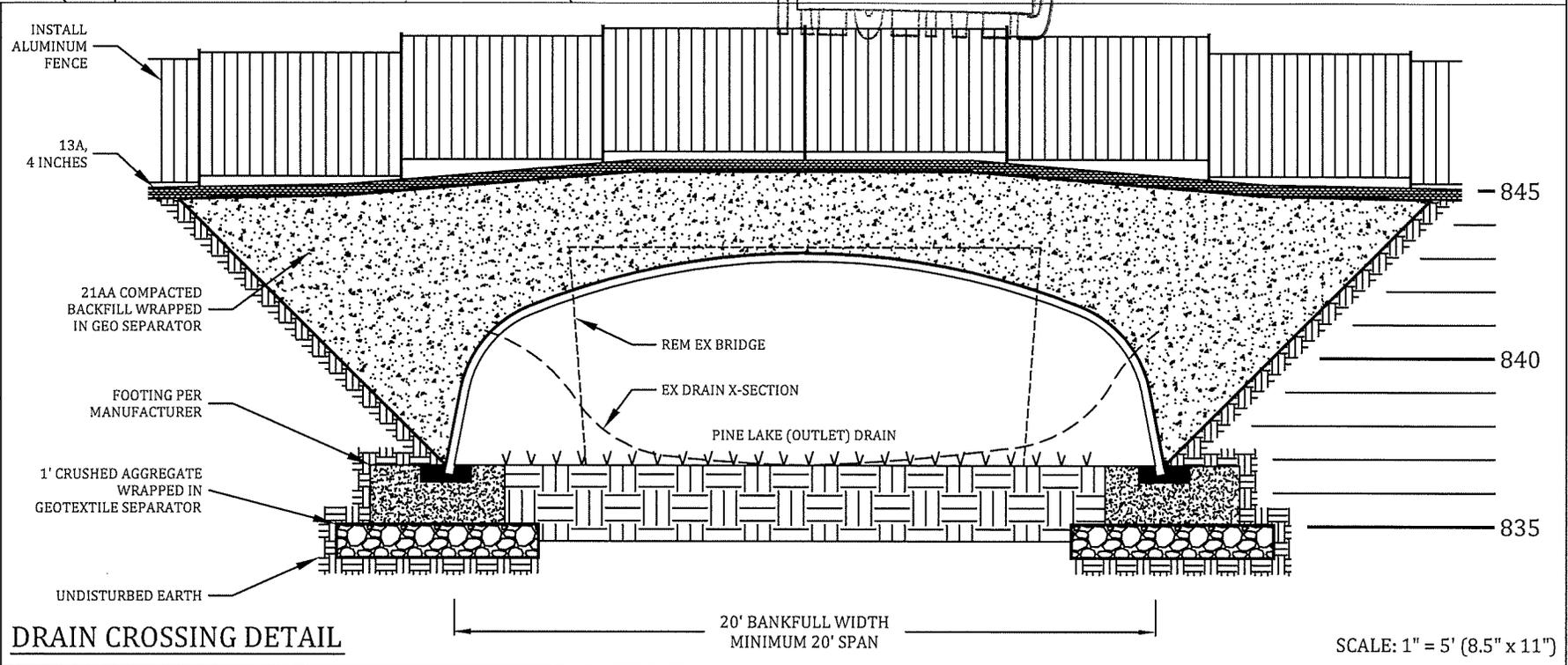
Meridian Charter Township
Ingham County, Michigan
Trail System

Raby Road Connector Trail
BRIDGE REPLACEMENT

DRAWN BY: NN/05/30/18
CHECKED BY:

SCALE:	*VARIES*
PAGE:	2 / 2

REVISIONS:	DATE:	BY:	COMMENTS:
	05/30/18	NN	Permit Plans



DRAIN CROSSING DETAIL

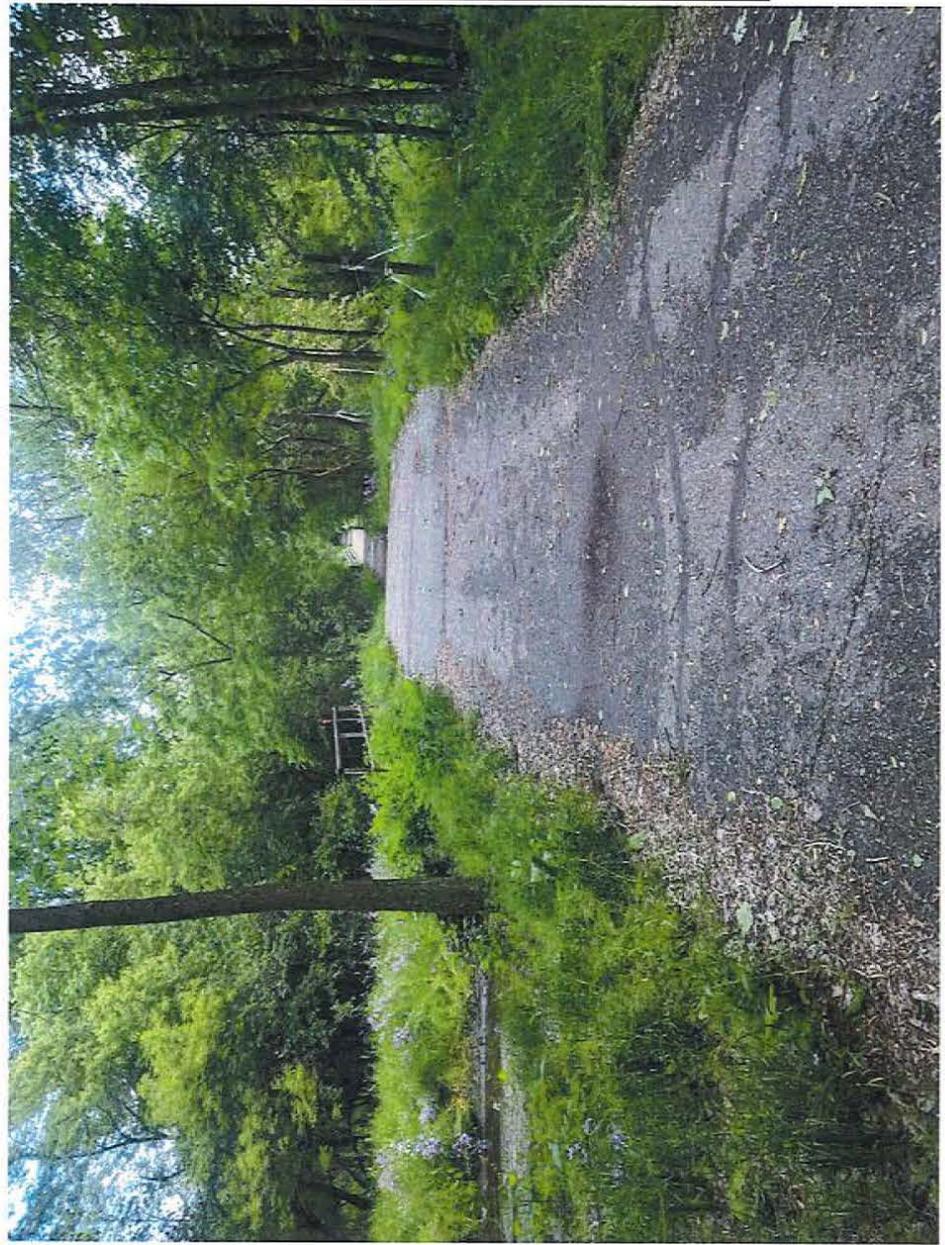
SCALE: 1" = 5' (8.5" x 11")

JUN 01 2018

P1 (2018 - 05-31) - SE corner of existing structure; facing NW.



P2 (2018 - 05-31) - W of structure from the trail; facing E.





AGENCY USE	Previous USACE File Number	Date Received JUN 01 2018	DEQ File Number
	USACE File Number		Fee received \$

Validate that all parts of this checklist are submitted with the application package. Fill out application and additional pages as needed.

- All items in Sections 1 through 9 are completed.
- Project-specific Sections 10 through 20 are completed.
- Dimensions, volumes, and calculations are provided for all impact areas.
- All information contained in the headings for the appropriate Sections (1-20) are addressed, and identified attachments (➔) are included.
- Map, site plan(s), cross sections; one set must be black and white on 8 1/2 by 11 inch paper; photographs.
- Application fee is attached.

1 Project Location Information For Latitude, Longitude, and TRS info anywhere in Michigan see www.mcgi.state.mi.us/wetlands/

Project Address (road, if no street address) <i>Old Raby Pathway: East of Bayonne Ave.</i>	Zip Code <i>48840</i>	Municipality (Township/Village/City) <i>Meridian Township</i>	County <i>Ingham</i>
Property Tax Identification Number(s) <i>33-02-02-10-376-005</i>	Latitude <i>42.744577 N</i>	Township/Range/Section (TRS) T <i>4N</i> N or S; R <i>1W</i> E or W; Sec <i>10</i> OR Private Claim # _____	
Subdivision/Plat and Lot Number <i>Wildflower Park in Wildflower Estates</i>	Longitude <i>- 84.414790 W</i>		

2 Applicant and Agent Information

Owner/Applicant (individual or corporate name) <i>Meridian Township</i>	Agent/Contractor (firm name and contact person) <i>Meridian Township - Younes Ishraidi, P.E.</i>
Mailing Address <i>5151 Marsh Road</i>	Mailing Address (<i>same</i>)
City <i>Okemos</i> State <i>MI</i> Zip Code <i>48864</i>	City State Zip Code
Contact Phone Number Fax <i>(517)853-4460 (517)853-4095</i>	Contact Phone Number Fax
Email <i>ishraidi@meridian.mi.us</i>	E-mail
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Is the applicant the sole owner of all property on which this project is to be constructed and all property involved or impacted by this project? ➔ If no, attach letter(s) of authorization from all property owners including the owner of the disposal site.	
Property Owner's Name (If different from applicant)	Mailing Address
Contact Phone Number	City State Zip Code

3 Project Description

Project Name <i>Old Raby Culvert Replacement</i>	Preapplication File Number - - -P
Name of Water body <i>Pine Lake (Outlet) Drain</i>	Date project staked/flagged
The proposed project is on, within, or involves (check all that apply)	
<input type="checkbox"/> an inland lake (5 acres or more) <input type="checkbox"/> a pond (less than 5 acres) <input type="checkbox"/> a stream, river, ditch or drain <input checked="" type="checkbox"/> a legally established County Drain Date Drain was established <input type="checkbox"/> a channel/canal <input type="checkbox"/> 500 feet of an existing water body	<input type="checkbox"/> a Great Lake or Section 10 Waters <input checked="" type="checkbox"/> a wetland <input checked="" type="checkbox"/> a 100-year floodplain <input type="checkbox"/> a dam <input type="checkbox"/> a designated high risk erosion area <input type="checkbox"/> a designated critical dune area <input type="checkbox"/> a designated environmental area
Project Use	
<input type="checkbox"/> private <input type="checkbox"/> commercial <input checked="" type="checkbox"/> public/government <input type="checkbox"/> project is receiving federal/state transportation funds <input type="checkbox"/> Wetland Restoration <input type="checkbox"/> other	

Indicate the type of permit being applied for: General Permit Minor Project Individual (All other projects.) ➔ See Appendix C.

Written Summary of All Proposed Activities *Removal of an existing, concrete and steel bridge and installation of a new aluminum arch. The existing structure, which is under an existing, paved off-road trail, is failing (see attached pictures).*

Construction Sequence and Methods *Place SESC measures; remove pavement and excavate; remove existing structure; place new structure; backfill and install pavement; remove SESC measures.*

**4 Project Purpose, Use and Alternatives** *Attach additional sheets as necessary.*

Describe the purpose of the project and its intended use; include any new development or expansion of an existing land use.

The intent of the project is to replace an existing failing structure with a new, more efficient, and reliable one. The project does not include any new development or alteration to the existing land use.

Describe the alternatives considered to avoid or minimize resource impacts. Include factors such as, but not limited to, alternative locations, project layout and design, and construction technologies. For utility crossings include alternative routes and construction methods.

*The location of the trail was originally selected to align with the abandoned portion of Raby Road. Moreover, the bridge to be replaced is the original road bridge. Thus the location of the drain crossing is well established and reasonable. Additionally, the new structure will significantly improve the drain capacity.***5 Locating Your Project Site** *Attach a legible black and white map with a North arrow.*Names of roads of closest intersection *Raby Road & Bayonne Avenue*Directions from main intersection to the project site, with distances from the best and nearest visible landmark and water body *400 feet east of intersection along off-road, asphalt trail.*

Description of buildings on the site (color; 1 or 2 story, other)

n/a - Asphalt Paved Trail

Description of adjacent landmarks or buildings (address; color; etc)

*n/a*How can your site be identified if there is no visible address? *The trail is linear and only crosses the drain at one point.***6 Easements and Other Permits** No Yes Is there a conservation easement or other easement, deed restriction, lease, or other encumbrance upon the property?

◆ If yes, attach a copy. Provide copies of court orders and legal lake levels if applicable.

List all other federal, interstate, state, or local agency authorizations including required assurances for Critical Dune Area projects.

Agency	Type of Approval	Number	Date Applied	Date approved /denied	Reason for denial
<i>Ingham County Drain Commissioner</i>	<i>Drain Crossing</i>	<i>1</i>	<i>06/01/2018</i>		

7 ComplianceIf a permit is issued, when will the activity begin? (M/D/Y) *August 1, 2018*Proposed completion date (M/D/Y) *September 1, 2018* No Yes Has any construction activity commenced or been completed in a regulated area?

◆ If Yes, identify the portion(s) underway or completed on drawings or attach project specifications and give completion date(s).

 No Yes Were the regulated activities conducted under a DEQ and/or USACE permit?

◆ If Yes, list the permit numbers

 No Yes Are you aware of any unresolved violations of environmental law or litigation involving the property?

◆ If Yes, attach explanation.

8 Adjoining Property Owners *Provide current mailing addresses. Attach additional sheets/labels for long lists.* Established Lake Board

Contact Person

Mailing Address

City

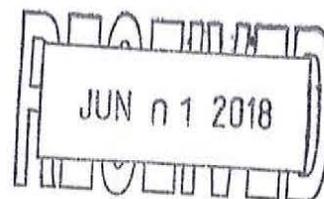
State and Zip Code

 Lake Association

List all adjoining property owners.

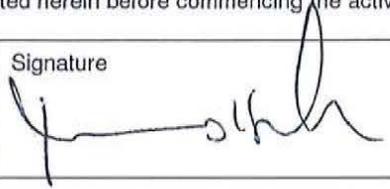
If you own the adjoining lot, provide the requested information for the first adjoining parcel that is not owned by you.

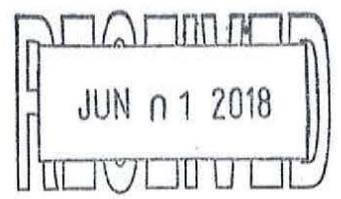
Property Owner's Name	Mailing Address	City	State and Zip Code
<i>Ingham County</i>	<i>3024 Turner Stret</i>	<i>Lansing</i>	<i>MI, 48906</i>
<i>Pine Creek Condominiums of Haslett Association - c/o Capital Area Management Services</i>	<i>P.O. Box 429</i>	<i>Haslett</i>	<i>MI, 48840</i>



9 Applicant's Certification *Read carefully before signing.*

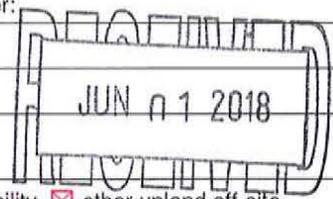
I am applying for a permit(s) to authorize the activities described herein. I certify that I am familiar with the information contained in this application; that it is true and accurate; and, to the best of my knowledge, that it is in compliance with the State Coastal Zone Management Program. I understand that there are penalties for submitting false information and that any permit issued pursuant to this application may be revoked if information on this application is untrue. I certify that I have the authority to undertake the activities proposed in this application. By signing this application, I agree to allow representatives of the DEQ, USACE, and/or their agents or contractors to enter upon said property in order to inspect the proposed activity site before and during construction and after the completion of the project. I understand that I must obtain all other necessary local, county, state, or federal permits and that the granting of other permits by local, county, state, or federal agencies does not release me from the requirements of obtaining the permit requested herein before commencing the activity. I understand that the payment of the application fee does not guarantee the issuance of a permit.

<input type="checkbox"/> Property Owner <input type="checkbox"/> Agent/Contractor <input checked="" type="checkbox"/> Corp. or Public Agency / Title	Printed Name <i>Younes Ishraidi, P.E.</i>	Signature 	Date <i>6-1-2018</i>
--	--	---	-------------------------



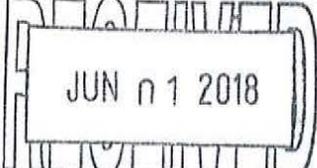


10 Projects Impacting Inland Lakes, Streams, Great Lakes, Wetlands or Floodplains		
<ul style="list-style-type: none"> Complete only those sections A through M applicable to your project. If your project impacts wetlands also complete Section 12. If your project impacts regulated floodplains also complete Section 13. To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27. Example: (25 ft long x 10 ft wide x 2 feet deep) / 27 = 18.5 cubic yards Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness. <ul style="list-style-type: none"> Provide a black and white overall site plan, with cross-section and profile drawings. Show existing lakes, streams, wetlands, and other water features; existing structures; and the location of all proposed structures, land change activities and soil erosion and sedimentation control measures. Review Appendix B and EZ Guides for aid in providing complete site-specific drawings. Provide tables for multiple impact areas or multiple activities such as multiple fill areas or multiple culverts. Include your calculations. 		
Water Level Elevation		
On inland waters <input type="checkbox"/> NGVD 29 <input checked="" type="checkbox"/> NAVD 88 <input type="checkbox"/> other Observed water elevation (ft) 838.05 date of observation (M/D/Y) 05/29/18		
On a Great Lake <input type="checkbox"/> IGLD 85 <input type="checkbox"/> surveyed <input type="checkbox"/> converted from observed still water elevation.		
<input type="checkbox"/> A. PROJECTS REQUIRING FILL (See All Sample Drawings)		
<ul style="list-style-type: none"> Attach a site plan and cross-section views to scale showing maximum and average fill dimensions with calculations. For multiple impact areas on a site provide a table with location, dimensions and volumes for each fill area. 		
Purpose <input type="checkbox"/> bioengineered shore protection <input type="checkbox"/> boat ramp <input type="checkbox"/> boat well <input type="checkbox"/> bridge or culvert <input type="checkbox"/> crib dock <input type="checkbox"/> riprap <input type="checkbox"/> seawall <input type="checkbox"/> swim area <input type="checkbox"/> other		
Dimensions of fill (ft)		Total volume (cubic yards)
Length	Width Maximum Depth	Volume below OHWM (cubic yards)
Maximum water depth in fill area (ft)		Area filled (sq ft)
		Will filter fabric be used under proposed fill? <input type="checkbox"/> No <input type="checkbox"/> Yes (If Yes, type)
Fill will extend feet into the water from the shoreline and upland feet out of the water.		
Type of clean fill <input type="checkbox"/> peastone % <input type="checkbox"/> sand % <input type="checkbox"/> gravel % <input type="checkbox"/> other		
Source of clean fill <input type="checkbox"/> commercial <input type="checkbox"/> on-site <input type="checkbox"/> other ➔ If on-site, show location on site plan. ➔ If other, attach description of location.		
<input checked="" type="checkbox"/> B. PROJECTS REQUIRING DREDGING OR EXCAVATION (See Sample Drawings)		
<ul style="list-style-type: none"> Refer to www.mi.gov/jointpermit for spoils disposal and authorization requirements. Attach a site plan and cross-section views to scale showing maximum and average dredge or excavation dimensions with calculations. For multiple impact areas on a site provide a table with location, dimensions and volumes for each dredge/excavation area. 		
Purpose <input type="checkbox"/> boat ramp <input type="checkbox"/> boat well <input checked="" type="checkbox"/> bridge or culvert <input type="checkbox"/> maintenance dredge <input type="checkbox"/> navigation <input type="checkbox"/> pond/basin <input type="checkbox"/> other		
Dimensions (ft)		Total volume (cu yds)
Length 20 Width 14 Maximum Depth 7		71.7
Volume below OHWM (cu yds)		12.1
Has this same area been previously dredged?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	If Yes, provide date and permit number:
Will the previously dredged area be enlarged?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	If Yes, when and how much?
Is long-term maintenance dredging planned?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	If Yes, how often?
Dredge or Excavation Method <input type="checkbox"/> Hydraulic <input checked="" type="checkbox"/> Mechanical <input type="checkbox"/> other		
Spoils Disposal	Dredged or excavated spoils will be placed <input type="checkbox"/> on-site <input type="checkbox"/> landfill <input type="checkbox"/> USACE confined disposal facility <input checked="" type="checkbox"/> other upland off-site	
	For disposal, provide a ➔ Detailed spoils disposal area location map and site plan with property lines. ➔ Letter of authorization from property owner of spoils disposal site, if disposed off-site.	
For volumes less than 5,000 cu yards, has proposed dredge material been tested for contaminants within the past 10 years? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes ➔ If Yes, provide test results with a map of sampling locations.		
<input checked="" type="checkbox"/> C. PROJECTS REQUIRING RIPRAP (See Sample Drawings 2, 3, 8, 12, 14, 22, and 23)		
Riprap water ward of the ordinary high water mark: dimensions (ft) length 40 width 6 depth 1		Volume(cu yd) 10
Riprap landward of the ordinary high water mark: dimensions (ft) length 40 width 4 depth 0.67		Volume(cu yd) 4
Type and size of riprap (inches)		Will filter fabric or pea stone be used under proposed riprap?
<input checked="" type="checkbox"/> field stone 8-16" <input type="checkbox"/> angular rock <input type="checkbox"/> other		<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes, Type Geotextile Liner



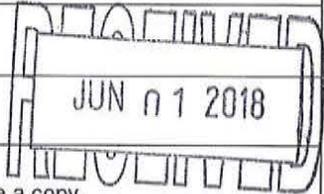


<input type="checkbox"/> D. SHORE PROTECTION PROJECTS (See EZ Guides and Sample Drawings 2, 3, and 17. Complete Sections 10A, B, and/or C.)			
➔ For bioengineering projects include the list of native plants/seeds, if available.			
Type and length (ft)	<input type="checkbox"/> bioengineering (ft)	<input type="checkbox"/> revetment (ft)	<input type="checkbox"/> riprap (ft) <input type="checkbox"/> seawall/bulkhead (ft)
Structure is	<input type="checkbox"/> new <input type="checkbox"/> repair <input type="checkbox"/> replacement of an existing structure	Will the existing structure be removed? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Proposed Toe Stone (linear feet)		Distance of project from adjacent property lines (ft)	
Distance of project from an obvious fixed structure (example - 50 ft from SW corner of house)			
For bioengineering projects indicate the structure type <input type="checkbox"/> brush bundles <input type="checkbox"/> coir log <input type="checkbox"/> live stakes <input type="checkbox"/> tree revetment <input type="checkbox"/> other			
<input type="checkbox"/> E. DOCK - PIER – MOORING PILINGS (See Sample Drawing 10)			
➔ Attach a copy of the property legal description, mortgage survey, or a property boundary survey report.			
Dock Type <input type="checkbox"/> open pile <input type="checkbox"/> filled <input type="checkbox"/> crib <input type="checkbox"/> floating <input type="checkbox"/> cantilevered <input type="checkbox"/> spring piles <input type="checkbox"/> piling clusters <input type="checkbox"/> other			
Is the structure within the applicant's riparian area interest area? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ Show parcel property lines on the site plan.			
Proposed structure dimensions (ft) length width		Use <input type="checkbox"/> private <input type="checkbox"/> public <input type="checkbox"/> commercial	
Dimensions of nearest adjacent structures (ft) length width		Distance of dock from adjacent property lines (ft)	
<input type="checkbox"/> F. BOAT WELL (See EZ Guide. Complete Sections 10A and 10B)			
Dimensions (ft) length width depth		Number of boats	
Type of sidewall stabilization <input type="checkbox"/> concrete <input type="checkbox"/> riprap <input type="checkbox"/> steel <input type="checkbox"/> vinyl <input type="checkbox"/> wood <input type="checkbox"/> other			
Volume of backfill behind sidewall stabilization (cu yd)		Distance of boat well from adjacent property lines (ft)	
<input type="checkbox"/> G. BOAT RAMP (See EZ Guide. Complete sections 10A, 10B, and 10C for mattress and pavement fill, dredge, and riprap)			
Type <input type="checkbox"/> new <input type="checkbox"/> existing <input type="checkbox"/> maintenance/improvement		Use <input type="checkbox"/> private <input type="checkbox"/> public <input type="checkbox"/> commercial	
Existing overall boat ramp dimensions (ft) length width depth		Type of construction material <input type="checkbox"/> concrete <input type="checkbox"/> wood <input type="checkbox"/> stone <input type="checkbox"/> other	
Proposed overall ramp dimensions (ft) length width depth		Proposed ramp dimensions (ft) below ordinary high water mark length width depth	
Number of proposed skid piers	Proposed skid pier dimensions (ft) length width		Distance of ramp from adjacent property lines (ft)
<input type="checkbox"/> H. BOAT HOIST – ROOFS (See EZ Guide)			
Type <input type="checkbox"/> cradle <input type="checkbox"/> side lifter <input type="checkbox"/> other		Located on <input type="checkbox"/> seawall <input type="checkbox"/> dock <input type="checkbox"/> bottomlands	
Hoist dimensions, including catwalks (ft) length width			
Area occupied, including cat walks (sq ft)		Distance of hoist from adjacent property lines (ft)	
Permanent Roof <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ If Yes, how is the roof supported?		Maximum Roof Dimensions (ft): length width height	
<input type="checkbox"/> I. BOARDWALKS and DECKS in WETLANDS or FLOODPLAINS (See Sample Drawings 5 and 6. Complete Sections 12 and/or 13)			
➔ Provide a table for multiple boardwalks and decks proposed in one project; include locations and dimensions.			
Wetlands		Floodplains	
Boardwalk <input type="checkbox"/> on pilings <input type="checkbox"/> on fill	Deck <input type="checkbox"/> on pilings <input type="checkbox"/> on fill	Boardwalk <input type="checkbox"/> on pilings <input type="checkbox"/> on fill	Deck <input type="checkbox"/> on pilings <input type="checkbox"/> on fill
Dimensions (ft) length width	Dimensions (ft) length width	Dimensions (ft) length width	Dimensions (ft) length width
<input type="checkbox"/> J. INTAKE PIPES (See Sample Drawing 16) or OUTLET PIPES (See Sample Drawing 22)			
If outlet pipe, discharge is to <input type="checkbox"/> inland lake <input type="checkbox"/> stream, drain or river <input type="checkbox"/> overland flow <input type="checkbox"/> Great Lake <input type="checkbox"/> wetland <input type="checkbox"/> other			
Number of pipes	Pipe diameters and invert elevations	Does pipe discharge below the OHWM?	<input type="checkbox"/> No <input type="checkbox"/> Yes
		Is the water treated before discharge?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Type <input type="checkbox"/> headwall <input type="checkbox"/> end section <input type="checkbox"/> other		Dimensions of headwall OR end section (ft) length width height	





<input type="checkbox"/> K. MOORING and NAVIGATION BUOYS (See EZ Guide for Sample Drawing)			
<ul style="list-style-type: none"> ➤ Provide a site plan showing the distances between each buoy and from the shore to each buoy, and depth (ft) of water at each location. ➤ Provide cross-section drawing(s) showing anchoring system(s) and dimensions. 			
Purpose of buoy <input type="checkbox"/> mooring <input type="checkbox"/> navigation <input type="checkbox"/> scientific structures <input type="checkbox"/> swimming <input type="checkbox"/> other			
Number of buoys	Dimensions of buoys (ft)		Boat Lengths
	width	height	Type of anchor system
	swing radius	chain length	
Buoy Location: Latitude N Longitude -- W. ➤ Provide a table for multiple buoys.			
Do you own the property along the shoreline?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➤ If No, attach an authorization letter from the property owner(s).
Do you own the bottomlands?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➤ If No, attach an authorization letter from the property owner(s).
<input type="checkbox"/> L. FENCES			
<ul style="list-style-type: none"> ➤ Provide an overall site plan showing the proposed fencing through streams, wetlands or floodplains. ➤ Provide a drawing of fence profile showing the design, dimension, post spacing, mesh, and distance from ground to bottom of fence. 			
Purpose of fence <input type="checkbox"/> Airport <input type="checkbox"/> Cervidae <input type="checkbox"/> Livestock <input type="checkbox"/> Residential <input type="checkbox"/> Security <input type="checkbox"/> Other			
Total length (ft) of fence through		Fence height (ft)	Fence type and material
streams	wetlands	floodplains	
<input type="checkbox"/> M. OTHER - e.g., structure removal, maintenance or repair, aerator, dry fire hydrant, gold prospecting, habitat structures, scientific measuring devices, soil borings, or survey activities.			
Structure description, dimensions and volumes. Complete Sections 10A-C as applicable.			
11 Expansion of an Existing or Construction of a New Lake or Pond (See Sample Drawings 4 and 15)			
<ul style="list-style-type: none"> ➤ Complete Section 10J for outlets and Section 17 for water control structures. ➤ Provide elevations, cross-sections and profiles of outlets, dams, dikes, water control structures and emergency spillways to nearest water bodies. 			
Which best describes your proposed water body use (check all that apply)			
<input type="checkbox"/> mining <input type="checkbox"/> recreation <input type="checkbox"/> storm water retention basin <input type="checkbox"/> wastewater basin <input type="checkbox"/> wildlife <input type="checkbox"/> other			
Water source for lake/pond			
<input type="checkbox"/> groundwater <input type="checkbox"/> natural springs <input type="checkbox"/> Inland Lake or Stream <input type="checkbox"/> storm water runoff <input type="checkbox"/> pump <input type="checkbox"/> sewage <input type="checkbox"/> other			
Location of the lake/basin/pond <input type="checkbox"/> floodplain <input type="checkbox"/> wetland <input type="checkbox"/> stream (inline) <input type="checkbox"/> upland			
Maximum dimensions (ft)		Maximum Area: <input type="checkbox"/> acres <input type="checkbox"/> sq ft	
length	width	depth	
Has the there been a hydrologic study performed on the site?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➤ If Yes, provide a copy.
Has the DEQ conducted a wetland assessment for this parcel?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➤ If Yes, provide a copy or WIP number:
Has a professional wetland delineation been conducted for this parcel?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➤ If Yes, provide a copy with data sheets.
Spoils Disposal	Dredged or excavated spoils will be placed <input type="checkbox"/> on-site <input type="checkbox"/> landfill <input type="checkbox"/> USACE confined disposal facility <input type="checkbox"/> other upland off-site For disposal, provide a ➤ Detailed spoils disposal area location map and site plan with property lines. ➤ Letter of authorization from property owner of spoils disposal site, if disposed off-site.		





12 Activities That May Impact Wetlands (See Sample Drawings 8 & 9). Complete other Sections as applicable.

- Locate your site and wetland information with the DEQ Wetlands Map Viewer at www.mcqi.state.mi.us/wetlands/
- For information on the DEQ's Wetland Identification Program (WIP) visit www.mi.gov/wetlands.
 - ➔ Provide a detailed site plan with labeled property lines, upland and wetland areas, and dimensions and volumes of wetland impacts.
 - ➔ Complete the wetland dredge and wetland fill dimension information below for each impacted wetland area.
 - ➔ Attach tables for multiple impact areas or activities.
 - ➔ Attach at least one cross-section for each wetland dredge and/or fill area; show wetland and upland boundaries on the cross-section.

Has the DEQ conducted a wetland assessment for this parcel?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide a copy or WIP number:
Has a professional wetland delineation been conducted for this parcel?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide a copy with data sheets
Is there a recorded DEQ easement on the property?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide the easement number
Did the applicant purchase the property before October 1, 1980?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide documentation.
Is any grading or mechanized land clearing proposed?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, label the locations on the site plan.
Has any of the proposed grading or mechanized land clearing been completed?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, label the locations on the site plan

Proposed Activity	<input type="checkbox"/> boardwalk or deck (Section 10I)	<input checked="" type="checkbox"/> bridges and culverts (Section 14)	<input type="checkbox"/> designated environmental area
	<input type="checkbox"/> dewatering	<input type="checkbox"/> draining surface water	<input type="checkbox"/> driveway / road
	<input type="checkbox"/> fences (Section 10L)	<input type="checkbox"/> fill or dredge	<input type="checkbox"/> restoration
	<input type="checkbox"/> septic system	<input type="checkbox"/> stormwater discharge (Section 10J)	<input type="checkbox"/> other

FILL	Dimensions maximum length (ft) maximum width (ft)	Area <input type="checkbox"/> acres <input type="checkbox"/> sq ft	Average depth (ft)	Volume (cu yd)
DREDGE	Dimensions maximum length (ft) maximum width (ft)	Area <input type="checkbox"/> acres <input type="checkbox"/> sq ft	Average depth (ft)	Volume (cu yd)

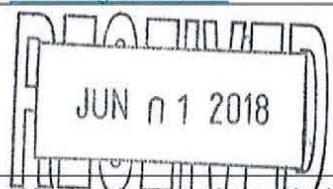
Spoils Disposal	Dredged or excavated spoils will be placed <input type="checkbox"/> on-site <input type="checkbox"/> landfill <input type="checkbox"/> USACE confined disposal facility <input type="checkbox"/> other upland off-site
	For disposal, provide a ➔ Detailed spoils disposal area location map and site plan with property lines. ➔ Letter of authorization from property owner of spoils disposal site, if disposed off-site.

Septic System	The proposed project will be serviced by: <input type="checkbox"/> public sewer <input type="checkbox"/> private septic system ➔ Show system on plans.	If a private septic system is proposed, has an application for a permit been made to the County Health Department? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, has a permit been issued? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ Provide a copy of the permit.
---------------	--	---

Describe the wetland impacts, the proposed use or development, and the alternatives considered:
The only wetland impacts will be at the inlet and outlet of the existing and proposed structures. The extent of the impact will be disturbance of the drain banks during the structure removal and installation. By replacing the structure in the existing location, the minimum impacts are realized. Any relocation would involve a much greater wetland disturbance.

Does the project impact more than 1/3 acre of wetland? No Yes
 ➔ If Yes, submit a Mitigation Plan with the type and amount of mitigation proposed. For more information go to www.mi.gov/wetlands

Describe how impacts to waters of the United States will be avoided and minimized:
SESC measures will be installed to contain any sediment on-site.



Describe how the impact to waters of the United States will be compensated. OR Explain why compensatory mitigation should not be required for the proposed impacts.
The new structure will have a much larger opening than the existing. Thus, this project will increase the capacity of the drain.



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**13 Floodplain Activities** (See Sample Drawing 5 and others. Complete other applicable sections.)

- For more information go to www.mi.gov/floodplainmanagement. This site also lists the projects and requirements for an expedited floodplain review under "Expedited Review Information for Minor Floodplain Projects."
- Examples of projects proposed within the non-floodway portions of the 100-year-floodplain which may qualify for an expedited review: Open pile decks and boardwalks; residences, commercial/industrial facilities, garages and accessory structures; parking lots; pavilions, gazebos, large community playground structures; residential swimming pools
- Examples of projects proposed within the floodway portions of the floodplain which may qualify for an expedited review: Open pile decks and boardwalks, (non-enclosed) that are anchored to prevent floatation and that do not extend over the bed and bank of a watercourse; parking lots constructed at grade or resurfacing that is no more than 4 inches above the existing grade; dry hydrants that do not require fill placement; scientific structure such as staff gauges, water monitoring devices, water quality testing devices, and core sampling devices which meet specific design criteria and fish structures that meet specific design criteria.
- For expedited review include:
 - Photographs of the work site labeled to identify what is being shown and with the direction of the photo clearly indicated. Include photographs of any river or stream adjacent to the project.
 - A letter or statement from the local unit of government acknowledging your proposed application. See the website for sample wording.
- A hydraulic analysis or hydrologic analysis may be required to fully assess floodplain impacts.
- The state building code requires an Elevation Certificate for any building construction or addition in a floodplain. A sample form can be found at www.fema.gov/nfip/elvinst.shtm.
 - Attach additional sheets or tables for multiple proposed floodplain activities and provide hydraulic calculations.
 - Show reference datum used on plans.

Proposed Activity fill excavation or cut
 other

100-year floodplain elevation (ft) (if known) **847.5**
 Datum NGVD 29 NAVD 88 other

Site is **7.75** feet above ordinary high water mark (OHWM) OR observed water level. Date of observation (M/D/Y) **05/29/2018**

Fill volume below the 100-year floodplain elevation
 (cu yds)

Compensating cut volume below the 100-year floodplain elevation
 (cu yds) **71.7**

Buildings and/or Additions

Type of construction is residential garage/pole barn non residential other

Construction is new addition AND Serviced by public sewer private septic other

Lowest adjacent grade (ft): existing proposed
 datum NGVD 29 NAVD 88 other

Existing Structure Information**Proposed Structure Information**

Foundation type basement
 concrete slab on grade pilings
 crawl space other

Foundation type basement
 concrete slab on grade pilings
 crawl space other

Foundation floor elevation (ft)

Foundation floor elevation (ft)

Height of crawl space/basement from finished foundation floor to
 bottom of floor joists (ft)

Height of crawl space/basement from finished foundation floor to
 bottom of floor joists (ft)

Elevation of 1st floor above basement floor/crawl space (ft)

Elevation of 1st floor above basement floor/crawl space (ft)

For enclosed areas below the flood elevation, such as a crawl space, garages and accessory structures:

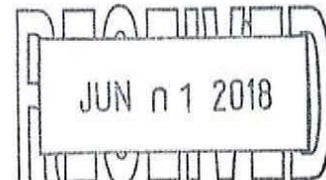
Area of proposed foundation (sq ft)

Elevation of proposed enclosed area (ft) datum NGVD 29 NAVD 88 other

Number of flood vents

net opening of each vent (sq inches)

lowest elevation of flood vents (ft)





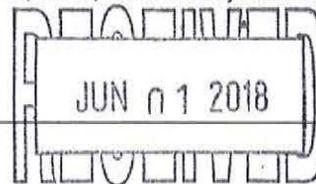
14 Bridges and Culverts Including Foot and Cart Bridges. (See EZ Guides and Sample Drawings 5, 14A, 14B, 14C, 14D.)

- Complete other applicable Sections, including 10A-C.
- A hydraulic analysis or hydrologic analysis may be required to fully assess impacts. ➔ Attach hydraulic calculations.
- High Water Elevation - describe reference point and highest known water level above or below reference point and date of observation.
 - ➔ Attach additional sheets for multiple bridges and/or culverts.
 - ➔ Provide detailed site-specific drawings of existing and proposed Plan and Elevation View at a scale adequate for detailed review.
 - ➔ Provide all information in the boxes below; do not write in a reference to plan sheets. Show reference datum used on plans.

Stream Information	The site has a high water elevation (ft) 7.75 <input type="checkbox"/> above or <input checked="" type="checkbox"/> below the Reference Point of Bridge Deck Date observed 05/29/2018		
	Reference datum used <input type="checkbox"/> NGVD 29 <input checked="" type="checkbox"/> NAVD 88 <input type="checkbox"/> IGLD 85 (Great Lakes coastal areas) <input type="checkbox"/> other		
	Average stream width (ft) at the ordinary high water mark (OHWM) outside the influence of any ponding or scour holes around the structure	Upstream	16
		Downstream	15
	Cross-sectional area of primary channel (sq ft) 59.5 (See Sample Drawing 14C for more information)		
	The width of the stream where the water begins to overflow its banks. Bankfull width (ft) 20		
	The invert of the stream 100-feet from structure (ft)	Upstream	836.90
	Downstream	836.70	
Is the existing culvert perched? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, provide a profile of the channel bottom at the high and low points for a distance of 200 feet upstream and downstream of the culvert.			

Complete this form for each bridge / culvert location.

		Existing	Proposed
Bridge	Number of bridge spans	1	
	Bridge type (concrete box beam, concrete I-beam, timber, etc.)	Steel Beam, Conc. Deck	
	Bridge span (length perpendicular to stream) (ft)	14	
	Bridge width (parallel to stream) (ft)	20	
	Bottom of bridge beam (ft)	Upstream 843.32	
		Downstream 843.28	
	Stream invert elevation at bridge (ft)	Upstream 836.82	
		Downstream 836.78	
Bridge rise from bottom of beam to streambed (ft)	6.5		
Culvert	Number of culverts		1
	Culvert type (arch, bottomless, box, circular, elliptical, etc.)		3 Sided Arch.
	Culvert material (concrete, corrugated metal, plastic, etc.)		Aluminum
	Culvert length (ft)		14
	Culvert <input checked="" type="checkbox"/> width <input type="checkbox"/> diameter (ft)		20.8
	Culvert height prior to any burying (ft)		6.1
	Depth culvert will be buried (ft)		0
	Elevation of culvert crown (ft)	Upstream 842.92	
		Downstream 842.88	
	Higher elevation of <input type="checkbox"/> culvert invert OR <input checked="" type="checkbox"/> streambed within culvert (ft)	Upstream 836.82	
	Downstream 836.78		
Complete for both Bridges and Culverts	Entrance design (mitered, projecting, wingwalls, etc.)	Wingwalls	Wingwalls
	Total structure waterway opening above streambed (sq ft)	87.75	105.5
	Total structure waterway area below the 100-year elevation (sq ft) (if known)	87.75	105.5
	Elevation of road grade at structure (ft)	845.80	845.80
	Elevation of low point in road (ft)	840.60	840.60
	Distance from low point of road to mid-point of bridge crossing (ft)	180	180
	Length of approach fill from edge of bridge/culvert to existing grade (ft)		12
	A Licensed Professional Engineer may certify that your project will not cause a harmful interference for a range of flood discharges up to and including the 100-year flood discharge. The "Required Certification Language" is found under "forms" on the "maps, forms and documents" link from the www.mi.gov/jointpermit page or a copy may be requested by phone, email, or mail. A hydraulic report supporting this certification may also be required.		
	Is Certification Language attached? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		





To: Planning Commission

From: Peter Menser, Principal Planner

Justin Quagliata, Assistant Planner

Date: June 21, 2018

**Re: Commercial Planned Unit Development #18024 (Affinity 9 Investments, LLC),
demolish existing restaurant and construct a new restaurant with drive-through window at 2080 Grand River Avenue.**

At its meeting on June 11, 2018 the Planning Commission held a public hearing for a request to establish a commercial planned unit development (C-PUD) at 2080 Grand River Avenue. The redevelopment plans include the demolition of the existing Mongolian BBQ restaurant and the construction of a new approximately 4,534 square foot Panera restaurant with drive-through window. At the meeting the Planning Commission agreed to consider a resolution to recommend approval of the C-PUD request at its next meeting.

Planning Commission Options

The Planning Commission may recommend approval, approval with conditions, or denial of the C-PUD. A resolution to recommend approval is attached.

- **Move to adopt the attached resolution to recommend approval of C-PUD #18024.**

Attachment

1. Resolution to recommend approval

RESOLUTION TO APPROVE

**Commercial Planned Unit Development #18024
(Affinity 9 Investments, LLC)**

RESOLUTION

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 25th day of June, 2018, at 7:00 p.m., Local Time.

PRESENT: _____

ABSENT: _____

The following resolution was offered by _____ and supported by _____.

WHEREAS, Jeffrey W. Kyes of Kebs, Inc., on behalf of Affinity 9 Investments, LLC, has submitted a request to establish a commercial planned unit development (C-PUD) at 2080 Grand River Avenue; and

WHEREAS, the redevelopment plan for the property includes the demolition of the existing Mongolian BBQ restaurant and the construction of a new approximately 4,534 square foot Panera restaurant with drive-through window; and

WHEREAS, the 1.16 acre subject site is appropriately zoned C-2 (Commercial), which allows for a commercial planned unit development; and

WHEREAS, the Planning Commission held a public hearing at its regular meeting on June 11, 2018, and has reviewed staff material forwarded under a cover memorandum dated June 7, 2018; and

WHEREAS, the commercial planned unit development serves as the special use permit review for any request requiring a special use permit, therefore the proposed work in the floodplain and drive-through window is reviewed and considered as part of this commercial planned unit development; and

WHEREAS, the Michigan Department of Environmental Quality (MDEQ) has approved a permit for the proposed project; and

WHEREAS, the commercial planned unit development ordinance is intended to provide reasonable flexibility for redevelopment of commercial sites to ensure the continuing economic viability of the Township’s commercial areas; and

WHEREAS, the proposed commercial planned unit development will be harmonious and appropriate with the existing and intended character of adjacent commercial developments surrounding the subject site; and

WHEREAS, the requested waivers for impervious surface coverage, parking lot landscape buffers, and water feature setbacks are necessary to facilitate redevelopment of the site due to constraints related to the size of the property and the nature of the proposed land use; and

**Resolution to Approve
C-PUD #18024 (Affinity 9 Investments, LLC)
Page 2**

WHEREAS, the proposed commercial planned unit development will be adequately served by public water and sanitary sewer; and

WHEREAS, the proposed project is consistent with Objectives A and D of Goal 3 of the 2017 Master Plan to upgrade commercial areas.

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby recommends approval of Commercial Planned Unit Development #18024, subject to the following conditions:

1. Approval is in accordance with the submitted site plan prepared by Kebs, Inc., dated December 1, 2017 (revision date April 16, 2018) and received by the Township on April 17, 2018.
2. Approval is in accordance with the floor plan and building elevations prepared by Arc Vision Inc., dated October 24, 2017 and received by the Township on April 17, 2018.
3. Approval of the work in the floodplain is in accordance with the Michigan Department of Environmental Quality project approval granted on May 3, 2018.
4. Approval is subject to the provision of one or more amenities. The applicant proposes the following amenities: connection to the pedestrian-bicycle pathway along Grand River Avenue and public Wi-Fi.
5. The waivers requested for impervious surface coverage, parking lot landscape buffers, and wetland setbacks are recommended for approval as depicted on the Coversheet and Amenities Plan prepared by Kebs, Inc. dated December 1, 2017 (revision date April 16, 2018) and received by the Township on April 17, 2018.
6. Site accessories such as benches, trash and recycling receptacles, exterior lighting fixtures, and bicycle racks shall be of commercial quality and complementary with the building design and style. Proposed site accessories shall be subject to approval by the Director of Community Planning and Development.
7. Site and building lighting shall comply with Article VII in Chapter 38 of the Code of Ordinances and are subject to the approval of the Director of Community Planning and Development.
8. All mechanical, heating, ventilation, air conditioning, and similar systems shall be screened from view by an opaque structure or landscape material selected to complement the building. Such screening is subject to approval by the Director of Community Planning and Development.
9. The applicant shall obtain all necessary permits, licenses, and approvals from the Michigan Department of Transportation and the Township. Copies of all permits and approval letters shall be submitted to the Department of Community Planning and Development.
10. The utility, grading, and storm drainage plans for the site are subject to the approval of the Director of Public Works and Engineering and Ingham County Drain Commissioner and shall be completed in accordance with the Township Engineering Design and Construction Standards.

**Resolution to Approve
C-PUD #18024 (Affinity 9 Investments, LLC)
Page 3**

11. Any future building addition or expansion will require a modification to Commercial Planned Unit Development #18024.

ADOPTED: YEAS: _____

NAYS: _____

STATE OF MICHIGAN)

) ss

COUNTY OF INGHAM)

I, the undersigned, the duly qualified and acting Chair of the Planning Commission of the Charter Township Meridian, Ingham County, Michigan, DO HEREBY CERTIFY that the foregoing is a true and a complete copy of a resolution adopted at a regular meeting of the Planning Commission on the 25th day of June, 2018.

Dante Ianni
Planning Commission Chair



To: Planning Commission

From: Peter Menser, Principal Planner

Date: June 21, 2018

Re: Special Use Permit #18051 (Singh), construct a multiple family housing development with seven dwelling units at 1954 Saginaw Highway.

The Planning Commission held the public hearing on the special use permit (SUP) request at its last meeting on June 11, 2018. At the meeting the Planning Commission agreed to consider a resolution to approve the SUP subject to conditions related to the phasing of public utilities.

The applicant submitted a site plan that shows a total of seven units; a new two-story, five-unit multiple family residential building, the existing single family house, and conversion of the existing garage to a single family house. The site is proposed to be developed in two phases with Phase 1 consisting of the existing single family house and conversion of the existing garage to a single family house and Phase 2 being the construction of a five-unit multiple family residential building.

Utilities – Water: The existing house is served by a well. The applicant is proposing to serve both the existing single family house and the converted garage with the well during Phase 1 of the project. Upon submittal for the construction of the five-unit multiple family residential building in Phase 2, the applicant will have to connect all buildings on the property to public water. Township Board approval will be required to extend water services from Bath Township, the nearest water service available at this time. If, at the time of connection, Township water is available it will be used instead. The attached resolution requires the applicant to provide approval from the Ingham County Health Department for use of the shared well in Phase 1 and requires that all buildings be connected to public water upon submittal of plans for the construction of the five-unit multiple family residential building in Phase 2.

Utilities – Sewer: Public sewer was extended from Bath Township and is available on the property for connection. The attached resolution requires the applicant to connect the existing home and converted garage to the public sewer as part of Phase 1.

SUP Approval Period: Typically, all construction related to a SUP must be completed within 36 months. The RDD district requires that construction related to the SUP must commence within one year of the SUP approval and that the Planning Commission may authorize a single extension of the approval period for not more than one year. Given that the term “commence” in the context of a phased development provides no requirement that Phase 2 of the project be constructed within a reasonable amount of time, the Planning Commission has the authority to establish an appropriate SUP approval period for the project. The applicant has submitted a letter requesting the Planning Commission to establish a five year period of SUP approval, within which time the public water would be extended and construction of Phase 2 must be completed. The Planning Commission may choose to grant the requested five years or establish a different amount of time as considered appropriate.

Special Use Permit #18051 (Singh)
Planning Commission (June 25, 2018)
Page 2

Planning Commission Options

The Planning Commission may approve, approve with conditions, or deny the special use permit. A resolution to approve the request with conditions is provided.

Attachments

1. Letter from Balaram K. Singh dated June 14, 2018.
2. Resolution to approve with conditions.

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DATE: **June 14, 2018**

TO: **Chair, Planning Commission**
Charter Township of Meridian
5151 Marsh Road, Okemos, MI 48864.

FROM: **Balaram K. Singh**
P.O. BOX 48
Haslett, MI 48840

SUBJECT: **1954 E M78- Special Use Permit # 18051**
Requesting Extension of Phase 2 Construction.

Attached please find a letter from LBWL (Lansing Board of Water & Light) in reference to my request to connect the water line from their existing hydrant located on East M-78, approximately 660 feet east of the proposed subject project. The budgetary estimated cost is \$ **165,000.00** according to LBWL to extend water service to the subject property.

I am respectfully requesting the Planning Commission to extend the Phase 2 construction completion time limit to **five years** from the date of Special Use Permit (SUP) approval date to explore other options to extend water service.

I am optimistic that in the next few years going forward that possible future development(s) that will take place in the vicinity of the subject project may bring in the opportunity for me to collaborate in a cost sharing utility (water) scheme with other developer(s).

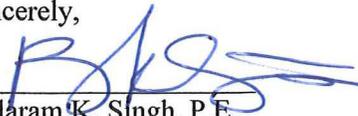
I will complete Phase 1 construction within one year from the date of SUP approval date.

I am a resident of Haslett since 1995 retired from MDOT after serving 51 years as a special structures engineer.

I am requesting your approval to move this project forward to a satisfactory ending.

Thank you.

Sincerely,


Balaram K. Singh, P.E.

Attachment: LBWL Letter

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JUN 14 2018



Mr. Balaram Singh
1954 East M-78
Haslett, Michigan 48840

January 26, 2017

**RE: Estimated Water Service Cost to
1954 East M-78, Haslett, Michigan 48840**

Dear Mr. Singh:

The Lansing Board of Water and Light (LBWL) is pleased to present this letter to you as a follow-up to your inquiry of January 24, 2017 with regards to providing water service at the above referenced address.

At this time, the above referenced address is not located within the LBWL's water service territory; and the LBWL currently does not have water mains along the frontage of your parcel. Our ability to serve water is based on obtaining permission from Meridian Township to do so. In addition, you will be responsible for the costs of extending water main and water service to your property, in accordance with our Rules and Regulations for Water Service.

In order to assist you in your decision making, we have performed budgetary estimates of the costs to extend water service to your property. We have considered two routes, as follows:

✓ **Route 1:** Commencing at the existing hydrant at Center Road, and extending 8-inch water main approximately 660-feet in the public right-of-way to the property line, and ending with a fire hydrant. From the property line, a 1-inch diameter service extended approximately 110-feet to the building. This route is most preferable in the LBWL's opinion, because it is the shortest overall length, is the easiest to construct and maintain, and carries no easement requirements with adjacent property owners. It is however contingent upon receiving approval from Meridian Township to serve your parcel.

Route 2: Commencing at the existing water main located in Broadview Drive, and extending 8-inch water main approximately 810-feet to the property line. From the property line approximately 115-feet to the building. This route will require easements through adjacent property, granted to the BWL using our language, which you will be responsible for obtaining. In addition, it appears that significant tree clearing and grading will be required for construction, and wetland construction is likely. This route is more difficult to construct and maintain, and is therefore less preferable in the LBWL's opinion.

The estimated costs of both routes are on the order of \$165,000. These prices are coincidental; each route entails unique features in their respective costs.

Mr. Balaram Singh
January 26, 2017

Please note that the cost estimates listed above should be used for budgetary purposes only. More detailed estimates of costs will be made available should you wish to obtain more detailed engineering analysis, which the LBWL can provide on an at-cost basis.

Should you wish to pursue this project further, please feel free to contact us and we will provide an estimate for, and arrange an advance on engineering services costs. Alternatively, you may wish to contract with an independent engineering firm to provide engineering services. Regardless of what option you chose, you will be responsible to enter a service agreement with the LBWL and paying all applicable fees before construction can commence.

Should you have any questions or would like to contact me, please call at your convenience.

Sincerely,



Michael R. Schorsch
Water Distribution Engineer

730 E. Hazel Street
P.O. Box 13007
Lansing, MI 48901
Cellular: (517) 930-5791
Fax: (517) 702-6668

Attachment: Route Summary Map



Route 2
810' of 8" Water Main to Property
Line
160' of 1" Copper Water Service to
Building

Route 1
660' of 8" Water Main to Property
Line
110' of 1" Copper Water Service to
Building

RESOLUTION

At the regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 25th day of June 2018, at 7:00 p.m., Local Time.

PRESENT: _____

ABSENT: _____

The following resolution was offered by _____ and supported by _____.

WHEREAS, Balaram Singh has requested to construct a multiple family housing development with seven dwelling units consisting of a new two-story, five-unit multiple family residential building, an existing single family house, and conversion of an existing garage to a single family house at 1954 Saginaw Highway; and

WHEREAS, the property at 1954 Saginaw Highway is located in the RDD (Multiple Family-5 units per acre) zoning district, which requires a special use permit for any single family structure on a parcel containing three or more living units and for any development containing a mix of one-family and two-family dwellings, each of which is not proposed to be located on a separately recorded lot; and

WHEREAS, the applicant has proposed to develop the project in two phases with Phase 1 consisting of the existing single family house and conversion of the existing garage to a single family house and Phase 2 being the construction of a five-unit multiple family residential building; and

WHEREAS, the Planning Commission held a public hearing regarding the special use permit request at its regular meeting on June 11, 2018 and has reviewed the staff material forwarded under cover memorandums dated June 8, 2018 and June 21, 2018; and

WHEREAS, the project is consistent with the standards outlined in the RDD (Multiple Family) zoning district; and

WHEREAS, the proposed project is consistent with Objective A of Goal 1 of the 2017 Master Plan to maintain a community of desirable, attractive residential neighborhoods by providing a diverse housing type that meets the needs of various income levels and household types; and

WHEREAS, the proposed project would result in a logical and orderly development pattern consistent with the Master Plan preference for providing a transition between commercial uses to the northeast and single family residential uses to the west.

NOW, THEREFORE BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby approves the special use permit for construction of a multiple family housing development with seven dwelling units consisting of a new two-story, five-unit multiple family residential building, an existing single family house, and conversion of an existing garage to a single family house at 1954 Saginaw Highway, subject to the following conditions:

1. Approval is in accordance with the submitted site plan prepared by Kebs, Inc. dated June 26, 2017 (Revision Date January 19, 2018) and received by the Township on May 15, 2018.

**Resolution to APPROVE
SUP #18051 (Singh)
Page 2**

2. Approval is in accordance with the building elevation dated March 28, 2018 and received by the Township on May 1, 2018.
3. Construction of the five-unit apartment building in Phase 2 of the project must commence within **BLANK** years from the date of the special use permit approval.
4. Public water service must be extended to serve the subject site prior to construction of the apartment building in Phase 2 of the project. Once public water is extended to the site all residential buildings on the property shall be connected to public water.
5. The existing single family house and existing garage proposed for conversion to a single family house shall be connected to the public sanitary sewer that is currently located on the property prior to occupancy. The proposed five unit apartment building proposed for Phase 2 of the project shall also be connected to public sanitary sewer prior to occupancy.
6. Prior to issuance of a building permit the applicant shall submit evidence of approval by the Ingham County Health Department for the use of the shared well for the existing single family house and existing garage proposed for conversion to a single family house.
7. Phase 2 of the project shall meet all ordinances or policies in affect at the time of commencement.
8. Prior to issuance of a building permit Phase 1 of the project the wetland on the property shall be delineated and/or verified by the Township's wetland consultant.

ADOPTED: YEAS: _____

NAYS: _____

STATE OF MICHIGAN)

) ss

COUNTY OF INGHAM)

I, the undersigned, the duly qualified and acting Chairperson of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, DO HEREBY CERTIFY the foregoing is a true and complete copy of a resolution adopted at a regular meeting of the Planning Commission on the 25th day of June 2018.

Dante Ianni, Chair
Meridian Township Planning Commission



To: Planning Commission

From: Peter Menser, Principal Planner

Justin Quagliata, Assistant Planner

Date: June 20, 2018

Re: Commission Review #18073 (Meridian Township), Section 61 review of location, character, and extent for a solar panel project located at 5151 Marsh Road.

The Charter Township of Meridian is proposing to install a 20 kilowatt ground-mounted photovoltaic solar electric system at 5151 Marsh Road. The site is zoned RAAA (Single Family-Low Density) and is located at the northwest corner of Marsh Road and Central Park Drive. Section 61 of the Michigan Planning Enabling Act (the "MPEA," Public Act 33 of 2008) requires Planning Commission review and approval of the location, character, and extent for the construction/purchase of new public streets, parks, open space, buildings, and other public facilities. This process is called a Section 61 Review. The MPEA does not require a public hearing for Section 61 Reviews.

The proposed project consists of a 20 kilowatt photovoltaic solar system with 56 ground-mounted, 360 watt photovoltaic modules (panels). According to the Township's selected contractor for the project, CBS Solar, the solar array would require an area approximately 70 feet by 70 feet in size. The solar array would be ground-mounted at the southeast corner of the Municipal Complex in the currently open lawn area. The total cost of the project is approximately \$52,823.49.

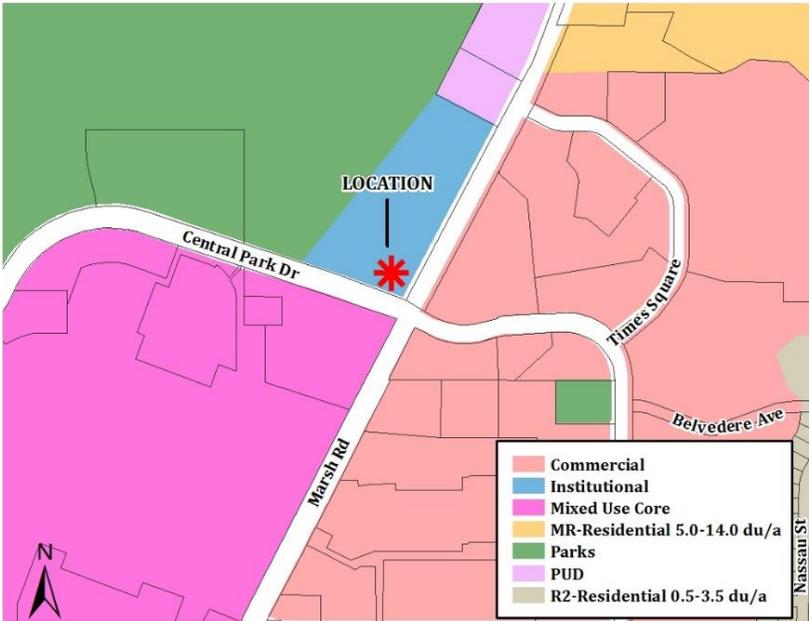
Location Map



Master Plan

The Future Land Use Map from the 2017 Master Plan designates the subject site in the Institutional category.

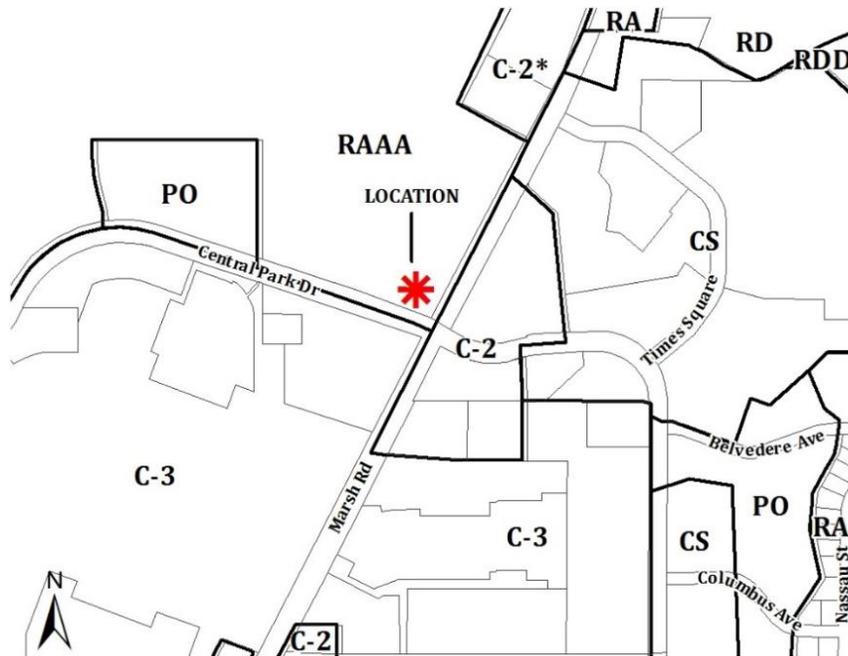
Future Land Use Map



Zoning

The site is zoned RAAA (Single Family-Low Density).

Zoning Map



Physical Features

The Meridian Township Municipal Complex is located on the site. The area proposed for the solar panel installation is currently used as open lawn area.

Public Utilities

Public water and sanitary sewer serve the Municipal Complex.

Streets & Traffic

The Street Setbacks and Service Drives Map (Section 86-367) classifies Central Park Drive as a Collector street and Marsh Road as a Principal Arterial. The Municipal Complex is accessible from Central Park Drive and Marsh Road.

Staff Analysis

Section 61 of the MPEA requires Planning Commission review and approval of the location, character, and extent for the construction/purchase of new public streets, parks, open space, buildings, and other public facilities. **Location** refers to the site's placement in the Township and its surroundings; the solar array is proposed at the southeast corner of the Municipal Complex property. **Character** includes the project's distinguishing features; the 20 kilowatt photovoltaic solar electric system includes 56 ground-mounted, 360 watt photovoltaic modules (panels). **Extent** includes the dimensions of the project area which is approximately 70 feet by 70 feet in size.

The project is consistent with Goal 7 of the 2017 Master Plan to promote efficient and sustainable growth practices, and Goal D of the 2018 Township Board Action Plan to implement a Township sponsored solar array and foster enacting timely components of the recently adopted Climate Sustainability Plan.

Planning Commission Options

The Planning Commission may approve or deny the commission review. A resolution to approve has been provided.

Attachments

1. Commission Review application and supporting materials.
2. Resolution to approve.

G:\Community Planning & Development\Planning\COMMISSION REVIEWS (CR)\2018\18073 (Meridian Township)\CR 18073.pc1.docx

CHARTER TOWNSHIP OF MERIDIAN
DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT
5151 MARSH ROAD, OKEMOS, MI 48864
PHONE: (517) 853-4560, FAX: (517) 853-4095

COMMISSION REVIEW:
AMENDMENT TO MASTER PLAN APPLICATION
(Municipal Planning Enabling Act (MPEA), MCL 125.3861, Section 61)

A. Applicant Meridian Township
Address of Applicant 5151 Marsh
Okemos, MI 48864
Telephone: Work 517-853-4654 Home _____
Fax 517-853-4095 Email perry@meridian.mi.us

B. Jurisdiction having authority (if different than applicant) _____
Address _____
Telephone _____ Fax _____ Email address _____

Please provide the name of the board, commission or body having jurisdiction for the authorization of financing of the public way, ground, space, building, structure or utility.

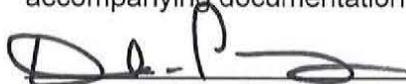
C. Applicant's Representative, Architect, Engineer or Planner responsible for request:
Name / Contact Person Derek Perry
Address same
Telephone: Work _____ Home _____
Fax _____ Email _____

D. Site location/address same
Zoning Classification(s) RAAA
Parcel number(s) 33-02-02-15-300-028

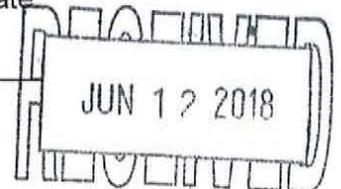
E. I (we) hereby grant permission for members of the Charter Township of Meridian's Boards and/or Commissions, Township staff member(s) and the Township's representatives or experts the right to enter onto the above described property (or as described in the attached information) in my (our) absence for the purpose of gathering information including but not limited to the taking and the use of photographs.

Yes No (Please check one)

By the signature(s) attached hereto, I (we) certify that the information provided within this application and accompanying documentation is, to the best of my (our) knowledge, true and accurate.


Signature of Applicant

6.12.18
Date



DEREK N. PERRY
Type/Print Name

Fee: 

Received by/Date:  6.12.18

Date application submitted: 6-12-18

Date application deemed complete: _____

Date of last day for decision: _____

**This form should be included with the COMMISSION REVIEW APPLICATION.
Explain your position on the lines below, and attach supporting information.**

REASONS FOR MODIFYING THE MASTER PLAN

Please explain your request to modify the Township's Master Plan for construction or authorization of a street, square, park, playground, public way, ground, other open space or public building, utility or other structure on the following lines:

Meridian Department of Public Works has been working with the Meridian Energy Team to seek proposals and installation of a 20 KW photovoltaic solar electric system. This project was identified and conceived of by the Township Board in 2017 and budgeted in 2018.

Initially, the south facing roof of the Public Safety Building was identified as a likely site for installation. However, security, access, and shading (from the cell tower) helped the team shift to a ground-mounted systems on the south side of the Municipal Building. This site provides easier access, visibility, maintenance, and higher performance (ability to face the panels due south and no shading).

The location, character and extent of your request will be evaluated in accordance with the responses you provide to Questions 1-12.

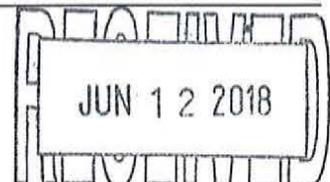
1. How will the request if approved be consistent with current development trends in the Township?

The rapidly growing interest in renewable energy and installation of solar photovoltaic systems has been seen in recent years. As an example: Target Corporation has recently began to place solar panels on their store roofs throughout the Country. Local churches, schools, and residents are also installing more systems as prices decline and awareness increases. Tax incentives also contribute to this growth trend.

2. How does the request further the Township Master Plan goals to: Preserve and strengthen residential neighborhoods

- Preserve open space and natural areas
- Maintain the viability of Meridian Township Businesses
- Maintain and expand a strong and diverse park system
- Maintain essential public services
- Provide and support an efficient, safe and environmentally sensitive multi-modal transportation system
- Maintain and enhance the Township's growth management program

Meridian has committed to a Climate Sustainability Plan with a goal of reducing greenhouse gas emissions by 80% by 2050 (compared to 2005 levels). In addition, the Township is committed to obtaining 50% of electricity used for township operations from renewable energy sources by 2025 and 100% by 2035. This 20KW system is a small, but significant and visible step toward this goal.



3. Is the request supported by surveys or studies of the present conditions and future needs of the Township? If yes, please attach a copy of the survey and/or study.

Meridian's Master Plan (with extensive public involvement) clearly indicates a strong interest in sustainable development (<http://www.meridian.mi.us/Home/ShowDocument?id=11371>) The Township's citizen survey, recent Branding Initiative and related research also revealed strong public interest in preserving and enhancing our environment. Residents appreciate and support green initiatives.

4. How does the request promote the health, safety and general welfare of the Township public? Climate adaptation and mitigation contributes to a more affordable, sustainable, health, and vibrant community, helping to maintain and improve the quality of life that attracts and retains people in our community.

5. How does the request promote the best use of time, effort and resources in the development of the Township?
Meridian Energy Team is a largely volunteer initiative. The Energy Team has helped this project and other related initiatives, devoting hundreds of hours at no charge to the Township. Because of the visibility of this project, it will catalyze other efforts and have demonstrated the Township's commitment to its sustainability goals.

6. How does the request promote wise and efficient expenditures of Township public funds?
The Energy Team helped develop a request for proposal and list of contractors to bid on this project. The volunteer team also helped distribute the RFP, review proposals, and select a contractor.

How does the request impact traffic in the Township?

While the project will have no direct impact, the solar array will be positioned so as not to obstruct driver visibility, complying with setbacks to avoid conflicts in the line of sight.

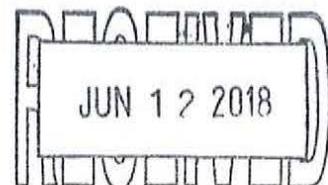
8. How does the request impact the public's safety from fire and other dangers in the Township?
Renewable energy helps reduce CO2 emissions that effect climate disruption. Climate change has been identified as the greatest environmental and public safety threat to mankind.

9. How does the request impact the light and air in the Township?
See above

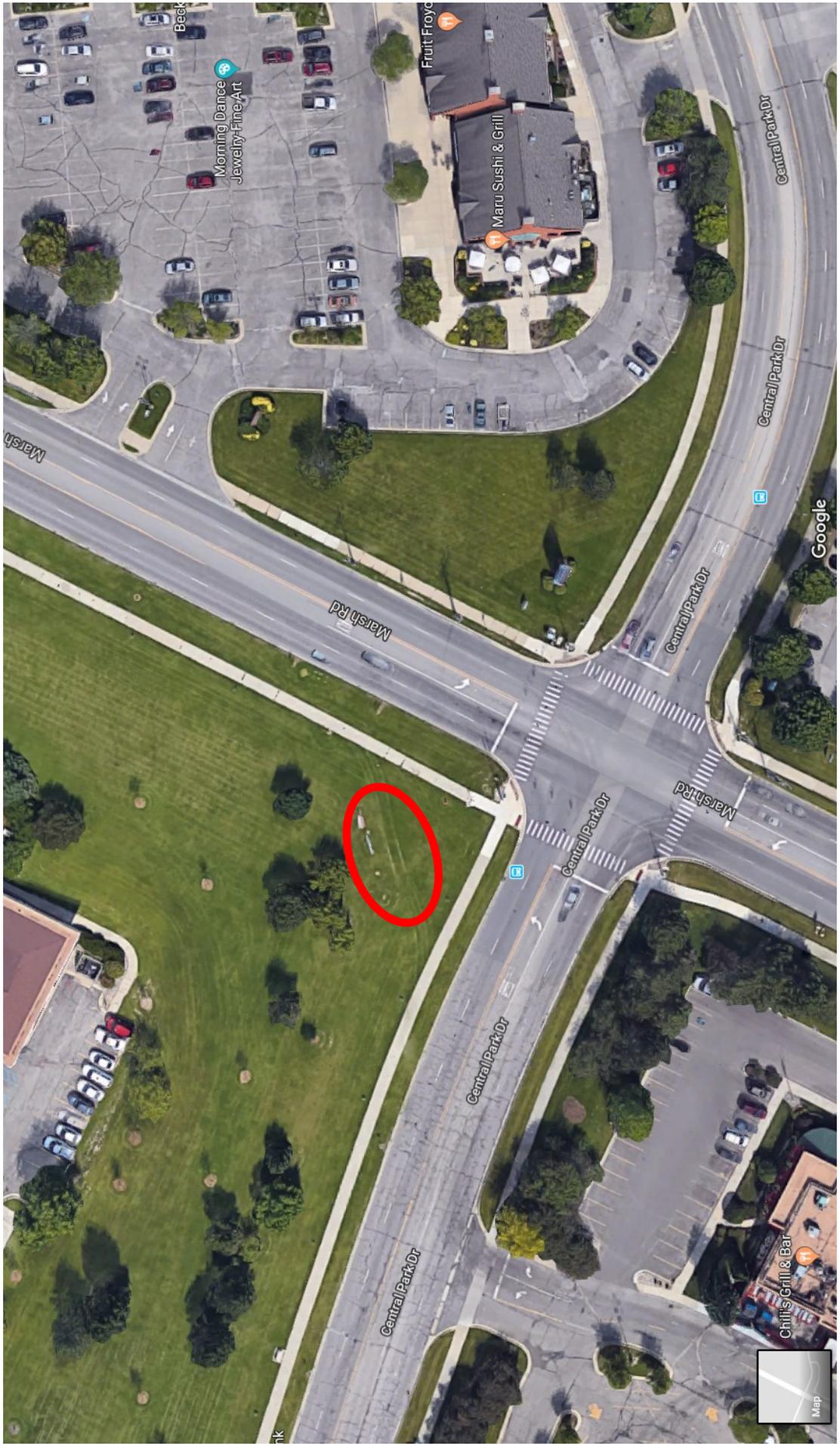
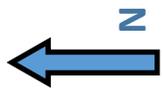
10. How does the request impact the population distribution in the Township?
Not applicable

11. How does the request promote good public design and arrangement in the Township?
Ground-mounted solar arrays offer several design advantages including positioning, no appreciative increase in run-off, and ease of installation, maintenance, and decommissioning.

12. How does the request impact public utilities and other public services in the Township?
This solar array will reduce the Township's dependence upon non-renewable energy resources.

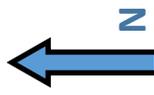


Location of solar panel (red oval)
5151 Marsh Road. Okemos, MI 48864



Location of solar panel

5151 Marsh Road. Okemos, MI 48864



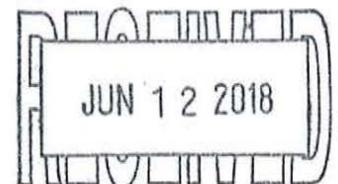
Sample image of ground mounted solar panel system





2018 GOALS ACTION PLAN

- A. Complete the following initiatives, as promised to Brianne Randall-Gay and our community:
 - 1. Community-wide sexual assault training
 - 2. Department-wide criminal sexual conduct training
 - 3. Review and analysis of criminal sexual conduct cases
- B. Create and adopt additional tools to assist in the redevelopment of our core commercial areas including the Four Corners of Okemos and the Downtown Haslett.
- C. Develop a comprehensive plan to fund our deteriorating local road system.
- D. Implement a Township sponsored solar array and foster enacting timely components of the recently adopted Climate Sustainability Plan.
- E. Determine the appropriate course of action regarding medical marijuana.
- F. Solidify our plans with the Meridian Mall for the construction of a new Farmers' Market on Central Park Drive.
- G. Achieve Redevelopment Ready Community (RRC) Certification through the Michigan Department of Economic Development (MEDC).
- H. Continue to maximize recruiting and networking efforts to achieve increased diversity in our workforce.
- I. Implement a plan to provide a comprehensive emergency siren program throughout the Township and expand our efforts to lower our Fire Insurance Rating through the Insurance Services Organization (ISO) from a 4 to 3.
- J. Enhance our recently developed website to maximize exposure and provide timely information.
- K. Develop a plan to continue to offer a curbside public transportation service beyond 2019.





CBS Solar

A Division of Contractors Building Supply Inc.

Michigan Made for the World

Performance & Financial Analysis

MERIDIAN TOWNSHIP 5151 Marsh Rd, Okemos MI 48864 517.853.4000

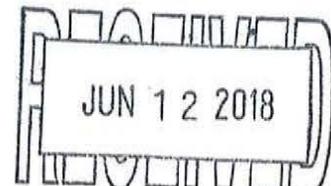
Prepared May 7, 2018 for

Leroy Harvey

Recycling Coordinator
Meridian Township
5151 Marsh Rd
Okemos, MI 48864
Phone: 517-853-4466

Prepared by Tyson O'Shea

CBS Solar
PO Box 67
16880 Front Street
Copemish, MI 49625
Phone: 231-378-2936 | Email: info@cbssolar.com





Executive Summary

MERIDIAN TOWNSHIP 5151 Marsh Rd, Okemos MI 48864 517.853.4000

Electric Utility Savings: Anticipate savings of approximately \$3,471 in electric bills (8%) at current utility rates in the first year. These savings will grow as electric utility rates rise. The purchase of electric energy (kWh) from your utility is expected to be reduced by 8%.

Over 25 years, annual utility savings should average \$5,729, for a total utility savings of \$143,227. After tax effects are applied, savings average \$3,839 annually or \$95,963 over the system life.

Annual Performance Summary

Solar Electric (PV) System: 20.16 kW DC (19.555 kW AC) producing 26,716 kWh/Year

Purchase Price & Net Cost

Contract Price: \$50,323
 MACRS Bonus & Straight (\$15,236)(P.V.)
 Line Depreciation:
Net-Present Cost: \$35,087
 Includes present value (P.V.) of these future cash flows.

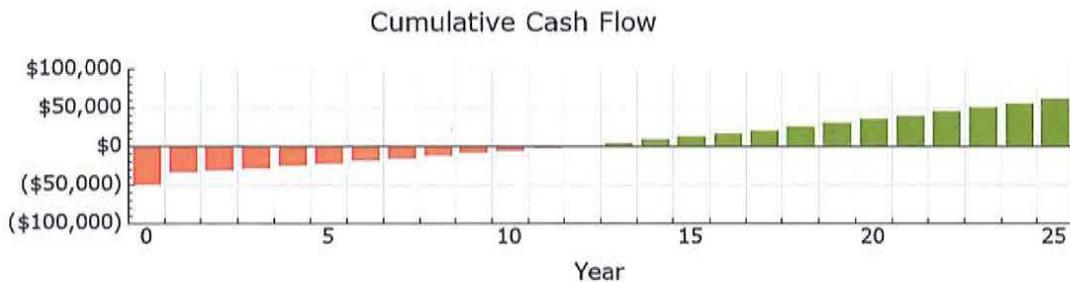
Financial Ratios

Customer's Profitability Index: 1.3

Cashflow Payback: 11.5 yrs.
 Internal Rate of Return (IRR): 8%
 Modified IRR (MIRR): 8%
 Net Present Value (NPV): \$14,364
 Cash Gained over Life: \$62,250

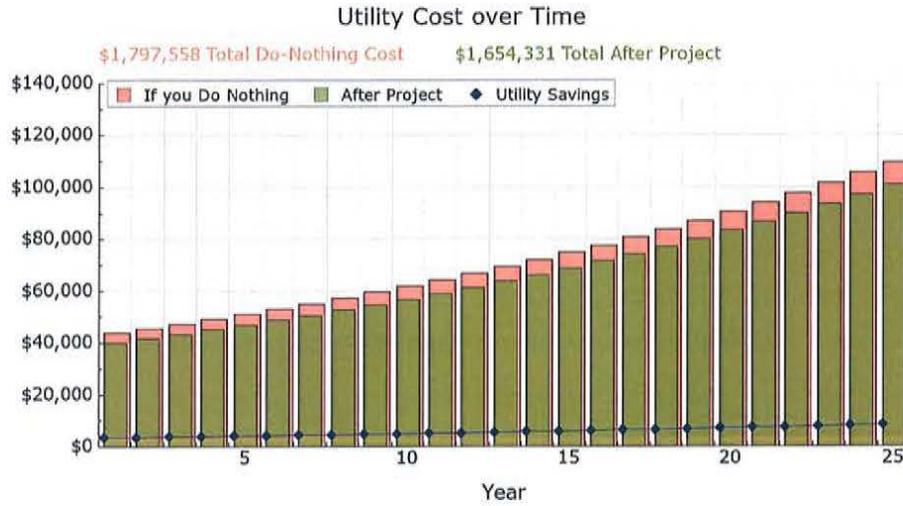
- CO2 Saved over System Life: 548 tons. Equivalent to driving 1,096,000 auto miles

Finance: Cash



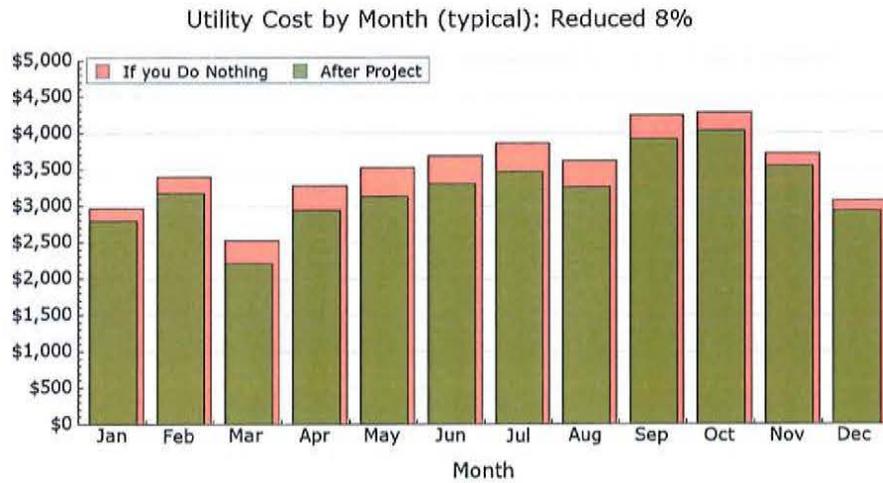


The Cost of Doing Nothing



Your Hedge Against Utility Inflation: Your investment in this project will protect you from utility rate inflation.

Utility Cost by Month



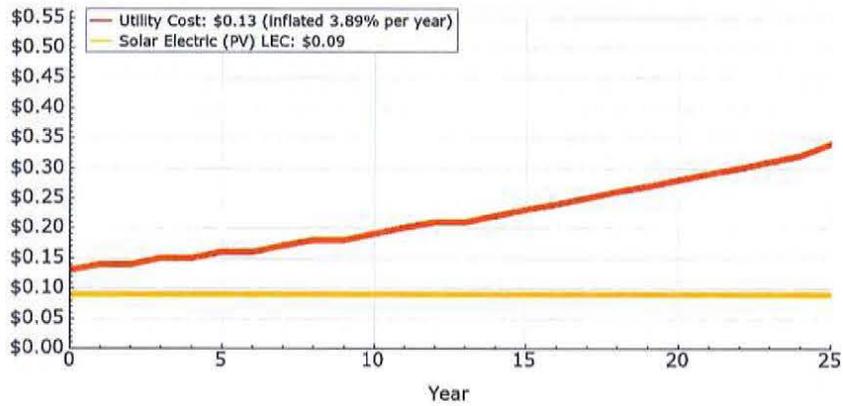


Levelized Energy Cost (LEC)

Your Hedge Against Utility Inflation: Your investment in this project will protect you from utility rate inflation. Levelized Energy Cost (LEC) analysis provides us with a "hurdle rate" (the levelized energy cost) which can be compared to the expected change in utility rates (by way of utility rate inflation). LEC is the average lifetime cost of energy produced by a particular system. We can compare the LEC to the current utility rate and its expected change in price as time goes on. In this manner one can judge the investment as a "better bet" than utility rates to contain energy costs. Represented below is the average cost of utility energy versus the cost of energy produced (LEC) by your system over time.

Electric: Levelized Energy Cost (LEC)

\$/kWh: Utility vs. System Levelized Energy Cost (LEC)





Carbon Footprint

Your carbon footprint will be reduced. Over the life of your system 548 tons of carbon dioxide (CO₂) will be eliminated from your footprint. Equivalent to:



Planting 12,768 trees.



Driving reduced by 1,096,000 auto miles, or 55,896 gallons of gasoline.



Recycling 1,732 tons of waste instead of sending it to landfill.



Displacing CO₂ emissions from the annual electric use of 62 homes.



533,983 pounds (267.0 tons) of coal burned.



and you will help avoid the use of up to 13,358,000 gallons of water by Thermoelectric Powerplants.



Solar Electric (PV) System Summary

Solar Electric (PV) kWh Production by Month (typical)



Total Panel Area: 1,169 sq-ft

System Peak Power: 20.16 kW DC (19.555 kW AC, 17.936 kW CEC)

Annual Production: 26,716 kWh. Supplying 8% of annual electric use

PV Panels:

56 x Auxin Solar, Model: AXN6M612T360. Tilt: 30° Azimuth: 180° Rack/Gnd/Pole Mount. Shade reduces production: 0%

Inverters:

2 x SolarEdge Technologies, Model: SE 10000A-US (208V)

Contract Price Summary: Solar Electric (PV) System

Contract Amount: \$50,323 (\$2.50/watt DC)

Net Cost at Install (after incentives): \$50,323

Net Installed Price per Watt: \$2.50/watt DC (\$2.57/watt AC)

Present Value of Depreciation: \$15,236 (in today's dollars)

Net-Present Cost: \$35,087



Sensitivity Analysis: Utility Rate Inflation Scenarios

Sensitivity Analysis is a process of analyzing possible future events by considering alternative possible outcomes.

The average change in utility rates (inflation) over the system life is perhaps the variable which may most affect the return on your investment. The following table summarizes how utility rate inflation may impact your investment. The project, as quoted, is compared to utility rate inflation that averages -5%, 0% and +5% over the system life.

	<u>As Quoted</u>	<u>-5% Inflation</u>	<u>0% Inflation</u>	<u>+5% Inflation</u>
Total Utility Savings:	\$143,227	\$46,624	\$84,384	\$168,162
Cash Gained over Life:	\$62,250	none	\$22,824	\$78,954
Return on Initial Cash Invested (IRR):	8%	0%	4.2%	9.1%
Wealth Created Over System Life (NPV):	\$14,364	(\$15,143)	(\$3,028)	\$21,449

Utility Inflation, as Quoted: Electric Rates: 3.89%



How to Interpret Financial Ratios and Measures

A Measure of Security: Cashflow Payback: 11.5 years - 11.5 years (modified)

The most common measure of the security of a proposed investment is its payback, defined as the length of time until one gets one's money back. Cashflow Payback is when cumulative cash flow stays positive for good. Modified Cashflow Payback is when the cumulative cash in-flows exceed the total of all cash out-flows over the system life; future maintenance expenses are accommodated.

Profitability Index: 1.3

What PI Means: Generally, if $PI > 1$ then accept the project. If $PI < 1$ then "qualitative" factors may justify the project.

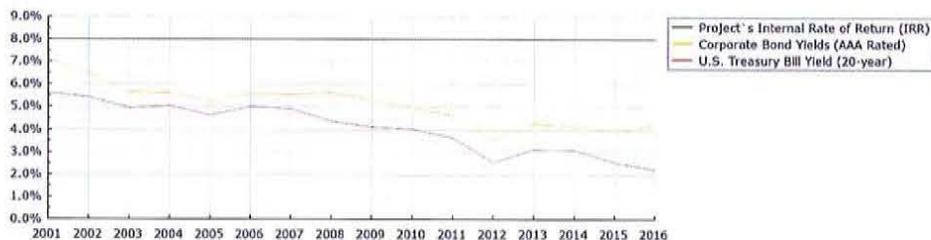
Profitability Index (PI) is a measure of investment efficiency. It identifies the relationship of investment to its return. Profitability Index (PI) is calculated as: (Net-Present Value of the Returns plus the Initial Investment) divided by the Initial Investment. For example: \$50,323 is invested and the NPV of the returns is \$14,364, then the $PI = (\$50,323 + \$14,364) / \$50,323 = 1.3$, or more generically, for every \$1 invested you received \$1.3 in return.

Net Present Value (NPV): \$14,364.

What NPV Means: NPV is an indicator of how much value (wealth) an investment adds to the customer. If NPV is positive then the investment would add value. If NPV is zero or negative then other "qualitative" factors may be of adequate value to justify the project (for example, lengthening a swimming pool season). *Net Present Value (NPV)* is one way to account for the time value of money. NPV calculates the current value of each future cash flow. For example, \$1.00 received two years from now is equivalent to something less today, if it can be invested now at some interest rate. This allows us to "discount" the cash flows (whether positive or negative) that the proposed investment is expected to generate at various times in the future back to their equivalent value today (that is, their "present value"). If one then subtracts the cost of the proposed investment from the sum of the present values of the ongoing cash inflows, one obtains the net present value (NPV) of the investment.

Internal Rate of Return (IRR): 8%

Internal Rate of Return (IRR) is a common measure of investment efficiency. Equivalent to the yield to maturity of a bond. The internal rate of return (IRR) is the annualized effective compounded rate of return earned on the invested capital.



Modified Internal Rate of Return (MIRR): 8% -- *Modified Internal Rate of Return (MIRR)*, as the name implies, is a modification of the internal rate of return (IRR) and as such aims to resolve some problems with the IRR. First, IRR assumes that positive cash flows are reinvested at the same rate of return as that of the project that generated them. A more likely situation is that the funds will be reinvested at a rate closer to the cost of capital. For determining MIRR, we assumed a finance rate of 5.00% and a reinvestment rate of 8.00%.



Measures of Predictability: Using "hurdle rates" Levelized Energy Cost (LEC)

Solar Electric (PV): \$0.09 per kWh

Another dimension of concern about a proposed investment is the predictability of its anticipated costs and returns, which requires measures of the uncertainty associated with them. Levelized Energy Cost (LEC) analysis provides us with a "hurdle rate" (the levelized energy cost). LEC is the average lifetime cost of energy produced by a particular system. We can compare LEC to the current utility rate and its expected change in price as time goes on. In this manner one can judge the investment as a "better bet" than utility rates to contain energy costs.

Assessing Option Value: The option value of a proposed investment represents the value of future opportunities that would be made available only if the investment were made. Like the ante in a poker game, the investment may promise no return other than the opportunity to look at the cards being dealt, at which point one can either fold or "exercise the option" by making additional investments in an attempt to win the pot. To realize future value here new investments are not necessarily required to "exercise the options" - ownership is enough. In the case of renewable energy systems in general, there are primarily two opportunities, or options, which may have future value: Property value appreciation, and Renewable energy certificates (RECs or SRECs):

Renewable Energy and/or Carbon Credits or Certificate (REC or SREC): Renewable Energy Certificates (sometimes called "solar renewable energy credits/certificates" - SRECs, S-RECs, or simply RECs) are a new and evolving method to ascribe future financial value to a renewable energy system. RECs represent the bundle of legal rights to the "green" part of each unit of energy produced by a renewable energy system. This green part can be sold for a value, which generates additional revenue for the seller. These certificates can be sold and traded or bartered and the owner of the REC can claim to have purchased renewable energy.



Utility Energy Summary: Electric

Electric Utility Rates

<u>Current Rate</u>	<u>Post Project Rate</u>
Fixed Price per unit \$0.1300/kWh	Fixed Price per unit
Average Cost: \$0.13 per kWh	Average Cost: \$0.13 per kWh
Tiered Rate: No	Tiered Rate: No
Time-of-Use Rate: No	Time-of-Use Rate: No
Demand Charges: No	Demand Charges: No

Summary of Utility & New Source Electricity

Electric by Month (kWh)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<u>Entered into Software (historical)</u>													
Monthly Use	22,840	26,120	19,400	25,240	27,080	28,360	29,680	27,800	32,680	32,920	28,600	23,640	324,360
Historical Cost	\$2,402	\$3,226	\$2,468	\$3,201	\$3,283	\$3,452	\$3,802	\$3,560	\$4,075	\$4,058	\$3,495	\$2,981	\$40,003
<u>Estimated by Software at Current Rates</u>													
Estimated Use	22,840	26,120	19,400	25,240	27,080	28,360	29,680	27,800	32,680	32,920	28,600	23,640	324,360
Current Cost	\$2,969	\$3,396	\$2,522	\$3,281	\$3,520	\$3,687	\$3,858	\$3,614	\$4,248	\$4,280	\$3,718	\$3,073	\$42,166
PV Production	(1,370)	(1,739)	(2,377)	(2,570)	(3,014)	(3,001)	(3,025)	(2,784)	(2,575)	(1,863)	(1,317)	(1,081)	
Post Project Use	21,470	24,381	17,023	22,670	24,066	25,359	26,655	25,016	30,105	31,057	27,283	22,559	297,644
Post Project Cost	\$2,791	\$3,170	\$2,213	\$2,947	\$3,129	\$3,297	\$3,465	\$3,252	\$3,914	\$4,037	\$3,547	\$2,933	\$38,695
Production Self-Consumption Percent:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Minimum monthly meter fees may apply and are not included in this analysis.



Cash Flow Details for the System

Cash Flows in Year	0	1	2	3	4
Gross Cost: PV	(50,323)				
<u>Reference:</u> Utility Bill Savings with Inflation Applied	0	3,606	3,737	3,874	4,016
Utility Bill Net Cash Savings after Tax Effects	0	2,416	2,504	2,596	2,691
Federal MACRS Bonus Depreciation Tax Savings	0	14,090	0	0	0
State Straight Line Depreciation Tax Savings	0	105	210	210	210
Net Annual Cash Flow	(50,323)	16,611	2,714	2,806	2,901
Cumulative Cash Flow	(50,323)	(33,712)	(30,998)	(28,192)	(25,291)

Net Annual Cash Flow is the sum of values in gray lines.

Cash Flows in Year	5	6	7	8	9
<u>Reference:</u> Utility Bill Savings with Inflation Applied	4,162	4,314	4,471	4,635	4,803
Utility Bill Net Cash Savings after Tax Effects	2,789	2,890	2,996	3,105	3,218
State Straight Line Depreciation Tax Savings	210	210	210	210	210
Net Annual Cash Flow	2,999	3,100	3,206	3,315	3,428
Cumulative Cash Flow	(22,292)	(19,192)	(15,986)	(12,671)	(9,243)

Cash Flows in Year	10	11	12	13	14
<u>Reference:</u> Utility Bill Savings with Inflation Applied	4,979	5,160	5,348	5,543	5,745
Utility Bill Net Cash Savings after Tax Effects	3,336	3,457	3,583	3,714	3,849
State Straight Line Depreciation Tax Savings	210	210	210	105	0
Net Annual Cash Flow	3,546	3,667	3,793	3,819	3,849
Cumulative Cash Flow	(5,697)	(2,030)	1,763	5,582	9,431

Cash Flows in Year	15	16	17	18	19
<u>Reference:</u> Utility Bill Savings with Inflation Applied	5,955	6,172	6,397	6,630	6,871
Utility Bill Net Cash Savings after Tax Effects	3,990	4,135	4,286	4,442	4,604
Net Annual Cash Flow	3,990	4,135	4,286	4,442	4,604
Cumulative Cash Flow	13,421	17,556	21,842	26,284	30,888



Cash Flow Details for the System

Cash Flows in Year	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>
<u>Reference:</u> Utility Bill Savings with Inflation Applied	7,121	7,381	7,649	7,927	8,216
Utility Bill Net Cash Savings after Tax Effects	4,771	4,945	5,125	5,311	5,505
Net Annual Cash Flow	4,771	4,945	5,125	5,311	5,505
Cumulative Cash Flow	35,659	40,604	45,729	51,040	56,545

Cash Flows in Year	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>
<u>Reference:</u> Utility Bill Savings with Inflation Applied	8,515	0	0	0	0
Utility Bill Net Cash Savings after Tax Effects	5,705	0	0	0	0
Net Annual Cash Flow	5,705	0	0	0	0
Cumulative Cash Flow	62,250	0	0	0	0



Other Assumptions Used in this Analysis

Customer Type: Business/Commercial.

Tax Effects Applied to Utility Savings: As a business customer, utility savings will result in lower business expenses (a tax deduction or "write off") for utility services. Therefore we have reduced utility savings by your effective income tax rate (28.00% federal and 5.00% state).

System Life: PV System: 25 years. Inverters: 25 years.

PV System Modeling Variables (PVWatts references): System Losses: 9.5%, DC-to-AC Ratio: 1.02, Module Type: Premium (high efficiency), Inverter Efficiency: 97.00%.

Performance Degradation and O&M Costs: We have assumed performance will degrade by 0.25% per year due to soiling and general wear. Annual operating and maintenance (O&M) costs are inflated 2.86% per year, and are estimated as a percent of gross system price, as follows: Solar Electric (PV): 0.00%.

Income Tax Rates: Federal: 28.00%, State: 5.00%

Annual Inflation Rates: Consumer price index: 2.86%, Electric Rates: 3.89%

Energy Metering Type: Net Metering

Net Excess Generation (NEG): Monthly NEG credited at Utility Rate. Monthly NEG may be carried forward to the next month for application to future utility bills. Annual NEG Not sold.

Discount Rate: 5.00%. Used to estimate net present value of future cash flows. This is also assumed to be the finance rate, as used to calculate MIRR.

Reinvestment Rate: 8.00%. Used to calculate MIRR.

Depreciation Methods: Federal: 100% Bonus MACRS Schedule. State: Straight-Line Schedule (12 yr).

Amounts Depreciated by Year	0	1	2	3	4
Federal (\$50,323 total)	\$0	\$50,321	\$0	\$0	\$0
State (\$50,323 total)	\$0	\$2,100	\$4,200	\$4,200	\$4,200

Amounts Depreciated by Year	5	6	7	8	9
State	\$4,200	\$4,200	\$4,200	\$4,200	\$4,200

Amounts Depreciated by Year	10	11	12	13	14
State	\$4,200	\$4,200	\$4,200	\$2,100	\$0

Carbon Dioxide (CO2) Calculations: The following assumptions are used to calculate carbon dioxide (CO2) reductions: Electricity: 1.64 lbs. CO2 per kWh. Natural Gas: 0.12 lbs. CO2 per cubic foot (12 lbs. per Therm). Fuel Oil: 22.29 lbs. CO2 per gallon. Propane: 12.17 lbs. CO2 per gallon. Trees Planted: 0.0429 tons CO2 per Tree planted (23.3 Trees/Ton CO2). Automobiles Saved: 1 lb CO2 per mile for medium passenger car (2,000 Miles/Ton CO2). Gallons Gasoline: 0.009812 tons



CO₂/gallon (102 Gal/Ton CO₂). Landfill Tons: 3.16 tons CO₂ per ton of waste recycled instead of landfilled. Single-family Homes (electric use): 8.82 tons CO₂/home (0.11 Homes/Ton CO₂). Tons of Coal Burned: 2.0525 lbs. of CO₂ per lb. of Coal (2,000 lbs. per ton). Source: www.epa.gov/cleanenergy/energy-resources/refs.html

Water used by Thermoelectric Powerplants: Depending upon the technology used, natural gas and coal power plants withdraw up to 20 gallons of water for every kWh of energy produced and consume (via evaporation) about 0.47 gallons per kWh produced. Sources: <http://nrel.gov/docs/fy04osti/33905.pdf> and <http://www.wri.org/resources/charts-graphs/typical-range-water-withdrawals-and-consumption-thermoelectric-power-plants> which summarizes the Electric Power Research Institute's report *Water & Sustainability (Volume 3): U.S. Water Consumption for Power Production - The Next Half Century*



Renewable Resources

The following renewable resource assumptions were used to develop estimates for the project location. These are typical values based upon observed data over several decades. Actual values (and system performance) will vary from month to month, and from year to year, in accordance to weather and climate pattern changes.

Weather station referenced: "LANSING CAPITAL CITY ARPT" (Michigan)

Solar Resources: Flat-Plate, South-facing Tilted at Latitude

Month	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
kWh/m ² /day	2.521	3.409	4.253	4.699	5.262	5.447	5.372	5.06	5.008	3.515	2.577	1.981

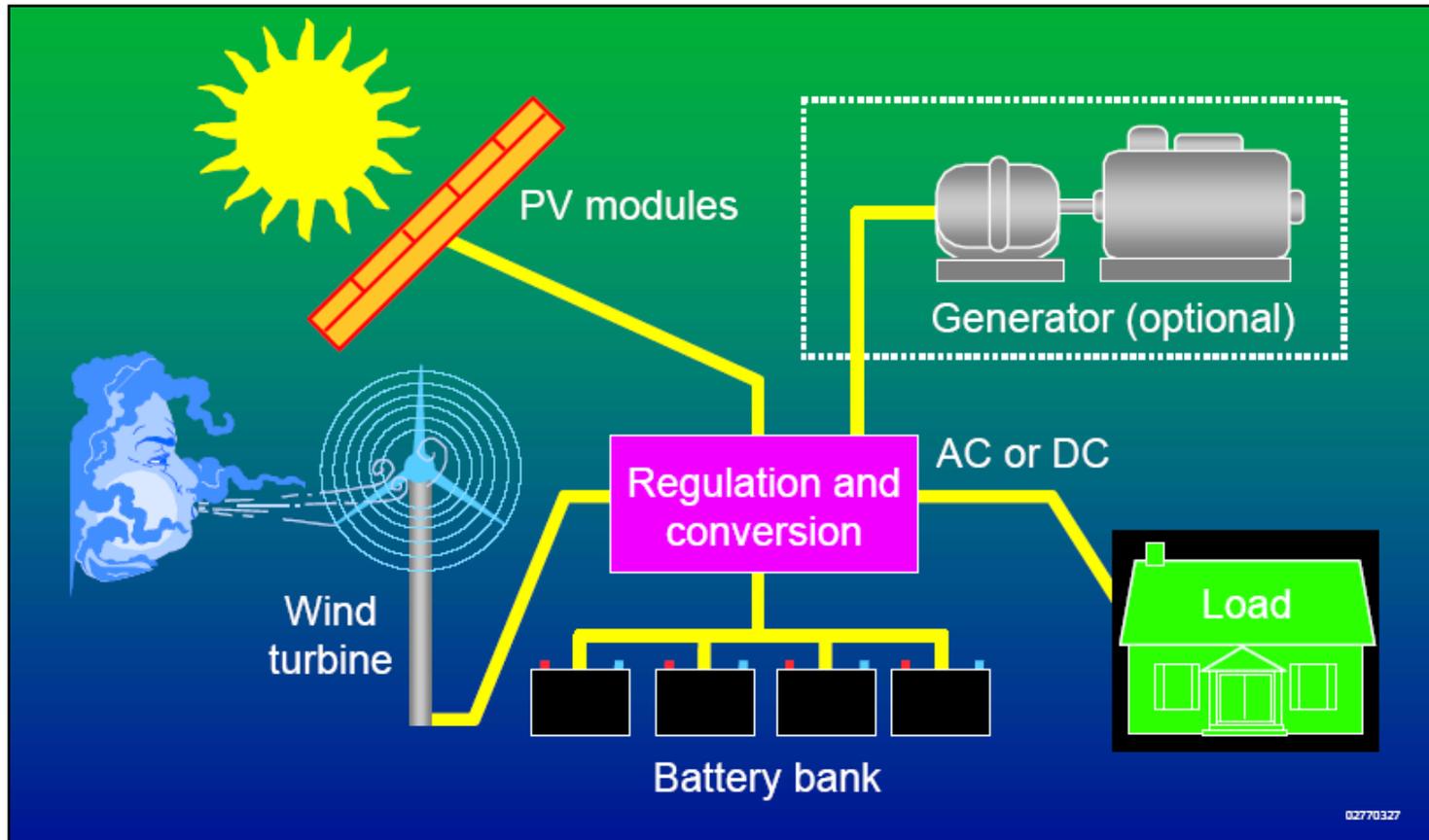
Solarize Meridian

Facilitated by

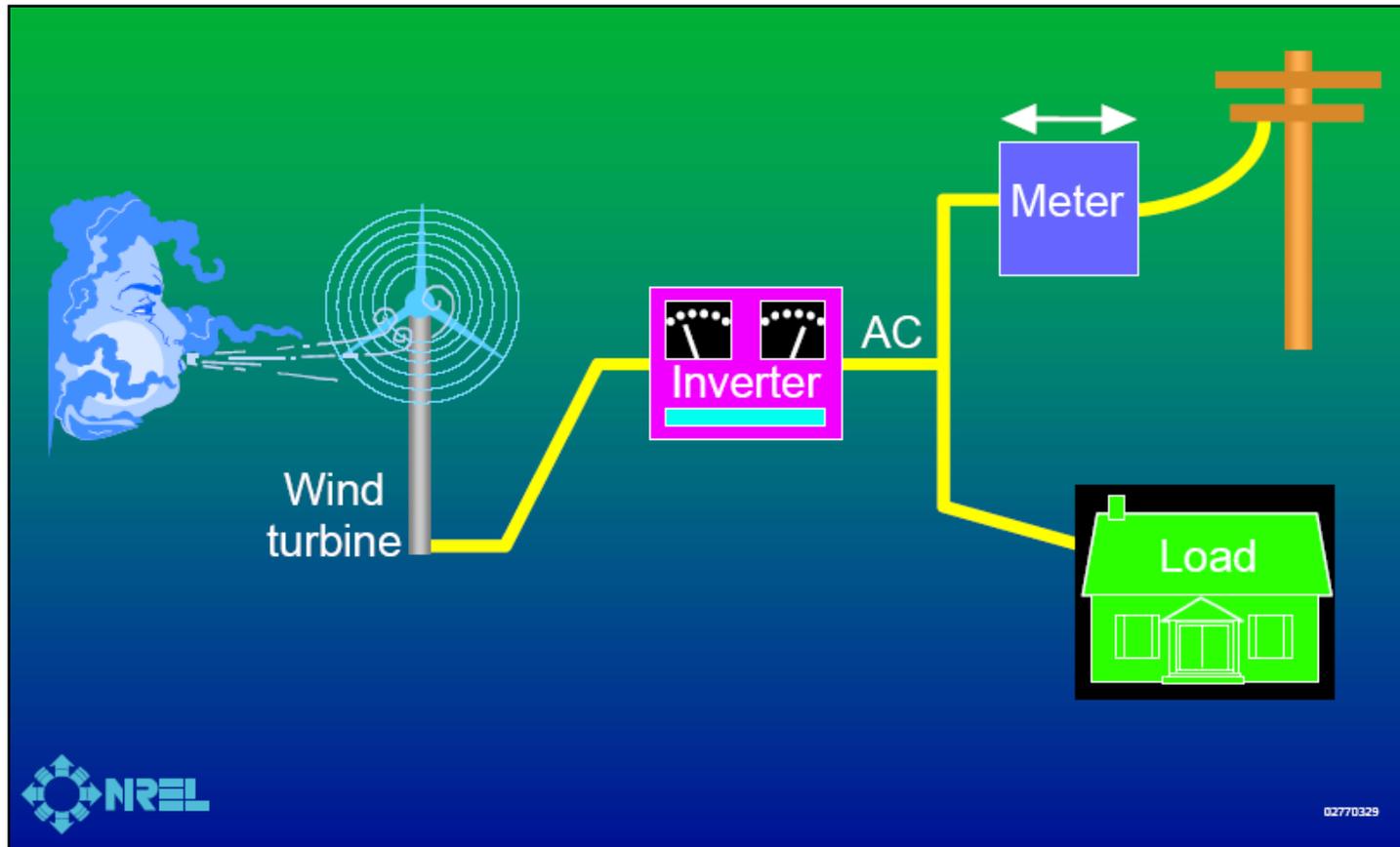
Meridian Energy Team

Lansing Area Solar Users Network

Off-Grid System



Grid-Tied System



Rooftop or Ground Mount

- Southern Orientation
- Minimum or No Shading



Net Metering

- Excess electricity to utility
- Bill credit, no payment
- System sized to customer
- 20 kW or less – “true net metering”
- Up to 150 kW – “modified net metering”
- New Distributed Generation Tariff in 2019
- Inflow at retail rate, outflow around 10 cents
- Until new tariff grandfathered for 10 yrs

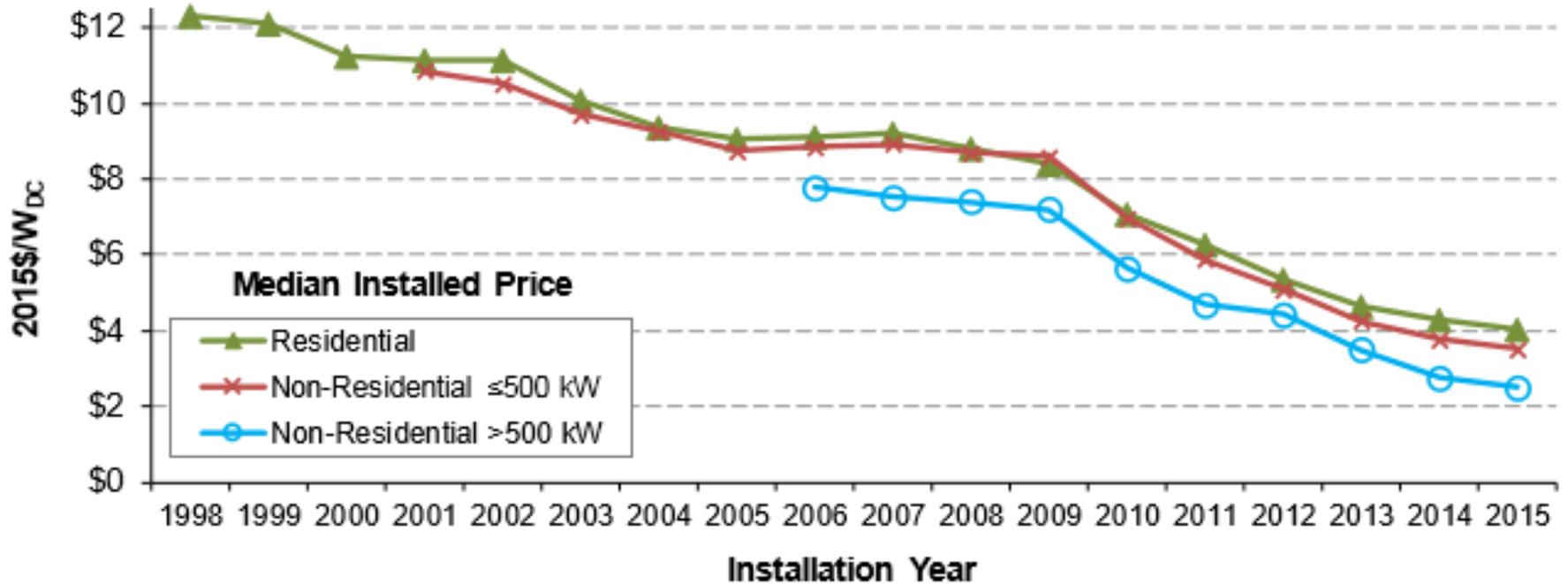
30% Federal Tax Credit

- 2017 to 2019 – 30%
- 2020 – 26%
- 2021 – 22%
- Beginning in 2022
- 10% for commercial and third party-owned residential
- 0% for host-owned residential

PV is Good Investment

- Lawrence Berkeley National Lab report shows PV adds value
- 22,822 homes in 8 states studied
- Average PV sales premiums is \$4/watt
- If you move, get your money back at sale

Solar Prices Down



Source: National Renewable Energy Lab

PVWatts

- Software to estimate kW's and kWh's
- Monthly kWh's
- Cost savings

RESULTS

23,048 kWh per Year

Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Energy Value (\$)
January	2.56	1,312	125
February	3.48	1,635	156
March	4.35	2,149	205
April	4.79	2,188	209
May	5.41	2,473	236
June	5.57	2,369	226
July	5.48	2,408	230
August	5.19	2,320	221
September	5.12	2,261	216
October	3.59	1,695	162
November	2.62	1,228	117
December	2.02	1,011	96
Annual	4.18	23,048	\$ 2,198



Solarize Meridian

- Meridian Energy Team has developed Climate Sustainability Plan that has been adopted by Township Board & includes renewable energy commitments:
- Obtain 50% of Township government electricity from renewable energy by 2025 and 100% by 2035.
- Obtain 25% of total community electric use from renewable energy by 2025.
- Encourage homeowners, businesses, & churches to install a solar electric system

Solar Installer List

- Interested in participating in project
- Provide standard, grid-tied, rooftop PV system at competitive price - \$3/watt or less, e.g. \$12,000 or less for 4,000 watt system, \$8,400 or less after 30% federal credit
- Authorized Michigan Saves contractor
- List indicates if particular interest – residential, commercial, rooftop, ground mount

Payback & Savings

$4,000 \text{ w} \times 2.8 \text{ cents/w} = \$11,200$

– 30% federal tax credit = \$7,840

Energy savings is 5,232 kWh's/year

Annual cost savings is $\$.15 \times 5,232 = \785

Simple payback 10 yrs

3 cents/watt 11 yrs

2% annual rate increase 9 yrs

Solarize Steps

- Attend workshop and/or open house
- Contact one or more solar installers on list
- Receive proposals from solar installers & select installer
- Installer obtains permits from township
- Homeowner may apply for Michigan Saves financing
- Homeowner with installer help applies to utility for interconnection & net metering
- Solar installation completed
- Homeowner takes 30% federal tax credit

Why Now is a Good Time

- Competitive price from 12 installers
- 30% federal tax credit
- Net metering still in place
- Solar tariff hasn't effected prices yet
- Why not start saving now

RESOLUTION TO APPROVE

**Commission Review #18073
Meridian Township
5151 Marsh Road**

RESOLUTION

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 25th day of June 2018, at 7:00 p.m., Local Time.

PRESENT: _____

ABSENT: _____

The following resolution was offered by Commissioner _____ and supported by Commissioner _____.

WHEREAS, Section 61 (MCL 125.3861) of the Michigan Planning Enabling Act states, "A street; square, park, playground, public way, ground, or other open space; or public building or other structure shall not be constructed or authorized for construction in an area covered by a municipal master plan unless the location, character, and extent of the street, public way, open space, structure, or utility have been submitted to the planning commission by the legislative body."; and

WHEREAS, the Township Board at its meeting on May 1, 2018 referred the case to the Planning Commission to review the location, character, and extent of the project; and

WHEREAS, the Planning Commission discussed the project at its June 25, 2018 meeting and reviewed the staff material provided under cover memorandum dated June 20, 2018; and

WHEREAS, the 20 kilowatt photovoltaic solar electric system includes 56 ground-mounted, 360 watt photovoltaic modules (panels) and will be located at the southeast corner of the Municipal Complex at 5151 Marsh Road in an area approximately 70 feet by 70 feet in size; and

WHEREAS, the 2018 Meridian Township operating budget allocates \$50,000 for the installation of a solar panel array at the Municipal Complex; and

WHEREAS, the project is consistent with Goal 7 of the 2017 Master Plan to 'Promote efficient and sustainable growth practices'; and

WHEREAS, the project is consistent with Goal D of the 2018 Township Board Action Plan to 'Implement a Township sponsored solar array and foster enacting timely components of the recently adopted Climate Sustainability Plan'.

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN approves the location, character, and extent of a solar panel project located at the southeast corner of the Municipal Complex.

