



APPROVED 05/14/18

**ACME TOWNSHIP PLANNING COMMISSION MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
April 9th, 2018 7:00 p.m.**

CALL TO ORDER WITH PLEDGE OF ALLEGIANCE at 7:00 p.m.

ROLL CALL: Members present: K. Wentzloff (Chair), S. Feringa (Vice Chair), B. Balentine, D. Rosa, M. Timmins (Secretary), D. VanHouten, D. White

Members excused: none

Staff present: S. Winter, Planning & Zoning Administrator, V. Donn, Recording Secretary

A. LIMITED PUBLIC COMMENT: None

B. APPROVAL OF AGENDA:

Motion by Timmins to approve agenda as presented with the addition to I. 1. NEW BUSINESS: Zoning Map Amendment 049, supported by Balentine. Motion carried unanimously.

C. INQUIRY AS TO CONFLICTS OF INTEREST:

Feringa recused himself from item 1. NEW BUSINESS: Zoning Map Amendment 049, as a possible conflict of interest.

White recused himself from J. OLD BUSINESS: Zoning Ordinance Amendment 046 – Solar Energy Farms, as a possible conflict of interest.

D. SPECIAL PRESENTATIONS:

1. Solar Energy Farms – Jeremy Jones, Prism Power Partners

Jeremy Jones with Prism Power Partners gave a presentation with statistics and conversion of energy uses on solar production. His company is looking at property by the M-72 Tart Trail for a solar farm with nearby access to the Bates Road sub-station. He would like to work with the township to help with questions and forming the appropriate wording used in the ordinance to cover the Zoning Committee's concerns.

E. CONSENT CALENDAR:

1. RECEIVE AND FILE

- a. Township Board Meeting Minutes 02/06/18**
- b. Township Board Special Meeting Minutes 02/22/18**
- c. Township Board Meeting Draft Minutes 03/06/18**
- d. Parks and Trails Committee Meeting Minutes 02/16/18**
- e. Parks and Trails Committee Meeting Draft Minutes 03/16/18**
- f. Capital Improvements Plan Committee Meeting Draft Minutes 02/16/18**

2. ACTION:

- a. Adopt Planning Commission Meeting Draft Minutes 02/12/18**

Motion by Balentine to approve Consent Calendar as presented, supported by Feringa. Motion carried unanimously.

F. ITEMS REMOVED FROM THE CONSENT CALENDAR: None

G. CORRESPONDENCE:

- 1. Post-Construction Acme Creek Monitoring: February 2018 Results – Barr Environmental**
- 2. County Planning Resolution – Jean Derenzy, Interim County Administrator**

Winter explained the County Planning Commission has waived its right under statute to review zoning ordinances and amendments. In the future, motions can be made to recommend approval directly to the Township Board.

H. PUBLIC HEARINGS: None

I. NEW BUSINESS:

1. Zoning Map Amendment 049

Winter would like to propose a zoning map amendment for the parcels south of M-72, roughly on either side of Lautner Rd. This includes the land of the Grand Traverse Town Center (GTTC), including Meijer, as well as the properties on the other side of Lautner. The GTTC is currently zoned R-3 but has been approved as a mixed-used development. The land on the other side of Lautner, currently zoned B-3. His recommendation is to rezone these properties, to CF – Corridor Flex. This zoning classification allows for the development pattern described above. The GTTC mixed-use development approval already allows for this style of development. The property on the other side of Lautner, zoned B-3 Planned Shopping Center, represents a development pattern of a bygone time and is not representative of the Town Center future land use description. The draft zoning ordinance rewrite already recommends changing these properties to CF. There is current interest in this property, and due to the lengthy process of having a new zoning ordinance adopted, amending the zoning map at this time will facilitate a development pattern desired in the master plan.

Motion by Timmins to set a Public Hearing for Zoning Map Amendment 049 at the May 14, 2018 Planning Commission Meeting, supported by White. Motion approved by 6 (Wentzloff, Balentine, Rosa, Timmins, VanHouten and White), Feringa recused from motion.

J. OLD BUSINESS:

1. Zoning Ordinance Amendment 046 – Solar Energy Farms

Winter explained the Beckett & Raeder GIS Findings, maps out areas in Acme most suitable for solar uses. The maps show duration of sunlight, degree of slopes, sensitive areas, overall maximum sunlight and kilowatt hours per square meter. Board discussed Solar Farms and the impact it would have on neighboring properties. Some of the concerns were cutting down trees, moving the soil that would change the landscape, preservation of agricultural land, and the type of electrical connections needed to run to sub-stations. Timmons suggested adding in restrictions to the ordinance.

Motion by Rosa to recommend approval of Zoning Ordinance Amendment 046 to the board, supported by VanHouten.

Some of the committee felt they were not ready to approve the motion and preferred more time for consideration.

Roll Call Vote:

Yays – Rosa, VanHouten, Feringa

Nays –Wentzloff, Balentine, Timmins

Recused – White

Motion did not carry and will be considered under Old Business at the May 14, 2018 Planning Commission meeting.

K. PUBLIC COMMENT & OTHER PC BUSINESS

- 1. Zoning Administrator Report – Shawn Winter:** Reported the GT County Road Commission has started their east west corridor study, they held their first meeting today. They will have their first public input session on April 23, from 6 – 8 pm at East Middle School if anyone would like to attend. There is more information on their website GTCRC.org.
- 2. Planning Consultant Report – John Iacoangeli:** No Report
- 3. Township Board Report – Doug White:** Report the board is working on the annual budget.

- 4. Parks & Trails Committee Report – Marcie Timmins:** Construction bids came in higher than the estimated budget. A special board meeting has been scheduled for Wednesday to discuss where reductions of funds can be made to reach the funds needed for the park's improvements.

White informed there is only a few parcels of Agricultural land available in the township that could have a solar farm. The cherry industry is changing with competition from other countries bringing in cherries at a lower cost than the local producers can match. The farming industry is changing, and landowners are looking at different options.

Wentzloff noted on May 16, 2018 from 6 -9 pm, there is a Short-term Rental Info Session at the NW MI Works on Garfield. She is planning on attending and if anyone else would like to go let Winter know.

ADJOURN: Motion to adjourn by Timmins, supported by Balentine. Meeting adjourned at 8:45



ACME TOWNSHIP PLANNING COMMISSION MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
April 9th, 2018 7:00 p.m.

CALL TO ORDER WITH PLEDGE OF ALLEGIANCE

ROLL CALL:

- A. LIMITED PUBLIC COMMENT:** Members of the public may address the Commission regarding any subject of community interest during public comment periods by filling out a Public Comment Card and submitting it to the Secretary. Public comments are limited to three minutes per individual. Comments during other portions of the agenda may or may not be entertained at the moderator's discretion
- B. APPROVAL OF AGENDA:**
- C. INQUIRY AS TO CONFLICTS OF INTEREST:**
- D. SPECIAL PRESENTATIONS:**
1. Solar Energy Farms – Jeremy Jones, Prism Power Partners
- E. CONSENT CALENDAR:** The purpose of the consent calendar is to expedite business by grouping non-controversial items together for one Commission motion without discussion. A request to remove any item for discussion later in the agenda from any member of the Commission, staff or public shall be granted.
1. **RECEIVE AND FILE**
 - a. Township Board Meeting Minutes 02/06/18
 - b. Township Board Special Meeting Minutes 02/22/18
 - c. Township Board Meeting Draft Minutes 03/06/18
 - d. Parks and Trails Committee Meeting Minutes 02/16/18
 - e. Parks and Trails Committee Meeting Draft Minutes 03/16/18
 - f. Capital Improvements Plan Committee Meeting Draft Minutes 02/16/18
 2. **ACTION:**
 - a. Adopt Planning Commission Meeting Draft Minutes 02/12/18
- F. ITEMS REMOVED FROM THE CONSENT CALENDAR**
1. _____
 2. _____
- G. CORRESPONDENCE:**
1. Post-Construction Acme Creek Monitoring: February 2018 Results – Barr Environmental
 2. County Planning Resolution – Jean Derenzy, Interim County Administrator
- H. PUBLIC HEARINGS:**
- I. NEW BUSINESS:**
- J. OLD BUSINESS:**
1. Zoning Ordinance Amendment 046 – Solar Energy Farms
- K. PUBLIC COMMENT & OTHER PC BUSINESS**
1. Zoning Administrator Report – Shawn Winter
 2. Planning Consultant Report – John Iacoangeli
 3. Township Board Report – Doug White
 4. Parks & Trails Committee Report – Marcie Timmins

ADJOURN:



MEMORANDUM

Planning and Zoning

6042 Acme Road | Williamsburg, MI | 49690

Phone: (231) 938-1350 Fax: (231) 938-1510 Web: www.acmetownship.org

To: Acme Township Planning Commission
 From: Shawn Winter, Planning & Zoning Administrator
 CC: Jeff Jocks, Counsel; John Iacoangeli, Planning Consultant
 Date: April 3, 2018
 Re: April 9, 2018 Planning Commission Packet Summary

A. LIMITED PUBLIC COMMENT

Open: _____ Close: _____

B. APPROVAL OF AGENDA

Motion to approve: _____ Support: _____

C. INQUIRY AS TO CONFLICTS OF INTEREST

Name: _____ Item: _____
 Name: _____ Item: _____

D. SPECIAL PRESENTATION

1. **Solar Energy Farms – Jeremy Jones, Prism Power Partners**
 Jeremy represents one of the companies that have expressed interest in utility-grade solar energy farms in Acme Township. He agreed to come this month to provide an overview on solar production, answer the questions some of you have submitted, and any additional questions that may arise. Having an member of the industry on hand may be very beneficial to the Commission's discussions.

E. CONSENT CALENDAR:

1. **RECEIVE AND FILE:**
 - a. Township Board Meeting Minutes 02/06/18
 - b. Township Board Special Meeting Minutes 02/22/18
 - c. Township Board Meeting Draft Minutes 03/06/18
 - d. Parks and Trails Committee Meeting Minutes 02/16/18
 - e. Parks and Trails Committee Meeting Draft Minutes 03/16/18
 - f. Capital Improvements Plan Committee Meeting Draft Minutes 02/16/18
2. **ACTION:**
 - a. Approve Draft Planning Commission Meeting Draft Minutes 02/12/18

Motion to adopt: _____ Support: _____

F. ITEMS TO BE REMOVED FROM THE CONSENT CALENDAR

1. _____
2. _____

G. CORRESPONDENCE:

1. **Post-Construction Acme Creek Monitoring: February 2018 – Barr Environmental**

2. County Planning Resolution – Jean Derenzy, Interim County Administrator

The County Planning Commission has waived its right under statute to review zoning ordinances and amendments. In the future, motions can be made to recommend approval directly to the Township Board. I do believe the County Planning Commission will still review master plans, but I will need to confirm.

H. PUBLIC HEARINGS:

1. None

I. NEW BUSINESS:

1. None

J. OLD BUSINESS:

1. Zoning Ordinance Amendment 046 – Solar Energy Farms

The draft contained in this packet is unchanged from the last time the PC met. The discussion was left trying to determine if a size limit should be placed on this specific use after one property owner stated he had been approached about a 160-acre installation. It was decided that Beckett & Raeder would perform an analysis of the Township's overall suitability to determine how much land is actually viable for solar production, and therefore, whether a size limit is necessary. The analysis looked at the following variables:

- Amount of solar insolation during the winter solstice
- Slope orientation
- Sensitive/Conservation lands

From this analysis they were able to determine the number of acres in the B-4, B-3, and A-1 zoning districts that fall into three categories of suitability (presented in the enclosed report). The analysis also allowed for the amount of energy production on average throughout the year, measured in kilowatt hours/square meter. The minimum threshold typically accepted by the industry for viability is 3.5 kwhr/m². As the maps indicated, Acme Township is highly suitable for utility-grade solar energy farms.

The overall analysis that was conducted is quite impressive; I don't know that any other community in the state has taken such a fine-grained look at solar suitability. A previous report conducted by a separate organization analyzed the state, including Acme Township at a resolution of 4 km². This analysis was conducted at a 1 m² resolution, significantly more detailed than what's ever been done before.

Rather than going over every aspect in a memo, I recommend looking over the data and having a discussion at the meeting. The summary at the beginning of the report does a great job providing an overview of the analysis. The PC will need to decide whether the data supports setting a size limit on potential future solar energy farms. Moreover, if there are additional parameters the PC would like included in the analysis, then the PC will need to identify those variables for additional analysis. If the PC is satisfied with the ordinance language at this time, then the following motion is suggested for consideration:

Motion to recommend approval of zoning ordinance amendment 046 which will allow and regulate utility-grade solar energy farms to the Township Board.

K. PUBLIC COMMENT & OTHER PC BUSINESS:

1. Public Comment:

Open:

Close:

2. Zoning Administrator Report: Shawn Winter

- **Permits** (since February 12, 2018)
 - Planned Developments – 1
 - PD 2016-01 Dan Kelly's Resort & Mixed-Use Community
 - Site Plan Reviews – 1
 - SPR 2018-01 Urban Diversions, 5300 Bunker Hill
 - Land Use Permits – 6
 - LUP 2018-04 New Home, 9283 Bayridge
 - LUP 2018-05 Antennae Work, GT Resort & Spa
 - LUP 2018-06 Urban Diversions, 5300 Bunker Hill
 - LUP 2018-07 New Home, 7425 Deepwater Point
 - LUP 2018-08 Accessory, Holiday Rd
 - LUP 2018-09 New Home, 5091 Arrowhead Ct
 - Sign Permits – 2
 - SIGN 2018-03 Permanent, Pro Fireworks, 5700 US-31 N
 - SIGN 2018-04 Permanent, InMotion Chiropractic Care, 4472 Mt. Hope
 - Special Events – 1
 - SE 03-24-18 GTRLC, Maple Bay
 - Vacation Homes – 2
 - VH 2018-01 3590 Bunker Hill
 - VH 2018-02 7577 Bates
- I have received three applications for tourist homes, but have not processed them yet because I need to finish the "Good Visitor Guidelines" document.
- I would like to propose a zoning map amendment for the parcels south of M-72, roughly on either side of Lautner Rd. This includes the land of the Grand Traverse Town Center (GTTC), including Meijer, as well as the properties on the other side of Lautner. The GTTC is currently zoned R-3, but has been approved as a mixed-used development. The land on the other side of Lautner, currently zoned B-3. The future land use map shows these properties "Town Center", which is defined as:

This category of land use encourages the development of an integrated, walkable, mixed-use, high density area located in the core of the Township as envisioned in the Acme Shores Placemaking Plan. The hallmark of this future land use will be the seamless connection between public and private properties with well-designed buildings and public spaces, streetscapes, landscapes, signage, access and circulation for both motor & non-motorized traffic and pedestrians, facilities for public transportation, low impact storm water control, dark sky sensitive lighting, and other elements that reflect and add to a vibrant business district. As noted in the Master Plan, new commercial developments shall take place in high-density areas so that infrastructure installation, wherever needed, will be carried out efficiently. The main objectives in this category is to provide for commercial development in ways that will create an economically healthy and thriving environment for the benefit of all Acme residents and visitors to the Township, and to provide for commercial establishments that not only supply goods and services but also offer employment opportunities to Acme residents. Another objective is to encourage new residential growth with densities upwards of 14 to 18 units per acre.

Public infrastructure, water, sanitary sewer, roads, and non-motorized

pathways will be required to fully develop and link properties into a cohesive community mixed use district. For the Town Center to work effectively and efficiently, connections among Acme Village, the Grand Traverse Town Center, the former Lautner Commons project property, and the Grand Traverse Resort and Spa are essential.

The intended uses in this category include, but are not limited to: general merchandise stores, restaurants (non-fast food types), coffee shops, professional offices of various kinds, motels, furniture stores, and personal service businesses (hair salons, spas and so on). This category also contemplates the possibility of mixed-use with residential dwellings above the first floor. Land uses in the Commercial areas should comport with the policies and actions of the Cornerstone entitled, "Create a Vibrant, High-Quality, Compact Commercial and Mixed-Use District," "Focus on Infrastructure Improvement," and "Encourage Recreation-based Tourism."

My recommendation is to rezone these properties, (indicated in the attached maps) to CF – Corridor Flex. This zoning classification allows for the development pattern described above. The GTTC mixed-use development approval already allows for this style of development. However, if the Tribe is successful in placing the property into trust, the change would be moot. The property on the other side of Lautner, zoned B-3 Planned Shopping Center, represents a development pattern of a bygone era (strip malls, stricter regulations on residential uses, etc.) and is not representative of the Town Center future land use description. The draft zoning ordinance rewrite already recommends changing these properties to CF. There is current interest in this property, and due to the lengthy process of having a new zoning ordinance adopted, amending the zoning map at this time will facilitate a development pattern desired in the master plan.

If the PC is interested in further discussing this proposal, then I would ask to have the item placed on next month's agenda.

3. **Planning Consultant Report:** John Iacoangeli
4. **Township Board Report:** Doug White
5. **Parks & Trails Committee Report:** Marcie Timmins

L. **ADJOURN:** _____
Motion to adjourn: _____ **Support:** _____



APPROVED

**ACME TOWNSHIP REGULAR BOARD MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
Tuesday, February 6, 2018, 7:00 p.m.**

CALL TO ORDER WITH PLEDGE OF ALLEGIANCE at 7:00 p.m.

Members present: C. Dye, A. Jenema, D. Nelson, P. Scott, J. Zollinger, D. White

Members excused: J. Aukerman

Staff present: V. Donn, Recording Secretary

A. LIMITED PUBLIC COMMENT:

Judge Kevin Elsenheim, from the Thirteenth Judicial Circuit Court, submitted an annual report and spoke on the increase of crime in relation to drugs and controlled substance abuse of opioids.

B. APPROVAL OF AGENDA:

Motion by Nelson to approve agenda with the addition of Metro under, E. REPORTS, Medical Marihuana Applications under, K. NEW BUSINESS #7, and adding to, I. CORRESPONDENCE letter from Laura Rigan on the Farmland Preservation Program, supported by White. Motion carried unanimously.

C. APPROVAL OF BOARD MINUTES: 01/09/18

New procedure will be implemented on approval of the board minutes. They will stand approved as presented unless a board member has any questions or revisions.

D. INQUIRY AS TO CONFLICTS OF INTEREST: None

E. REPORTS

- a. Clerk – Dye:** Reported the MTA Conference will be held at the Grand Traverse Resort April 23-26 encouraging the board of educational opportunities right here in our township. If they would like to attend a half day or full day session that is a possibility, the Early Bird registration ends March 27.
- b. Parks:** Jenema updated the board on the Tart Trail Acme Connector Trail involving easement approval by Holiday Inn Express once approval is in place planning will begin with the engineers for the connection from Bunker Hill to Hope Road. The 2% Grant from the Tribe for \$15,000 will help pay for the survey and engineering costs. Zollinger added, still waiting to hear back from the State regarding their approval of bids before we can proceed with the Grant. Helsel's Tree Service will begin next week removing trees preparing for parking area in Bayside Park.
- c. Legal Counsel – J. Jocks:** No report
- d. Sheriff – Brian Potter:** Zollinger reported due to medical issues there will be a replacement for Potter until he can return.
- e. County – Carol Crawford:** No report
- f. Roads – Jason Gillman:** Reported working on procedures for best way to direct traffic flow from east to west in the area. The road commission is opposing the MI House Right of Way Bill which leaves them responsible for cleaning up clutter and damages from another company after they complete a job.
- g. Metro – Steve Apostol** gave a report on incidents in the area and apparatus updates.

F. SPECIAL PRESENTATIONS: None

G. CONSENT CALENDAR

APPROVED

1. RECEIVE AND FILE:

- a. Treasurer's Report
- b. Clerk's Revenue/Expenditure Report and Balance Sheet
- c. North Flight December report
- d. RecycleSmart January 2018
- e. Winter Tax Assessment Newsletter
- f. Draft Unapproved meeting minutes
 1. Planning Commission 01/08/18
 2. CIP minutes 01/19/18
 3. Parks & Trails 12/15/17 and 01/19/18

2. APPROVAL:

1. Accounts Payable Prepaid of \$627,955.56 and Current to be approved of \$10,552.23
(Recommend approval: Clerk, C. Dye)

Motion by Nelson to approve Consent Calendar as presented minus the accounts payable prepaid, supported by Scott. Roll Call motion carried unanimously.

H. ITEMS REMOVED FROM THE CONSENT CALENDAR:

Dye requested Current to be approved of \$10,552.23 removed from the Consent Calendar. Two invoices to be added to this total, one invoice from BS &A and second from Gosling Czubak changing the total amount to be approved to \$15,525.23.

Motion by Nelson to approve revision of \$15,525.23 for Current to be approved Accounts Payable, supported by White. Roll Call motion carried unanimously.

I. CORRESPONDENCE:

1. Email dated 01/26/18 Sarah U'Ren/Grand Traverse Bay Watershed plan update
2. Memo dated 02/05/18 Laura Rigan Update Township Farmland Preservation Program

J. PUBLIC HEARING: None

K. NEW BUSINESS:

1. Zoning Ordinance Amendment 047 - Hoxsie Rezone Report

Zollinger presented to the Board the amendment for rezoning on Hoxie property. The Planning Commission has reviewed this request and held a Public Hearing before it has been presented to the Board tonight for approval. Discussion was held on how everything went for Planning Commission's review.

Motion by Jenema to approve the proposed Zoning Ordinance Amendment 047 to amend the Acme Township Zoning Map by rezoning ten (10) acres of land owned by Dennis and Judy Hoxsie, doing business as Orchard Hill Farms LLC., from A-1 Agricultural to B-4 Material Processing and Warehousing as indicated in the survey, supported by Dye. Motion carried unanimously.

2. Zoning Ordinance Amendment 048 - Short-Term Rentals

Zollinger presented the changes for Short Term Rental Zoning Ordinance Amendment 048 to make current and correct definitions, citations and language in the amendment.

Motion by Jenema to approve the proposed Zoning Ordinance Amendment 048, as presented, amending the Acme Township Zoning Ordinance to reflect the necessary changes resulting from the adoption of the Acme Township Short-Term Rental Ordinance by deleting no longer relevant definitions and citations, adding new definitions that relate to the operation of short-term rentals, and by adding to the relevant districts the locations where vacation homes and tourist homes are allowed to operate by right with a license from Acme Township, supported by White. Motion carried unanimously.

3. Resolution Budget Adjustment 209 Cemetery

There has been an increase in burials for 2017/2018 year, about 15 so far. Current budget amounts for cemetery expense will require a budget increase for upcoming burials in the spring.

Motion by Scott to approve of Resolution Budget Adjustment R-2018-4 moving \$5,000 to make fund

APPROVED

adjustments to bring the 2017/2018 Budget in balance for the 2017/2018 budget, supported by Nelson. Motion by Roll Call carried unanimously.

4. Resolution Budget Adjustment 207 Police Protection and 212 Liquor

Every year we transfer money from the Liquor fund into the Police Protection to offset the expense of our Community Police officer doing inspections for Liquor Licenses.

Motion by Nelson to approve Resolution R-2018-5 Adjustment to move \$8,600 from 212 Liquor into 207 Police Protection Fund for the 2017/2018 budget, supported by White. Motion by Roll Call carried unanimously.

5. Land transfer Lot 18 Deepwater Point (Gingras property)

Zollinger presented to the Board a land transfer of 10 feet on Lot 18 Deepwater Point owned by Gingras, requesting that 10 feet be transferred over to Lot 19 Deepwater and noted in the legal land description. Because it is a Platted Lot this transfer will require Board approval.

Motion by White to approve Land transfer of 10 feet belonging to Lot 18 Deepwater Point to be transferred over to Lot 19 Deepwater Point as presented, supported by Jenema. Roll Call motion carried unanimously.

6. East Bay Harbor request to use park land for access to do repair work

Zollinger explained that a written request by East Bay Harbor asking permission to use park land for them to contract Elmer's crane and use township property for repair work on some of their docks and sea wall. Discussion by the Board on the responsibility of East Bay Harbor to repair any damage done on the property from the equipment used for repair.

Motion by White to have Supervisor consult with township attorney to draw a letter of agreement with terms covering any damage that may occur during repair work, supported by Nelson. Motion carried unanimously.

7. Medical Marihuana Applications

Zollinger reported Shawn Winter Zoning Administrator, has received over 50 Medical Marihuana applications that require hours of processing with a deadline to meet. Discussion by the Board on how to help Shawn accomplish this. It was suggested getting a temporary person to help facilitate in getting the applications completed by the March deadline. Discussed if John Iacoangeli from Beckett & Raeder get involved or Sarah Lawrence who is available, discussed pros and cons of both.

Motion by Nelson to secure Sarah Lawrence with a hourly paid basis of \$22 not to exceed 100 hours to assist Winter and supervised by Supervisor, supported by White. Motion carried by Roll call, five in favor (Dye, Zollinger, Jenema, White and Nelson), opposed by one (Scott).

L. OLD BUSINESS: None

PUBLIC COMMENT & OTHER BUSINESS THAT MAY COME BEFORE THE BOARD:

Jenema commented on the CIP (Capital Improvement Plan) that the Planning Commission has been working on, a Public Hearing is scheduled for February. This will possibly come to board in April.

Nelson asked about the pipe line work being done in Acme. Zollinger informed these are 4-inch gas lines being replaced with 6-inch.

ADJOURN: Motion to adjourn by Jenema, supported by Scott. Meeting adjourned at 8:18 pm.



APPROVED

ACME TOWNSHIP SPECIAL BOARD MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
Thursday, February 22, 2018, 8:15 a.m.

CALL TO ORDER WITH PLEDGE OF ALLEGIANCE
ROLL CALL

Members present: J. Aukerman, C. Dye, D. Nelson, J. Zollinger
Members excused: A. Jenema, P. Scott, D. White
Staff present: None

A. LIMITED PUBLIC COMMENT:

East Bay Supervisor, Beth Friend, thanked the Board for having the meeting and the joint efforts to work on this issue.

B. APPROVAL OF AGENDA:

Motion by Nelson, seconded by Ackerman to approve agenda. Motion carried unanimously.

C. NEW BUSINESS:

1. Department of Treasury Grant Application Approval Joint Uses Sewer Acme and East Bay Townships, per joint uses agreement

Zollinger referred to the packet on the table showing the location of the project Pump Station No. 2 Force main rehabilitation. Aukerman spoke about cost and joint flow percentage, Acme Township is 51.2% and East Bay 48.8%. Approximate cost around 600 thousand dollars. Aukerman will be partnering with East Bay Supervisor, Beth Friend.

Motion by Aukerman, seconded by Nelson, to support applying for the Department of Treasury Grant Application for joint use sewer project between Acme and East Bay Township. Motion carried unanimously.

Motion by Nelson, seconded by Dye to approve Resolution R-2018-6 Approving Grant Application for the Michigan Department of Treasury Competitive grant assistance program in the East Bay & Acme Townships collaboration on Major Sewer System Rehabilitation. Motion carried unanimously by Nelson, Aukerman, Dye, Zollinger.

PUBLIC COMMENT & OTHER BUSINESS THAT MAY COME BEFORE THE BOARD: None

Adjourn at 8:36 a.m.



DRAFT UNAPPROVED

**ACME TOWNSHIP REGULAR BOARD MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
Tuesday, March 6, 2018, 7:00 p.m.**

CALL TO ORDER WITH PLEDGE OF ALLEGIANCE at 7:00 p.m.

Members present: C. Dye, D. Nelson, P. Scott, J. Zollinger, D. White, J. Aukerman

Members excused: A. Jenema

Staff present: S. White, Planning & Zoning Administrator, V. Donn, Recording Secretary

A. LIMITED PUBLIC COMMENT:

Gordie LaPointe, 6375 Plum Dr., expressed his concerns on the cost of the water system study and source of funding. He also asked for clarification on the number of received Medical Marihuana applications and fees.

B. APPROVAL OF AGENDA:

Motion by White to approve agenda as presented, supported by Scott. Motion carried unanimously.

C. APPROVAL OF BOARD MINUTES:

The meeting minutes of **February 6, 2018**, and a **Special meeting February 22, 2018**, are approved as presented.

D. INQUIRY AS TO CONFLICTS OF INTEREST: None

E. REPORTS

- a. Clerk - Dye:** Reported on a new software program for Qualified Voter File being implemented by the State of Michigan, this program connects Acme Twp. voter registration with Secretary State office, training is required. The cemeteries so far have had 16 burials- 11 residents and 5 nonresidents in answer to question White had from last month.
- b. Parks:** Zollinger reported bids to contract for additional improvements to Bayside Park, went out Monday and are due back on March 22. Removal of the trees has been completed to prepare for the concrete work.
- c. Legal Counsel - J. Jocks:** No report
- d. Sheriff:** No report
- e. County - Carol Crawford:** No report
- f. Roads:** No report

Zollinger informed there will be a budget kickoff meeting on March 13 to begin pulling data for a first draft with the final due in June.

F. SPECIAL PRESENTATIONS: Gosling-Czubak Acme Water study/Clyde Johnson/Mark Hurley

Clyde Johnson will soon be retiring with Mark Hurley, replacing Clyde as the township's new contact going forward. Johnson gave a presentation evaluating the Acme Township Water Systems study with multiple scenarios and estimated cost expectations. The study will now go to the Capital Improvements Program (CIP) Committee to categorize this as a priority.

G. CONSENT CALENDAR:

1. RECEIVE AND FILE:

- a. Treasurer's Report
- b. Clerk's Revenue/Expenditure Report and Balance Sheet
- c. North Flight January Report
- d. Draft Unapproved meeting minutes
 - 1. Planning Commission 02/12/18
 - 2. CIP minutes 02/16/18
 - 3. Parks & Trails 02/16/18

2. APPROVAL:

- 1. Accounts Payable Prepaid of \$481,680.78 and Current to be approved of \$5,724.00
(Recommend approval: Clerk, C. Dye)

Motion by Nelson to approve Consent Calendar as presented, supported by White. Roll Call motion carried unanimously

H. ITEMS REMOVED FROM THE CONSENT CALENDAR: None

I. CORRESPONDENCE:

- 1. Letter from Charlene Abernethy regarding the Dan Kelly Project

J. PUBLIC HEARING: None

K. NEW BUSINESS:

1. Approval of Planned Development Application 2016-01 Dan Kelly

Winter provided a brief introduction of the application that has been submitted for the Dan Kelly Planned Development along M-72. Nathan Elkins of Influence Design Forum, Traverse City presented a rendering on the Planned Development for the property. The development would consist of commercial businesses, multi and single-family homes. An overview was given of the various dimensions of housing, parking, roads, walk ways, bike trail access, water features, landscaping, storm water usage and the infiltration system. The project will be completed in phases as housing is sold. Each phase will not begin until the last one is near completion and modifications deviating from the original plan will go before the Zoning Commission for approval.

Motion by Aukerman to approve Planned Development Application 2016-01 as present with all documents and correspondence submitted, and as reflected in the Planned Development Agreement and Finding of Facts, supported by Scott. Roll Call Motion carried unanimously.

2. Annual Boom Boom 4th of July Fireworks Donation

Traverse City Boom Boom Club has contacted the township asking for a \$300 contribution to help offset the cost of the fireworks display on the 4th of July.

Motion by Nelson for approval to contribute \$300 by Acme Township for the 4th of July Fireworks display, supported by Dye. Roll Call Motion carried unanimously.

3. Additional information now reported on Balance Sheet Report

There was a discussion with explanation of each of the new GL numbers and names for restricted and committed funds, that will now appear on Balance Sheet Report under Fund Balance section for 101 General Fund and 590 Sewer Fund. Using the new GL numbers on the Balance Sheet Report will help the Board keep track of these funds.

These are the added lines:

101-000-378.000 - PA48 Metro Fund - Restricted

DRAFT UNAPPROVED

101-001-378.001 - Public Broadcast Equip Fund-Restricted
101-000-382.000 – Self Fund Accts (Payable 6 Months) – Committed
101-000-382.003 - Septage Plant Bond Buyout-Committed
101-000-382.004 - Township Hall/Community Ctr- Committed
101-000-382.005 - GTTC Engineer Project Mngt – Committed
101-000-390.000 – Fund Balance

590-000-382.000 - Self Fund Accts (Payable 6 months) – Committed
590-000-382-001- Replacement
590-000-382.002 - Improvement
590-000-390.000 - Fund Balance

4. Proclamation: April 2018 as Social Host Responsibility Month

A program initiated by Up North Prevention asking Acme Township to proclaim April as a Social Host Responsibility Month against the dangers of underage drinking.

Motion by Dye to approve April as the 2018 Social Host Responsibility Month, supported by Nelson. Motion carried unanimously.

L. OLD BUSINESS: None

PUBLIC COMMENT & OTHER BUSINESS THAT MAY COME BEFORE THE BOARD:

Zollinger reported the sewer bypass around East Bay will be ready after one more cut in. Ground fill in, paving and clean-up will be completed in the Spring. Because of the way the gravity flow is designed around the bay, there will still be some flow from Acme to East Bay #2. The buy-in amount to East Bay will change with the completion of the bypass.

ADJOURN: Meeting adjourn by Zollinger at 8:55 pm

ACME TOWNSHIP PARKS & TRAILS MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
February 16th, 2018 8:30 a.m.

ROLL CALL:

Committee:	X	Feringa	X	Heflin	X	Heffner	X	Jenema
	X	Smith	X	Timmins	excused	Wentzloff		
Advisory:		Heinert	X	Kushman				
Staff:		Winter						

A. PUBLIC COMMENT:**B. APPROVAL OF AGENDA: Motion to approve agenda Timmins, 2nd. By Heflin.
Motion carries****C. INQUIRY AS TO CONFLICTS OF INTEREST: noNe****D. CORRESPONDENCE: Kevin's email summary (not read in)****E. ACTION:**

1. Approve Parks & Trails Minutes 01/19/18
Motion by Heffner, seconded by Heflin- to approve the 01/19/18 meeting minutes with the correction under Old business; trails, b and c to remove extra wording.
Motion carries

F. OLD BUSINESS:

1. **Bayside Park Updates- Kevin's email referenced.**
Jenema- still waiting for approval from the State MDNR to get the final approval to be able to put out the large bid package for bayside park.
Went over tree pricing. Actual price was more than 3 times the estimated price in the grant. Unexpected price increases like these may lead to small design changes in order to meet budget.
2. **Trail Updates**
 - a. *Acme Connector Trail Kushman-*
Feast of Victory and Samaritas Easements- Kushman-Feast of Victory had a meeting with the board members on 2/15, Tart is working to move the letter of commitment along, there are different people in place now and a few new questions are coming up. Shawn has been great at working with the church and answering their questions. These meetings are to secure a letter of commitment, no talk of an easement as of yet, that is the next step needed in order to do the survey work to start the engineer design.
Kushman also talked about working with Samaritas. John DeMarch is still willing to work to help facilitate the agreement, although he is now retired from there.
 - b. *TVC2CHX Trail - Jenema went to the open house at the cider house. There was a large turnout, very diverse.*
Preliminary design- Elk Rapids is ready to begin that process, they have been very actively raising funds. Jenema made it clear Acme supports the trail connector but cannot, at this time, financially donate to it due to all the other work Acme has in process.
Kushman drafted a proposal for preliminary design work from Elk Rapids to Maple Bay. Kushman asked Jenema if Acmes townships resolution of support, would support the preliminary design work all the way from Elk Rapids to Acme township. Jenema talked

with Zollinger and they agreed it would. Acme will not be putting in any money towards the preliminary design work. The cost will be covered by Tart and Elk Rapids. The first phase of construction would still be planned from Elk Rapids down to Maple bay. Hope to have the process started as soon as April and the preliminary design finished by December 2018.

Kushman still working with Holiday Inn express, Still raising concerns about if problems arise on the trail. Other properties that support the trail along with TART have been working to reassure the Holiday Inn. The township has to wait to begin the engineering plan until all the easements are signed.

Kushman also touched on how hard it has been to keep up with snow removal along 31. Heffner asked about the time frame to finish the trail.

Jenema gave an update on the sewer, which is the reason for the trail being ripped up. Hoping for a final finish date of mid-May.

i. Scope of Design Work-

ii. Elk Rapids Trail Team Liason - Kushman asked for a representative from Acme to join the Elk Rapids committee.

Timmins volunteered as long as the meeting times, which are unknown at this time, can work with her schedule.

3. Park System Signage –

Feringa is waiting to meet with Valley city signs until the Tribe is ready with their branding. Will keep on the agenda for March.

4. Park Rules

a. *Update & Feedback-* Smith and Heflin went over all the input from Jeff Jocks, along with research they had done. Added section 2) prohibited activities. (please see attached sheet). Under section 3) b. Talking out wording pertaining to walking along the beaches below the high water mark. Leaving in 3) m- about intoxication. Adding new highlighted language under 3) p.

Under sections 4, 5 and 7 it was decided to keep the current language.

Will continue to work further on the park rules, with plans to get a draft to the board in April.

G. NEW BUSINESS:

1. None

H. PUBLIC COMMENT: none

**ADJOURN: Motion to adjourn at 9:57 Timmins, 2nd Feringa
Motion carries**

ACME TOWNSHIP PARKS & TRAILS MEETING - MINUTES
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
March 16th, 2018 8:30 a.m.

ROLL CALL:

Committee:	excused	Feringa	x	Heflin	excused	Heffner	x	Jenema
	excused	Smith	x	Timmins	x	Wentzloff		
Advisory:		Heinert	x	Kushman				
Staff:	excused	Winter						

Also present was Jake from the land conservancy with two americorp volunteers

PUBLIC COMMENT:

APPROVAL OF AGENDA: Motion to approve the agenda Timmins, 2nd. By Wentzloff
 Motion carries

A. INQUIRY AS TO CONFLICTS OF INTEREST:**B. CORRESPONDENCE:****C. ACTION:**

1. **Approve Parks & Trails Minutes 02/16/18-** Motion to approve the park and trail minutes from 2/16/18. Heflin, 2nd by Timmins Motion carries

D. OLD BUSINESS:

1. **Bayside Park Updates-** bid packages went out, an update was mailed to the committee by Klaus. Gordie LaPointe-6375 Plum Drive Williamsburg, Mi 49690- LaPointe wanted to know if there were any detailed plans for the park that showed exactly what the end product will be. Jenema explained that the township has sent out detailed plans to get the bid process started but that what the township ends up with will depends on the cost of the bid packages that come back. Jenema explained to LaPointe that the bid packages contain the detailed plans the township won't know exactly what it will be getting until the township hears back from contractors with the bids. Discussion followed on the scope of the bid packages.
2. **Trail Updates** - Kushman met with the Feast of Victory. The church will be signing the letter of commitment. The trail will run along the south end of the church property.
 - a. *Acme Connector Trail*
 - b. *TVC2CHX Trail* - Discussed Elk Rapids plans and the committee Elk Rapids is forming. **Motion by Wentzloff 2nd. By Heflin, to recommend Marcie Timmins to represent Acme township at the Elk Rapids connector trail meetings. Motion carries**
3. **Park System Signage** - leave on the agenda,
4. **Park Rules Ordinance** - Heflin went over the changes discussed at the February meeting. Cut down the definition of trail under section 2*(need to listen to the tape to fill in correct wording.)

Motion by Wentzloff 2nd. By Timmins to recommend to the board the approval of the revised Township park ordinance pending approval of legal review. Motion carries

Motion Wentzloff 2nd. By Heflin to support trail alignment of Saylor park and Winterwoods to share use of both facilities. Motion carries

E. NEW BUSINESS:

1. None

F. PUBLIC COMMENT none

**ADJOURN: Motion to adjourn at 10:06 Timmins, 2nd. By Wentzloff
Motion carries.**



ACME TOWNSHIP CIP MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
February 16, 2018 9:30 a.m. (immediately following Parks & Trails meeting)

CALL TO ORDER AND ROLL CALL: Meeting was called to order at 10:03 at conclusion of the Parks & Trails meeting.

Committee:	X	Aukerman	X	Feringa	X	Jenema
Staff:	X	Winter				

- A. LIMITED PUBLIC COMMENT:** None
- B. APPROVAL OF AGENDA:** Motion by Feringa to approve agenda, seconded by Aukerman.
- C. INQUIRY AS TO CONFLICTS OF INTEREST:** None
- D. ADMINISTRATIVE ACTION:**
1. Adopt CIP Minutes from 01/19/18. Motion by Feringa to approve CIP minutes from 01/19/18; seconded by Jenema.
- E. CORRESPONDENCE:** None
- F. OLD BUSINESS:** None
- G. NEW BUSINESS:**
1. Public Hearing feedback from Planning Commissioners' 02/12/2018 meeting
Feringa commented that public input on proposed projects is still being accepted by the PC.
 2. Planning Commissioners' input/updates to CIP Scoring chart
Discussed Planning Commissioners' scoring changes made at the 02/12/2018 meeting and included with the CIP 02/16/18 meeting packet.
 3. Discussion on project estimates
CIP committee looked at each project on PC's updated scoring sheet and assigned an owner who will be responsible to research the project and determine a realistic cost range, in 2018 dollars, to execute that project.
 4. Next steps and deadlines
The project owner needs to provide the following information to Shawn Winter by either March 9 or March 12. The information will be provided to the PC at a future meeting to help them rank/prioritize each project.
 - Paragraph explaining project description/scope
 - Budget/estimate range for the project
 - Possible funding sources for the project
- H. PUBLIC COMMENT:**
Local resident, Brian Kelley, requested that a project be added to the Planning Commissioners' list of scored projects. The CIP committee recommended he write a letter detailing his request to the Planning Commission Chairwoman, Karly Wentzloff, with cc to Shawn Winter.

ADJOURN: Motion by Feringa, seconded by Aukerman. Meeting adjourned at 11:15am.



**ACME TOWNSHIP PLANNING COMMISSION MEETING
ACME TOWNSHIP HALL
6042 Acme Road, Williamsburg MI 49690
February 12th, 2018 7:00 p.m.**

CALL TO ORDER WITH PLEDGE OF ALLEGIANCE 7:01 p.m.

ROLL CALL: Members present: K. Wentzloff (Chair), S. Feringa (Vice Chair), B. Balentine, D. Rosa, M. Timmins (Secretary), D. VanHouten, D. White

Members excused: none

Staff present: S. Winter, Planning & Zoning Administrator, J. Jocks (Counsel), John Iacoangeli, Planning Consultant, V. Donn, Recording Secretary

A. LIMITED PUBLIC COMMENT: None

B. APPROVAL OF AGENDA:

Motion by Timmins to approve the agenda adding under CORRESPONDENCE, G.2: Watershed Center letter sent by Heather Smith dated 02/08/18 and response email by Shawn Winter dated 02/08/18, supported by Balentine. Motion carried unanimously.

C. INQUIRY AS TO CONFLICTS OF INTEREST: None

D. SPECIAL PRESENTATIONS: None

E. CONSENT CALENDAR:

1. RECEIVE AND FILE

- a. Township Board Meeting Draft Minutes 01/09/18
- b. Parks and Trails Committee Meeting Draft Minutes 01/19/18
- c. Capital Improvements Plan Committee Meeting Draft Minutes 01/19/18

2. ACTION:

- a. Adopt Planning Commission Meeting Draft Minutes 01/08/18

Motion by White to approve Consent Calendar as presented, supported by Timmins. Motion carried unanimously.

F. ITEMS REMOVED FROM THE CONSENT CALENDAR: None

G. CORRESPONDENCE:

- 1. Cathy Dye, Clerk – MTA Conference
- 2. Watershed Center letter, Heather Smith dated 02/8/18

H. PUBLIC HEARINGS:

- 1. CIP Planning Commission Scoring
Paul Rundhaug, 3733 Bunker Hill Rd., questioned on the CPI graph why it had Pave Bunker Hill Rd. to Supply Rd. Wentzloff informed him there was an error in the graph it should have read Pave Bunker Hill Rd. to Williamsburg Rd. It will be revised in the graph.

Rachelle Babcock, 4261 Bartlett Rd., asked on the graph if Develop Road Program on residential

Road Improvements could be clarified.

I. NEW BUSINESS: None

J. OLD BUSINESS:

1. Capital Improvements Plan

A discussion was made to revise the CIP projects graph by removing Develop Road Program Focused on How Residential Road Improvements, combining New Fire Station 8 with Township Hall, reword the SAD items and keep Rebuild Deepwater Point Road on the list. Revisions along with potential funding sources and costs will be talked about at the CIP meeting to bring back to the March Planning Commission meeting.

2. Planned Development 2016-01 – IDF, Dan Kelly

Dan Kelly and Nathan Elkins of Influence Design Forum in Traverse City, were available for questions. Items on the Planned Development were discussed, Acme Creek monitoring and the short-term rentals of the apartments in the mixed-use neighborhood.

Motion by Timmins to recommend approval of Planned Development Application 2016-01 to the Township Board with drawings and supporting documents that have been submitted and the Planned Development Agreement as modified with removal in Short-term Rentals multi-family units above first floor mixed use, maintain the two-year water monitoring post construction, and removal of the trail in the wet land from the drawings, supported by Rosa. Motion carried unanimously.

3. Zoning Ordinance Amendment 046 – Solar Energy Farms

It was discussed if commercial solar energy farms are allowable under the provisions of the Purchase of Development Rights (PDR) agreements utilized by some property owners in the A-1 Agricultural District, and if there should be a maximum size, or land area, included in the ordinance language.

It was determined to do a GIS analysis and get a better idea on how much of the township is suitable for solar use. This information will be brought to the March Planning Commission meeting for further discussion.

K. PUBLIC COMMENT & OTHER PC BUSINESS

Paul Rundhaug asked for clarification on the project of Bunker Hill to Lautner Road on the CIP graph. Feringa let him know it will be reworded on the next CIP project list with a better description.

1. Zoning Administrator Report – Shawn Winter: Reported he received three land use permits and 56 applicants for Medical Marihuana. He is currently working with counsel to develop an efficient process for the initial review and feedback. Urban Diversions is currently working on a site plan to redevelop the former Chemical Bank building at the corner of US-31 and Bunker Hill. This project will qualify for review by the Site Plan Review Committee.

2. Planning Consultant Report – John Iacoangeli: No report

3. Township Board Report – Doug White: No report

4. Parks & Trails Committee Report – Marcie Timmins: Tree work has started in the park and bids have gone out for the larger projects.

ADJOURN: Motion to adjourn by Timmins, supported by Balentine. Meeting adjourned at 9:00

March 12, 2018

VIA E-MAIL

Mr. John Iacoangeli, Principal
Beckett & Raeder, Inc.
535 West William, Suite 101
Ann Arbor, MI 48013

**RE: FEBRUARY 2018 RESULTS
POST-CONSTRUCTION ACME CREEK MONITORING
GRAND TRAVERSE TOWN CENTER, ACME, MICHIGAN**

Dear Mr. Iacoangeli:

The purpose of this letter is to transmit the results of post-construction surface water monitoring of Acme Creek completed by Barr Engineering (Barr) in February 2018 on behalf of the Village at Grand Traverse, LLC (VGT) at the Grand Traverse Town Center (GTTC) site in Acme Township, Grand Traverse County, Michigan. As you are aware, post-construction monitoring activities were initiated in September 2015. This report presents the results of the second quarter of the third year post-construction monitoring event (Year 3/Quarter 2).

Post-construction stream sampling recommendations were outlined in the site development plan for the GTTC (Site Plan Approval for Phase I of the SUP)¹ and later incorporated into a site inspection, monitoring, and maintenance plan submitted to the Township in September 2015 (Monitoring Plan).² The goal of the post-construction monitoring program is to evaluate water quality in Acme Creek over time. To facilitate the monitoring program, two fixed testing locations--one at the upstream point where Acme Creek enters the property and one at the downstream point where Acme Creek leaves the site--have been established (see Figure 1). Baseline (pre-construction) water quality samples were collected from both locations on July 26, 2011.

The Monitoring Plan calls for the receiving water for the GTTC site (Acme Creek) to be monitored for dissolved oxygen concentration, water temperature, specific conductivity, pH, volatile organic compounds (VOCs), total organic carbon (TOC), e. Coli, total dissolved solids (TDS), total suspended solids (TSS), water velocity and elevation. The monitoring was performed on a monthly basis for a period of one year following the completion of construction. Monitoring is scheduled to be performed on a quarterly basis during post-

¹ The Village at Grand Traverse Phase 1, Stormwater Management Recommendations, King & MacGregor Environmental, Inc., December 22, 2011

² Inspection, Monitoring and Maintenance Plan for the Storm Water Management System, Horizon Environmental Corporation, September 2015

construction years 2 through 4 and on a semi-annual basis for post-construction years 5 and beyond. This quarterly (Year 3, Quarter 2) post-construction monitoring event was completed on February 13, 2018. The results of this sampling event along with the results of the pre-construction (baseline) and prior post-construction sampling events are provided on Table 1.

DATA SUMMARY/EVALUATION

Dissolved oxygen, water temperature, specific conductivity and pH were measured at both of the stream gauges using an YSI 556 multi-parameter water quality meter. The data collected at each stream gauge were compared to available water quality standards in the Part 4 Water Quality Standards of Part 31, Water Resources Protection (MCL 324.3101) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Part 4). The following provides a summary of these results:

- The dissolved oxygen concentrations at both the upstream (13.8 mg/L) and downstream (14.1 mg/L) stream gauges were higher than the minimum standard of 7.0 mg/L specified under Part 4.
- The water temperature at both the upstream (36.8°F) and downstream (36.8°F) stream gauges were identical. Both readings are below the maximum temperature in February specified under Part 4 for streams supporting cold water fish (38°F).
- The pH readings at both the upstream (7.76 S.U.) and downstream (7.88 S.U.) stream gauges were both within the pH range of 6.5 to 9.0 S.U specified under Part 4.

Stream samples were also collected for laboratory analyses of VOCs, TOC, TDS, TSS and e. Coli at both the upstream and downstream stream gauges. Laboratory data sheets are provided in Attachment I. A summary of the results compared to available water quality standards under Part 4 is provided as follows:

- VOCs were below laboratory detection limits at both the upstream and downstream gauges.
- The TDS concentrations at both the upstream (240 mg/L) and downstream (250 mg/L) stream gauges were significantly lower than the maximum TDS standard of 500 mg/L specified under Part 4.
- The upstream e. Coli concentration (10 colonies/100ml) and downstream e. Coli concentrations (6 colonies/100ml) were lower than maximum (300 colonies/100 ml) e.Coli concentration for total body contact.
- There was no significant difference in the TOC, TSS, and turbidity levels observed at the upstream and downstream locations.

Additional stream data, including water velocity and water elevation, were collected as part of this monitoring event. Field analyses for turbidity were completed using a Hach 2100P portable turbidimeter. Stream velocities were measured using a Flo-Mate Model 2000 flowmeter. The results of the additional data collected are summarized on Table 1.

Mr. John Iacoangeli

March 12, 2018

Page 3

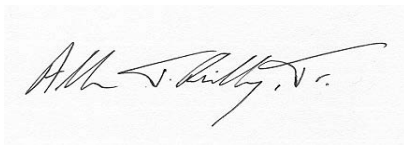
CONCLUSIONS

The results of this quarterly post-construction monitoring event (Year 3/Quarter 2) indicate that water quality in Acme Creek adjacent to the GTTC site meets or exceeds the Part 4 Water Quality Standards prescribed under Part 31 of the Water Resources Protection Section of NREPA (MCL 324.3101).

If you have questions or require additional information regarding this sampling event, please contact me at 616.554.3210.

Sincerely,

BARR ENGINEERING

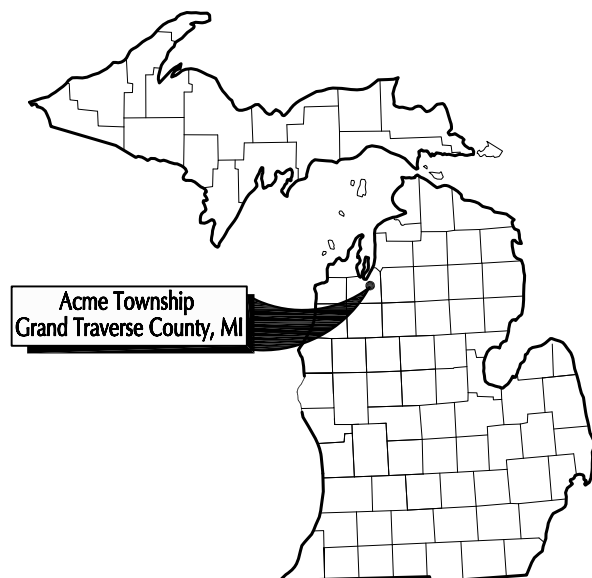
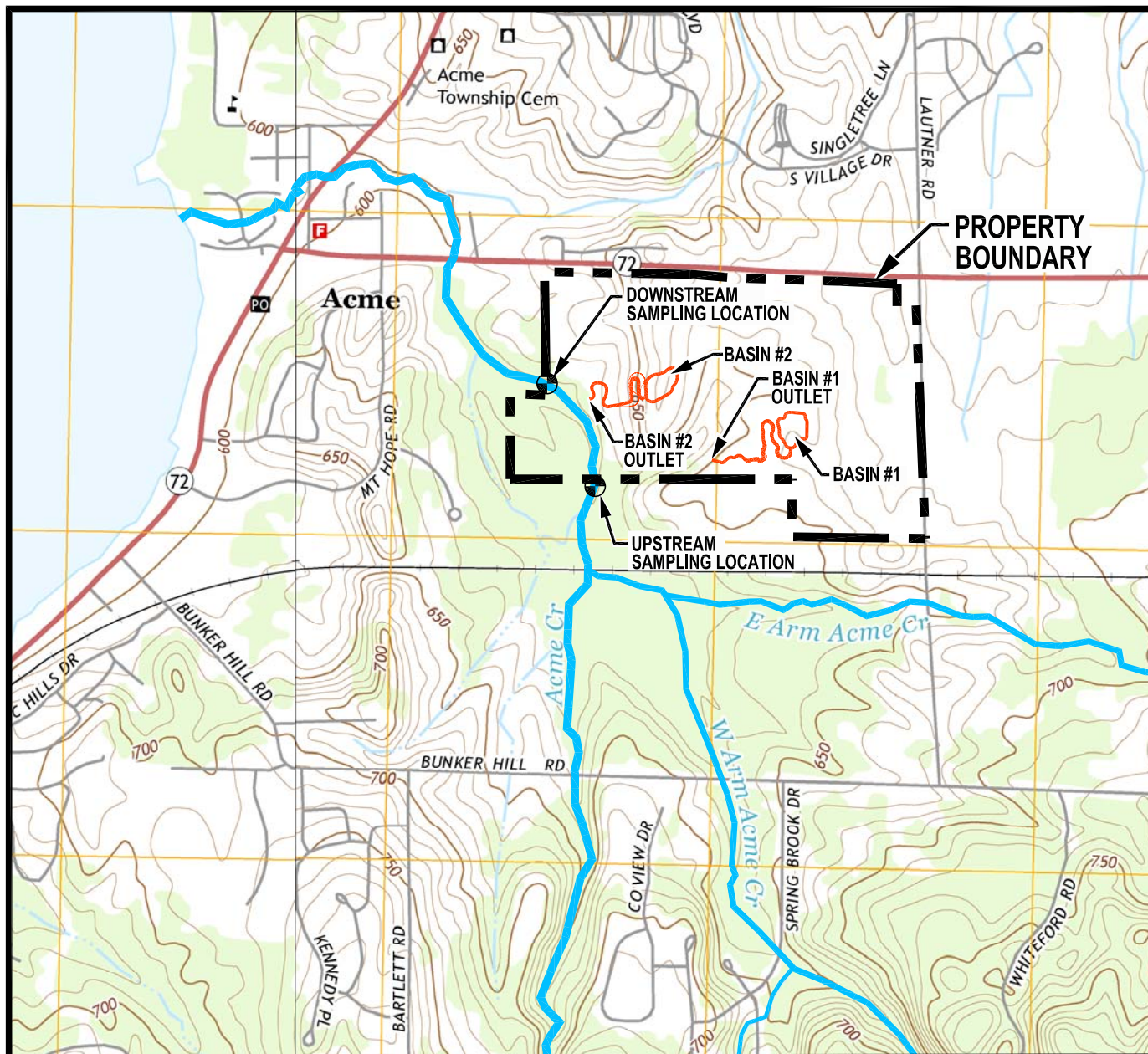
A handwritten signature in black ink, appearing to read "Allen J. Reilly, Jr.", is written over a light gray rectangular background.

Allen J. Reilly, Jr.

Project Manager

cc: J. Zollinger, Acme Township
S. Schooler, VGT

enclosures



LEGEND:

● - CREEK SAMPLING LOCATION

TAKEN FROM 7.5 MINUTE SERIES TOPOGRAPHIC MAP
TRAVERSE CITY SE AND WILLIAMSBURG 2014 QUADRANGLES
NORTH AMERICAN VERTICAL DATUM OF 1988
SCALE APPROX. 1" = 1600'

Figure 1

SITE LOCATION MAP

Village at Grand Traverse
Acme Township, Grand
Traverse County, Michigan



4771 50th Street SE
Grand Rapids, MI 49512

TABLE 1
ACME CREEK MONITORING RESULTS
GRAND TRAVERSE TOWN CENTER SITE
ACME TOWNSHIP, GRAND TRAVERSE COUNTY, MICHIGAN

	Part 4 Water	July 26, 2011 Baseline Pre-Construction		September 18, 2015 Post-Construction (Year 1/Month 1)		October 13, 2015 Post-Construction (Year 1/Month 2)		November 16, 2015 Post-Construction (Year 1/Month 3)		December 4, 2015 Post-Construction (Year 1/Month 4)		January 29, 2016 Post-Construction (Year 1/Month 5)		February 18, 2016 Post-Construction (Year 1/Month 6)	
Study Parameter	Quality Standards	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
Macroinvertebrates	NA	-5													
e Coli (colonies/100 ml)	(1)	100	72	55	81	129	53	29	17	22	27	20	36	33	31
Dissolved Oxygen (mg/L)	7 (minimum)	11.4 ⁽²⁾	11.6 ⁽²⁾	12.4	12.4	11.0	11.2	10.9	11.3	11.5	11.5	13.8	13.7	13.4	14.3
Water Temperature (°F)	(3)	56.1	55.6	49.1	49.0	50.2	50.9	46.3	46.0	42.9	42.8	39.0	39.0	36.1	35.8
Specific Conductivity (µs/cm)	NA	334	334	294	293	343	432	345	358	339	341	346	346	338	330
pH (S.U.)	6.5 to 9.0	8.36	8.39	7.70	6.95	8.24	8.23	8.81	8.82	8.21	8.05	8.03	8.08	8.05	7.33
Volatile Organic Compounds	Various	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Total Organic Carbon (mg/L)	NA	1.3	1	<1.0	1.0	1.6	1.5	1.6	1.4	1.4	1.4	1.4	1.4	<1.0	<1.0
Total Dissolved Solids (mg/L)	500	204	180	250	260	240	230	240	240	240	240	210	240	240	230
Total Suspended Solids (mg/L)	Visual Standard	11.2	4.4	<5.0	<5.0	8	7	4	5	5	6	5	4	6	9
Turbidity (NTU)	Visual Standard			1.99	1.48	3.06	3.10	2.3	1.7	3.0	2.4	0.93	0.98	1.52	1.61
Water Velocity (ft/sec)	NA	1.3	1.2	0.9	1.6	1.4	3.2	3.1	2.8	1.9	2.0	1.7	1.8	1.8	1.6
Water Elevation (NAVD 88)	NA	609.97	606.04	610.01	606.11	610.12	606.17	610.09	606.22	610.10	606.23	610.08	606.23	610.04	606.13

Notes:

1) Parial body contact maximum value 1,000 colonies per 100 ml (November 1 through April 30) and total body contact maximum value 300 colonies per 100 ml (May 1 through October 31)

2) Baseline sample reported as percent saturation. Value converted to mg/L utilizing reported temperature, specific conductivity and standard barometric pressure

3) Temperature varies seasonally

4) EPA 8260 scan. All compounds below laboratory detection limits

TABLE 1
ACME CREEK MONITORING RESULTS
GRAND TRAVERSE TOWN CENTER SITE
ACME TOWNSHIP, GRAND TRAVERSE COUNTY, MICHIGAN

	Part 4 Water	July 26, 2011 Baseline Pre-Construction		March 16, 2016 Post-Construction (Year 1/Month 7)		April 21, 2016 Post-Construction (Year 1/Month 8)		May 26, 2016 Post-Construction (Year 1/Month 9)		June 22, 2016 Post-Construction (Year 1/Month 10)		July 20, 2016 Post-Construction (Year 1/Month 11)		August 24, 2016 Post-Construction (Year 1/Month 12)	
Study Parameter	Quality Standards	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
Macroinvertebrates	NA	-5													
e Coli (colonies/100 ml)	(1)	100	72	86	126	43	21	16	243	19	30 ⁽⁵⁾	57	60 ⁽⁵⁾	66	75 ⁽⁵⁾
Dissolved Oxygen (mg/L)	7 (minimum)	11.4 ⁽²⁾	11.6 ⁽²⁾	11.4	11.7	11.3	11.3	11.8	12.1	10.9	10.8	10.1	9.7	11.2	11.3
Water Temperature (°F)	(3)	56.1	55.6	44.2	44.0	47.6	47.5	54	53.6	56.5	55.5	57.8	59.4	56.8	57.9
Specific Conductivity (µs/cm)	NA	334	334	482	534	345	324	234	326	422	433	219	220	284	287
pH (S.U.)	6.5 to 9.0	8.36	8.39	7.69	7.69	7.64	7.89	8.55	8.42	8.42	8.15	8.18	8.01	8.48	8.37
Volatile Organic Compounds	Various	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Total Organic Carbon (mg/L)	NA	1.3	1	3.5	3.6	1.2	1.3	0.8	0.7	1.0	1.6	1.3	1.2	0.9	1.0
Total Dissolved Solids (mg/L)	500	204	180	220	220	240	240	240	240	240	230	250	250	260	260
Total Suspended Solids (mg/L)	Visual Standard	11.2	4.4	20	33	7	4	2	4	4	6	4	5	9	8
Turbidity (NTU)	Visual Standard			10.4	12.9	2.0	2.9	1.0	3.0	2.8	2.6	2.6	2.2	2.2	2.0
Water Velocity (ft/sec)	NA	1.3	1.2	3.67	3.04	3.3	3.1	2.4	2.0	2.5	2.2	2.5	2.1	2.2	2.3
Water Elevation (NAVD 88)	NA	609.97	606.04	610.30	606.44	610.09	606.17	610.05	606.11	610.01	605.65	610	605.67	610.01	605.69

Notes:

1) Parial body contact maximum value 1,000 colonies per 100 ml (November 1 through April 30) and total body contact maximum value 300 colonies per 100 ml (May 1 through October 31)

2) Baseline sample reported as percent saturation. Value converted to mg/L utilizing reported temperature, specific conductivity and standard barometric pressure

3) Temperature varies seasonally

4) EPA 8260 scan. All compounds below laboratory detection limits

5) E coli. value reports the geometric mean of three samples collected at the downstream location (left, center, and right)

TABLE 1
ACME CREEK MONITORING RESULTS
GRAND TRAVERSE TOWN CENTER SITE
ACME TOWNSHIP, GRAND TRAVERSE COUNTY, MICHIGAN

	Part 4 Water	July 26, 2011 Baseline Pre-Construction		November 1, 2016 Post-Construction (Year 2/Quarter 1)		February 23, 2017 Post-Construction (Year 2/Quarter 2)		May 31, 2017 Post-Construction (Year 2/Quarter 3)		August 30, 2017 Post-Construction (Year 2/Quarter 4)		November 13, 2017 Post-Construction (Year 3/Quarter 1)		February 13, 2018 Post-Construction (Year 3/Quarter 2)	
Study Parameter	Quality Standards	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
Macroinvertebrates	NA	-5													
e Coli (colonies/100 ml)	(1)	100	72	39	18 ⁽⁵⁾	23	31	45	53	31	38	41	73	10	6
Dissolved Oxygen (mg/L)	7 (minimum)	11.4 ⁽²⁾	11.6 ⁽²⁾	10.5	10.5	9.9	9.7	9.4	10.1	9.6	9.7	11.8	11.7	13.8	14.1
Water Temperature (°F)	38 ⁽³⁾	56.1	55.6	51.4	50.5	43.8	44.0	50.2	50.0	53.8	54.1	43.5	44.2	36.8	36.8
Specific Conductivity (µs/cm)	NA	334	334	740	740	330	353	474	497	209	208	306	359	355	324
pH (S.U.)	6.5 to 9.0	8.36	8.39	8.10	8.13	8.79	8.58	7.98	7.96	8.47	8.46	7.92	7.27	7.76	7.88
Volatile Organic Compounds	Various	(4)	(4)	Toluene 2 ⁽⁴⁾	Toulene 3 ⁽⁴⁾	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Total Organic Carbon (mg/L)	NA	1.3	1	1.4	1.5	1.8	1.8	1.6	1.7	0.6	0.5	0.9	1.3	18	25
Total Dissolved Solids (mg/L)	500	204	180	240	240	240	250	240	250	240	240	250	240	240	250
Total Suspended Solids (mg/L)	Visual Standard	11.2	4.4	5	5	6	4	4	7	4	4	8	7	5	6
Turbidity (NTU)	Visual Standard			0.3	1.2	2.0	2.0	1.7	1.8	2.6	3.0	3.3	3.2	5.4	8.5
Water Velocity (ft/sec)	NA	1.3	1.2	2.11	1.91	2.31	2.01	1.78	2.28	2.4	2.3	0.87	0.48	0.86	0.42
Water Elevation (NAVD 88)	NA	609.97	606.04	610.11	605.81	610.08	605.77	610.00	605.69	609.96	605.65	610.08	606.24	610.00	606.10

Notes:

1) Parial body contact maximum value 1,000 colonies per 100 ml (November 1 through April 30) and total body contact maximum value 300 colonies per 100 ml (May 1 through October 31)

2) Baseline sample reported as percent saturation. Value converted to mg/L utilizing reported temperature, specific conductivity and standard barometric pressure

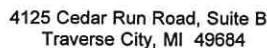
3) Temperature varies seasonally (February Value Shown)

4) EPA 8260 scan. All compounds below laboratory detection limits except as noted.

5) E coli. value reports the geometric mean of three samples collected at the downstream location (left, center, and right)

ATTACHMENT I

LABORATORY DATA SHEETS



Phone: (231) 946-6767
Email: shanna@sosanalytical.com

Client / Company Name : BARO

Project # / WSSN # :

Sampling Company : BARR INC

Sampler's Name : Mike Pottar

Send Results To : JAMIL EDILYN

Address :

Phone :

Fax / E-mail: JEDELYN@BARR.COM

Invoice To :


Address :

Project ID # 180514

Cooler Temp (°C) 2.3°C Page _____ of _____[illegible]

RUSH Due: _____
Call To Schedule _____

Sample Identification		Collection Information		# of	Matrix	Comments / Other Analysis
		Date	Time	Containers	DW, WW, GW, Soil, Oil, Sludge	
1	Acme UPSTREAM	2-13-18	1445 AM	5	SW	Grab
2	Acme DOWNSTREAM	"	1515 PM	5	SW	Grab
3			AM			Grab
			PM			Comp
4			AM			Grab
			PM			Comp
5			AM			Grab
			PM			Comp
6			AM			Grab
			PM			Comp
7			AM			Grab
			PM			Comp
8			AM			Grab
			PM			Comp
9			AM			Grab
			PM			Comp
10			AM			Grab
			PM			Comp
11			AM			Grab
			PM			Comp
12			AM			Grab
			PM			Comp
13			AM			Grab
			PM			Comp
14			AM			Grab
			PM			Comp
15			AM			Grab
			PM			Comp

Relinquished by: 	Date: 2-13-18	Time: 1606	AM PM
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Relinquished by:	Date:	Time:	AM PM
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Received by:	Date:	Time:	AM PM
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Received in lab by: <i>C. Ashland</i>	Date: <i>2/13/18</i>	Time: <i>4:00</i> AM PM
---------------------------------------	----------------------	----------------------------



4125 Cedar Run Rd., Suite B
Traverse City, MI 49684
Phone 231-946-6767
Fax 231-946-8741
www.sosanalytical.com

COMPANY: BARR ENGINEERING

SOS PROJECT NO: 180514

NAME:
PROJECT NO: ACME

SAMPLED BY: MIKE POTTER/BARR ENG

WSSN:
WELL PERMIT:
TAX ID:
LOCATION:

DATE SAMPLED: 2/13/2018
TIME SAMPLED: 2:45 PM
SAMPLE MATRIX: SURFACE WATER
DATE RECEIVED: 2/13/2018
TIME RECEIVED: 4:06 PM

MI
COUNTY: GRAND TRAVERSE
TWP:

INORGANICS

No:	Analysis	Concentration	LOD	Units	Analyst	Date Completed	Drinking Water Reg Limit(MCL)
SAMPLE ID: ACME UPSTREAM							
1	E.COLI SM9223-B MPN	10		Colonies/100 mLKMJ		2/14/2018	
1	RESIDUE, FILTERABLE(TDS)/SM2540C	240	10	mg/L (PPM)	AD	2/14/2018	
1	RESIDUE, NON-FILTERABLE(TSS)/SM2540D	5	1	mg/L (PPM)	AD	2/16/2018	
1	TOTAL ORGANIC CARBON EPA 415.1	18	2.5	mg/L (PPM)	FT	2/22/2018	
SAMPLE ID: ACME DOWNSTREAM							
2	E.COLI SM9223-B MPN	6		Colonies/100 mLKMJ		2/14/2018	
2	RESIDUE, FILTERABLE(TDS)/SM2540C	250	10	mg/L (PPM)	AD	2/14/2018	
2	RESIDUE, NON-FILTERABLE(TSS)/SM2540D	6	1	mg/L (PPM)	AD	2/16/2018	
2	TOTAL ORGANIC CARBON EPA 415.1	25	5	mg/L (PPM)	FT	2/22/2018	

ND = NOT DETECTED
LOD = LIMIT OF DETECTION
SMCL = FEDERAL NON-ENFORCEABLE LIMIT
MCL = MAXIMUM CONTAMINANT LEVEL
s.u. = STANDARD pH UNITS REPORTED AT 25 C
DISS = DISSOLVED

APPROVED BY

SHANNA SHEA
LAB MANAGER



4125 Cedar Run Rd., Suite B
Traverse City, MI 49684
Phone 231-946-6767
Fax 231-946-8741
www.sosanalytical.com

COMPANY: BARR ENGINEERING
NAME:
PROJECT NO: ACME
WSSN:
LOCATION:

SOS PROJECT NO: 180514 - 1
DATE SAMPLED: 2/13/2018
TIME SAMPLED: 2:45 PM
SAMPLE MATRIX: SURFACE WATER
SAMPLE ID: ACME UPSTREAM

SAMPLED BY: MIKE POTTER/BARR ENG

DATE RECEIVED: 2/13/2018
TIME RECEIVED: 4:06 PM

EPA 8260 VOLATILE ORGANICS

Units= ug/L (PPB) Analyst= MM Date Extracted= Date Completed= 2/16/2018 Prep Method= EPA 5030B

Analyte	Concentration	LOD	Analyte	Concentration	LOD
ACETONE	ND	5	cis-1,3-DICHLOROPROPENE	ND	1
BENZENE	ND	1	trans-1,3-DICHLOROPROPENE	ND	1
BROMOBENZENE	ND	1	DIETHYL ETHER	ND	5
BROMOCHLOROMETHANE	ND	1	ETHYLBENZENE	ND	1
BROMODICHLOROMETHANE	ND	1	IODOMETHANE	ND	1
BROMOFORM	ND	1	ISOPROPYLBENZENE	ND	1
BROMOMETHANE	ND	1	ISOPROPYLTOLUENE	ND	1
n-BUTYLBENZENE	ND	1	METHYL ETHYL KETONE	ND	5
s-BUTYLBENZENE	ND	1	METHYL-t-BUTYL ETHER	ND	5
t-BUTYLBENZENE	ND	1	METHYLENE CHLORIDE	ND	5
CARBON DISULFIDE	ND	1	MIBK	ND	5
CARBON TETRACHLORIDE	ND	1	2-METHYLNAPHTHALENE	ND	5
CHLOROBENZENE	ND	1	NAPHTHALENE	ND	5
CHLOROFORM	ND	1	n-PROPYLBENZENE	ND	1
CHLOROETHANE	ND	1	STYRENE	ND	1
CHLOROMETHANE	ND	1	1,1,1,2-TETRACHLOROETHANE	ND	1
DIBROMOCHLOROMETHANE	ND	1	1,1,2,2-TETRACHLOROETHANE	ND	1
DIBROMOMETHANE	ND	1	TETRACHLOROETHENE	ND	1
1,2-DIBROMO3CHLOROPROPANE	ND	5	TOLUENE	ND	1
1,2-DIBROMOETHANE	ND	1	1,2,3-TRICHLOROBENZENE	ND	1
1,2-DICHLOROBENZENE	ND	1	1,2,4-TRICHLOROBENZENE	ND	1
1,3-DICHLOROBENZENE	ND	1	1,1,1-TRICHLOROETHANE	ND	1
1,4-DICHLOROBENZENE	ND	1	1,1,2-TRICHLOROETHANE	ND	1
DICHLORODIFLUOROMETHANE	ND	1	TRICHLOROETHENE	ND	1
1,1-DICHLOROETHANE	ND	1	TRICHLORFLUOROMETHANE	ND	1
1,2-DICHLOROETHANE	ND	1	1,2,3-TRICHLOROPROPANE	ND	1
1,1-DICHLOROETHENE	ND	1	1,2,4-TRIMETHYLBENZENE	ND	1
cis-1,2-DICHLOROETHENE	ND	1	1,3,5-TRIMETHYLBENZENE	ND	1
trans-1,2-DICHLOROETHENE	ND	1	VINYL CHLORIDE	ND	1
1,2-DICHLOROPROPANE	ND	1	XYLENE (TOTAL)	ND	3

ND = NOT DETECTED
LOD = LIMIT OF DETECTION

APPROVED BY:

Shanna Shea
SHANNA SHEA / LAB MANAGER



4125 Cedar Run Rd., Suite B
Traverse City, MI 49684
Phone 231-946-6767
Fax 231-946-8741
www.sosanalytical.com

COMPANY: BARR ENGINEERING

NAME:

PROJECT NO: ACME

WSSN:

LOCATION:

SOS PROJECT NO: 180514 - 2

DATE SAMPLED: 2/13/2018

TIME SAMPLED: 3:15 PM

SAMPLE MATRIX: SURFACE WATER

SAMPLE ID: ACME DOWNSTREAM

SAMPLED BY: MIKE POTTER/BARR ENG

DATE RECEIVED: 2/13/2018

TIME RECEIVED: 4:06 PM

EPA 8260 VOLATILE ORGANICS

Units= ug/L (PPB) Analyst= MM Date Extracted= Date Completed= 2/16/2018 Prep Method= EPA 5030B

Analyte	Concentration	LOD	Analyte	Concentration	LOD
ACETONE	ND	5	cis-1,3-DICHLOROPROPENE	ND	1
BENZENE	ND	1	trans-1,3-DICHLOROPROPENE	ND	1
BROMOBENZENE	ND	1	DIETHYL ETHER	ND	5
BROMOCHLOROMETHANE	ND	1	ETHYLBENZENE	ND	1
BROMODICHLOROMETHANE	ND	1	IODOMETHANE	ND	1
BROMOFORM	ND	1	ISOPROPYLBENZENE	ND	1
BROMOMETHANE	ND	1	ISOPROPYLTOLUENE	ND	1
n-BUTYLBENZENE	ND	1	METHYL ETHYL KETONE	ND	5
s-BUTYLBENZENE	ND	1	METHYL-t-BUTYL ETHER	ND	5
t-BUTYLBENZENE	ND	1	METHYLENE CHLORIDE	ND	5
CARBON DISULFIDE	ND	1	MIBK	ND	5
CARBON TETRACHLORIDE	ND	1	2-METHYLNAPHTHALENE	ND	5
CHLOROBENZENE	ND	1	NAPHTHALENE	ND	5
CHLOROFORM	ND	1	n-PROPYLBENZENE	ND	1
CHLOROETHANE	ND	1	STYRENE	ND	1
CHLOROMETHANE	ND	1	1,1,1,2-TETRACHLOROETHANE	ND	1
DIBROMOCHLOROMETHANE	ND	1	1,1,2,2-TETRACHLOROETHANE	ND	1
DIBROMOMETHANE	ND	1	TETRACHLOROETHENE	ND	1
1,2-DIBROMO3CHLOROPROPANE	ND	5	TOLUENE	ND	1
1,2-DIBROMOETHANE	ND	1	1,2,3-TRICHLOROBENZENE	ND	1
1,2-DICHLOROBENZENE	ND	1	1,2,4-TRICHLOROBENZENE	ND	1
1,3-DICHLOROBENZENE	ND	1	1,1,1-TRICHLOROETHANE	ND	1
1,4-DICHLOROBENZENE	ND	1	1,1,2-TRICHLOROETHANE	ND	1
DICHLORODIFLUOROMETHANE	ND	1	TRICHLOROETHENE	ND	1
1,1-DICHLOROETHANE	ND	1	TRICHLORFLUOROMETHANE	ND	1
1,2-DICHLOROETHANE	ND	1	1,2,3-TRICHLOROPROPANE	ND	1
1,1-DICHLOROETHENE	ND	1	1,2,4-TRIMETHYLBENZENE	ND	1
cis-1,2-DICHLOROETHENE	ND	1	1,3,5-TRIMETHYLBENZENE	ND	1
trans-1,2-DICHLOROETHENE	ND	1	VINYL CHLORIDE	ND	1
1,2-DICHLOROPROPANE	ND	1	XYLENE (TOTAL)	ND	3

ND = NOT DETECTED
LOD = LIMIT OF DETECTION

APPROVED BY:

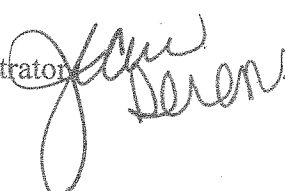
SHANNA SHEA / LAB MANAGER



Memorandum

Grand Traverse County
Administration
231.922.4780 Fax 231.922.4636
email: jderenzy@grandtraverse.org

To: Township Supervisors, City Manager, Village Presidents and
Planning Commissions

From: Jean Derenzy, Interim County Administrator 

Date: February 22, 2018

Subject: Planning – Resolution

Garfield Township through their Director of Planning, Rob Larrea, sent the attached resolution for the County Board's information and action.

At the February 21 meeting, the Board of Commissioners waived the County's right to review Township Zoning Ordinances and amendments. A certified copy of the resolution is included.

Enclosure

GRAND TRAVERSE COUNTY, MICHIGAN

RESOLUTION 31-2018

A RESOLUTION TO WAIVE GRAND TRAVERSE COUNTY'S RIGHT TO REVIEW TOWNSHIP ORDINANCES AND AMENDMENTS in accordance with the provisions of Act 110 of the Public Acts of 2006, as amended.

WHEREAS the Grand Traverse County Board of Commissioners is tasked with reviewing township zoning ordinances and amendments to adopted ordinances pursuant to the authority of the Michigan Zoning Enabling Act, Act 110 of 2006, as amended;

WHEREAS the Michigan Zoning Enabling Act, Act 110 of 2006, under MCL 125.3307 (1) requires any township, city or village to submit for review and recommendation of any proposed zoning ordinance, including any zoning maps, to the County Planning Commission in which the township is located: and

WHEREAS the Michigan Zoning Enabling Act, Act 110 of 2006, under MCL 125.3307 (3) states the county will have waived its right for review and recommendation of an ordinance if the recommendation of the county planning commission, has not been received by the township within 30 days from the date the proposed ordinance is received by the county; and

WHEREAS the Michigan Zoning Enabling Act, Act 110 of 2006, under MCL 125.3307 (4) specifically allows the legislative body, being the Grand Traverse County Board of Commissioners, to waive its right to review township ordinances and amendments; and

WHEREAS the Grand Traverse County Planning Commission convenes on a quarterly basis therefore the Grand Traverse County Planning Commission cannot meet the 30 day timeframe required under MCL 125.3307 (3) causing a burden on municipalities and applicants;

NOW THEREFORE:

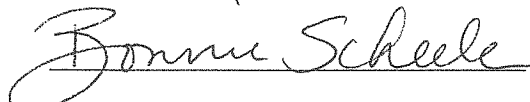
The Grand Traverse County Board of Commissioners ORDAINS:

Grand Traverse County hereby waives its right to review township ordinances and amendments as permitted under MCL 125.3307 (4).

Moved: Wheelock Supported: Clous
Ayes: Wheelock, Mair, Clous, and Crawford
Nays:
Absent and Excused: Lathrop, Johnson, and Gore Follette

RESOLUTION 31-2018 DECLARED ADOPTED.

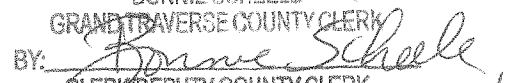
By:


CERTIFICATE

I, Bonnie Scheele, Clerk of the Grand Traverse County Board of Commissioners, do hereby certify that the above is a true and correct copy of Resolution 31-2018 which was adopted by the County Board of Commissioners, on the 21st day of February, 2018.

TRUE AND CORRECT COPY OF THE RECORD ON
FILE WITH THE OFFICE OF COUNTY CLERK

BONNIE SCHEELLE
GRAND TRAVERSE COUNTY CLERK

BY: 
CLERK/DEPUTY COUNTY CLERK
DATE: February 22, 2018



Planning and Zoning

6042 Acme Road | Williamsburg, MI | 49690

Phone: (231) 938-1350 Fax: (231) 938-1510 Web: www.acmetownship.org

Acme Township Zoning Ordinance Amendment 046

SOLAR ENERGY FARMS

1. Add the following definition under §3.2 Definitions:

“Solar Energy Farms: A utility-scale commercial facility that converts sunlight into electricity, whether by photovoltaics, concentrating solar thermal devices or any other various experimental solar technologies for the primary purpose of wholesale or retail sales of generated electricity off-site. Solar Energy Farms do not include small scale solar panels or technologies installed at individual residential or commercial locations (e.g. roof or ground mounted solar panels) that are used exclusively for private purposes and not utilized for any commercial resale of any energy, except for the sale of surplus electrical energy back to the electric grid. These installations are permitted as “Accessory Use” defined under Section 3.2.”

2. The use “solar energy farms” shall be added at the following sections:

Article VI: Zoning Districts, Map and Schedule of Regulations,
Section 6.10 B-3 District: Planned Shopping Center,
Subsection 6.10.3 Uses Authorized By Special Use Permit:
x. “Solar Energy Farms”

Article VI: Zoning Districts, Map and Schedule of Regulations,
Section 6.11 B-4 District: Material Processing and Warehousing,
Subsection 6.11.3 Uses Authorized By Special Use Permit:
h. “Solar Energy Farms”

Article VI: Zoning Districts, Map and Schedule of Regulations,
Section 6.12 A-1: Agricultural District,
Subsection 6.12.3 Uses Authorized By Special Use Permit:
aa. “Solar Energy Farms”

3. Article IX shall be amended to add Section 9.28 in its entirety as presented below:

9.28 SOLAR ENERGY FARMS

9.28.1 INTENT AND PURPOSE:

To allow and promote the use of solar energy within the Township as a clean alternative energy source and to provide associated placement, land development, installation and construction regulations for solar energy farm facilities subject to reasonable conditions that will protect the public health, safety and welfare. These regulations establish the minimum requirements for solar energy farm facilities, while promoting a renewable energy source in a safe, effective and efficient manner.

9.28.2 **STANDARDS:**

- a. **Minimum Lot Size:** There is no minimum lot size. Each solar energy farm is permitted as a use authorized by special use permit which review will consider its compatibility with the surrounding area.
- b. **Height Restrictions:** All photovoltaic solar panels and support structures located in a solar energy farm shall be restricted to a maximum height of sixteen (16) feet when orientated at maximum tilt.
- c. **Setbacks:** All photovoltaic solar panels and support structures associated with such facilities (excluding perimeter fencing) shall be setback a minimum of twenty (20) feet from a side or rear property line and a minimum of fifty (50) feet from the front property line along a street right-of-way. If the right-of-way exists as an easement, the fifty (50) foot setback shall be measured from the edge of the easement. Any additional setback requirements in this Ordinance that exceed this requirement shall be adhered to, including but not limited to setbacks from streams, lakes, and wetlands.
- d. **Maximum Lot Coverage:** maximum lot coverage restrictions shall not apply to the photovoltaic solar panels. Any other regulated structures on the parcel are subject to the maximum lot coverage restrictions of the underlying zoning district.
- e. **Safety/Access:** A security fence (height and material to be proposed and reviewed/approved through the special use permit approval process) shall be placed around the perimeter of the solar energy farm and electrical equipment. Knox boxes and keys shall be provided at locked entrances for security personnel access.
- f. **Noise:** No solar energy farm shall exceed sixty (60) dBA as measured at the property line.
- g. **Glare:** Solar energy farm facilities shall be located or placed so that concentrated solar glare shall not be directed toward or onto nearby properties or right-of-ways at any time of the day.
- h. **Landscaping:** The special use permit application for a solar energy farm shall include a proposed landscaping and screening/buffering plan prepared by a licensed landscape architect. This plan will be reviewed through the special use permit approval process to assure that the proposed facility is appropriately landscaped in relation to adjacent land uses and road right-of-ways. The use of berms and evergreen plantings along property lines adjacent to residential land uses and districts is strongly encouraged. Trees shall be a minimum of four (4) feet tall at time of planting, shall remain in good condition for the life of the solar energy farm, and shall adhere to the native plant species requirements of this Ordinance.
- i. **Local, State, and Federal Permits:** Solar energy farms shall be required to obtain all necessary permits and licensing from Acme Township, Grand Traverse County, State of Michigan, and U.S. Government as applicable prior to construction and

shall maintain any necessary approvals as required by the respective jurisdictions or agencies.

- j. **Electrical Interconnections:** All electrical interconnections or distribution lines shall comply with all applicable codes and standard commercial large-scale utility requirements. Use of above ground transmission lines shall be prohibited within the site.

9.28.3 ADDITIONAL SPECIAL USE CRITERIA:

In addition to the site plan review criteria in Article VIII and special use permit criteria in Article IX, the applicant shall address the following topics in the application for a solar energy farm facility:

- a. **Project Description and Rationale:** Identify the typed, size, rated power output, performance, safety and noise characteristics of the system including the transmission line/grid connection for the project. Identify the project construction time frame, project life, development phases (and potential future expansions) and likely markets for the generated energy.
- b. **Analysis of On-Site Traffic:** Estimated construction jobs and estimated permanent job associated with the development.
- c. **Visual Impacts:** Graphically demonstrate the visual impact of the project using photos or renditions of the project with consideration given to setbacks and proposed landscaping.
- d. **Environmental Analysis:** Identify impacts on surface and ground water quality and any impacts to established natural or constructed drainage features in the area.
- e. **Waste:** Identify any solid or hazardous waste generated by the project.
- f. **Lighting:** Provide photometric plans showing all lighting within the facility. No light may adversely affect adjacent parcels. All lighting shall conform to the requirements of Section 7.8 and must be shielded from adjoining parcels. Light poles are restricted to a maximum height of eighteen (18) feet.
- g. **Transportation Plan:** Provide a proposed access plan during construction and operational phases. Show proposed project service road ingress and egress locations onto adjacent roadways and the layout of facility service road system. Due to infrequent access following construction, it is not required to pave or curb solar energy farm access drives. It shall be required to pave and curb any driveways and parking lots used for occupied offices that are located on site.
- h. **Public Safety:** Identify emergency and normal shutdown procedures. Identify potential hazards to adjacent properties, public right-of-ways and to the general public that may be created.
- i. **Sound Limitations:** Identify noise levels at the property lines of the project when completed and operational.

j. Telecommunications Interference: Identify any electromagnetic fields and communications interference that may be generated.

k. Life of the Project and Final Reclamation: Describe the decommissioning and final reclamation plan after the anticipated useful life or abandonment/termination of the project. This includes supplying evidence of an agreement with the underlying property owner that ensures proper removal of all equipment and restoration of the site within six (6) months of decommissioning or abandonment of the project. To ensure proper removal of the project upon abandonment/termination, a bond, letter of credit or cash surety shall be:

1. In an amount approved by the Township Board to be no less than the estimated cost of removal and may include a provision for inflationary cost adjustments;
2. Based on an estimate prepared by the engineer for the applicant, subject to approval of the Township Board;
3. Provided to the Township prior to the issuance of a land use permit;
4. Used in the event the owner of the project or the underlying property owner fails to remove or repair any defective, abandoned or terminated project. The Township, in addition to any other remedy under this Ordinance, may pursue legal action to abate the violation by seeking to remove the project and recover any and all costs, including attorney fees.

l. Township Review: Because of the ever-changing technical capabilities of photovoltaic solar panels and of new technology in general, the Township Planning Commission and Board of Trustees shall have the authority to review and consider alternatives in both the dimensional and physical requirements contained in this section as part of the special use permit approval process.

Acme Township Solar Suitability Analysis

GIS Summary of Findings

Solar Suitability Results, April 4th, 2018

To determine the locations in Acme Township most suitable for solar programs and land uses, an inventory and spatial analysis were performed on a number of landscape variables. Focusing on the elevation, slope, and local topography, two indicators were developed to assess viable areas. As Michigan communities embrace solar power, and with the understanding of our unique geography, it is important to find lands that can receive at least 6 hours of sunlight during the winter solstice and have slopes within 30 degrees of due south (MSU Extension, 2018). In Acme Township, the proposed zoning districts to permit solar uses include AG, B-3, and B-4. The analysis was run on all Township lands should permitted solar uses and their available districts expand.

Solar Insolation: Direct Duration and Hourly Estimates

The solar insolation findings were derived using a Digital Elevation Model (DEM) of the Township area. The parameters used in this analysis were to show the potential length of solar exposure, in hours, for the entire Township during the winter solstice. Direct duration is the GIS terminology for the resulting layer that shows hourly estimates. The **Winter Solstice Solar Insolation, Direct Duration (Overall)** map highlights the brighter and darker areas of the Township, emphasizing sunlight exposure, in hours, on December 21st, 2018. Most of the Township can receive the sunlight necessary to support solar energy. Areas that are almost entirely in shade during the winter are shown in dark blue; yellow, orange, and red correspond to areas that are likely to receive at least 6 hours of sunlight. The **Winter Solstice Solar Insolation, Total of 6 to 8 Hours** map shows the extracted ranges of hourly intervals, including 8+ hours of sunlight (likely to receive all available sunlight in the day), 7 to 8 hours of sunlight, 6 to 7 hours of sunlight, and areas that do not meet the 6-hour threshold for Michigan.

Slopes Due South

Solar panels placed on slopes near due south are likely to be the most efficient. Since the topography of any parcel is very rarely a perfectly flat surface, we must consider even the most gradual of slopes and how it will relate to solar panel placement and installation. Slopes within 30 degrees of due south have been determined to have the best solar exposure in the northern hemisphere, we use this threshold when determining appropriate solar placement. Using the Digital Elevation Model (DEM) again, the direction of slope for each surface in a 1-meter by 1-meter square of land was determined and anything within 30 degrees of due south was isolated and extracted. To provide as much helpful detail as possible, slopes near due south were grouped based on degree away from due south; in the **Slopes Due South** map, lands within 20 degrees of due south were grouped separate from lands within 20 to 30 degrees of due south.

Conservation Variables

Additional considerations in the solar suitability analysis include local lands intended to be preserved. Prime farmlands, as identified by the US Department of Agriculture, are those frequently recommended for conservation efforts, and specifically, are removed from many solar suitability analyses for this reason. Farmlands of local importance were identified, but with a lack of documentation on what defines “local importance,” they were not included in the analysis. They were identified, however, for review by the Township and should a later refinement of the analysis occur, lands of local importance are ready to be included. Lastly, an additional natural landscape consideration was the location of wetlands as identified in the National Wetlands Inventory (NWI) which includes freshwater emergent and freshwater forested / shrub wetlands. These too were not removed from the final solar suitability analysis, but stressed in the **Sensitive Features** map as an optional criteria for future analyses.

Aside from the natural landscape considerations, several properties within Acme Township have completed Purchase of Development Rights (PDR) agreements and are not permitted to participate in solar programs, and any public lands operating or owned under land conservancies represent portions of the landscape that are not intended to support solar development. These areas are rather to be conserved and thusly have been removed from the overall analysis, as reflected in the final **Overall Solar Suitability** map.

The Final Overall Suitability Map

The final result of the analysis is concluded on the **Overall Suitability Map**, which removed the prime farmlands from the final output in an effort to preserve these valuable soils for agriculture. Findings were grouped into three categories to emphasize variations in estimated efficiency:

1. Areas with maximum sunlight during the winter solstice (8 hours or more) combined with slopes within 20 degrees of due south represent the best conditions favorable for solar development.
2. Areas with good conditions that exceed the basic minimum requirements are those with 7 to 8 hours of sun exposure and slopes within 30 degrees of due south.
3. Areas that only meet the minimal conditions suitable for solar development are those capable of receiving 6 hours of sunlight during the winter solstice and slopes within 30 degrees of due south.

Solar Suitability Category	Acreage in Study Area
#1, Best: 8+ Hours Sunlight, 20 Degrees Slope of Due South	364.85
#2, Good: 7-8 Hours Sunlight, 30 Degrees Slope of Due South	375.28
#3, Minimum: 6-7 Hours Sunlight, 30 Degrees Slope of Due South	22.65
<i>Total</i>	762.78

Average Kilowatt Hours (KWh) per Square Meter Map

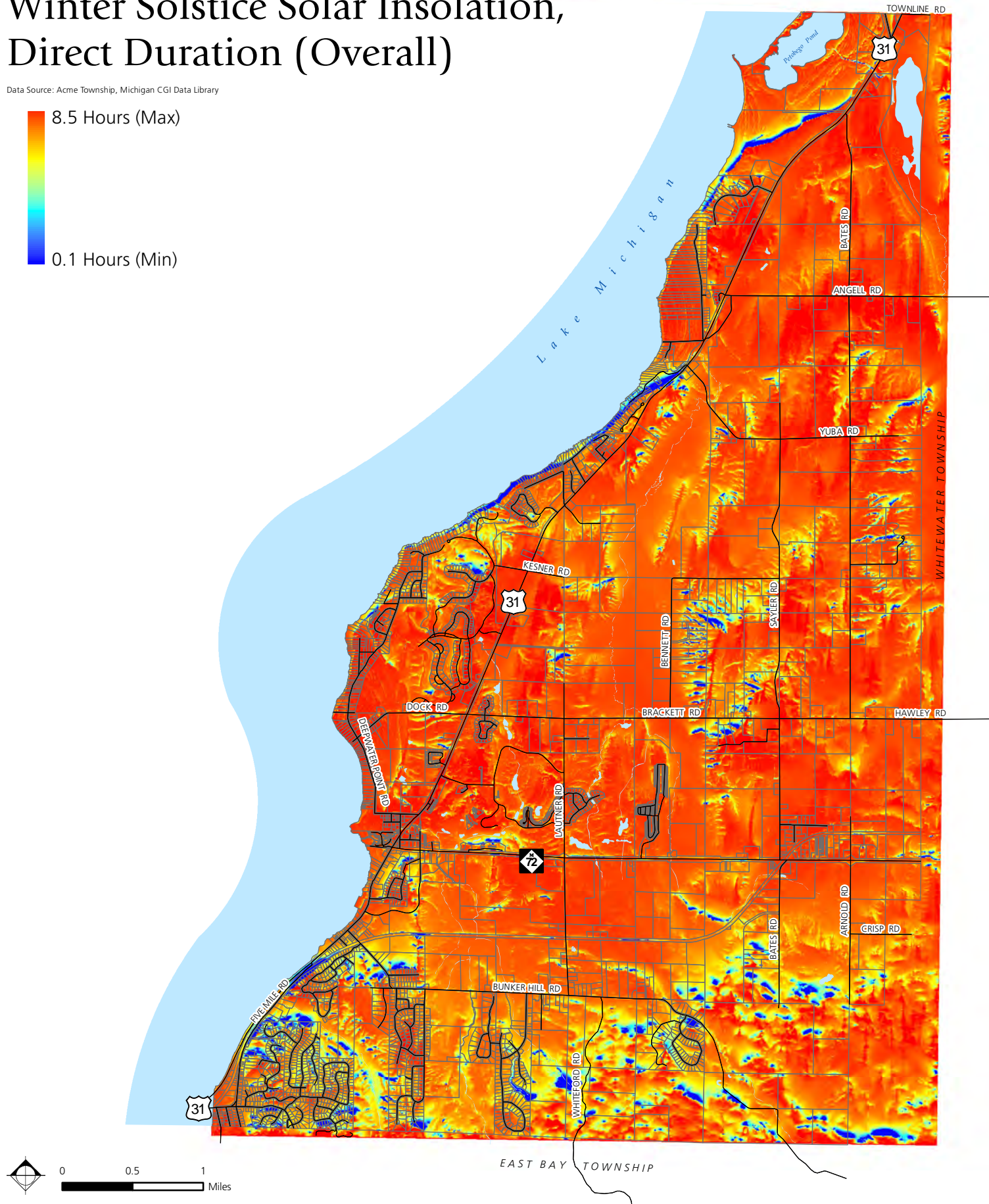
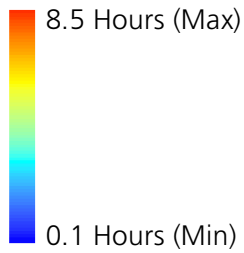
While the 6 hours of sunlight during the winter solstice is considered a fair threshold for Michigan communities, the potential to generate high quantities of energy is an important additional consideration. Using a threshold identified by the MSU Extension (2018), a minimum of 3.5 kilowatt hours (KWh) of solar per day is required for photovoltaic systems. The lands in Acme Township were analyzed on a bimonthly

basis (every two weeks) to determine the average global radiation in the unit of average kilowatt hours per square meter (KWh / m²). Results were mapped to show areas with the potential to generate higher amounts of energy, and the majority of the Township meets the minimum threshold of 3.5 KWh / m². The only portions of the Township that did not meet this threshold were areas already excluded from the analysis as they do not receive 6 hours of sunlight during the winter solstice. It should be noted that actual energy production values will vary with changes in atmospheric conditions and seasonality, but the map serves as a nice visual aid to display areas with the potential to generate high amounts of energy and confirms land in the Township capable of producing over 3.5 KWh / m². Similarly, this calculation was helpful to confirm that peak seasonal insolation in the summer generates enough KWh / m² to offset reductions in energy production during the winter. The findings of this map do not affect the results of the **Final Overall Suitability Map**.

ACME TOWNSHIP

Winter Solstice Solar Insolation, Direct Duration (Overall)

Data Source: Acme Township, Michigan CGI Data Library

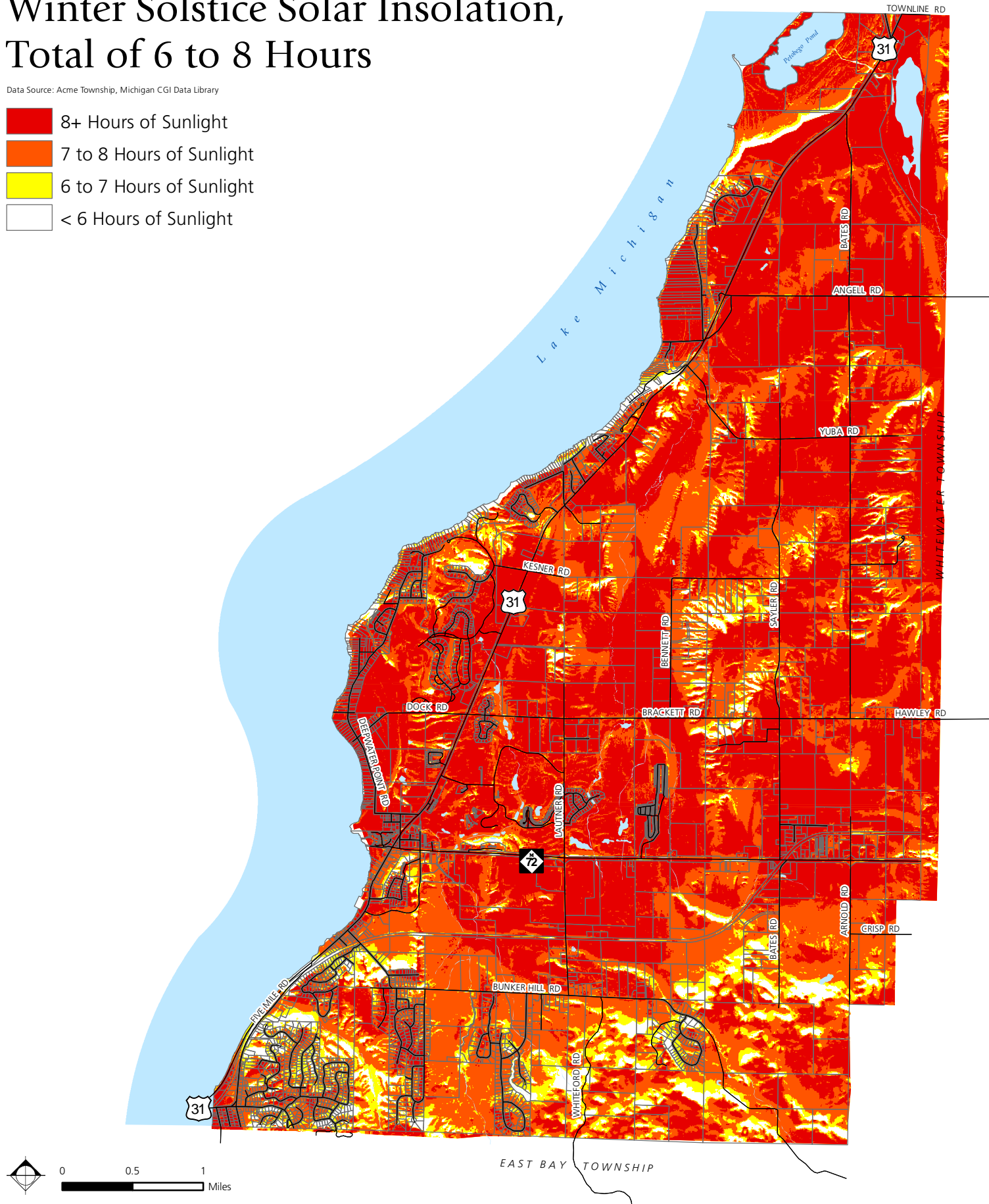
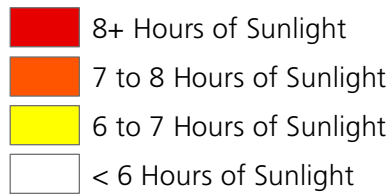


0 0.5 1 Miles

ACME TOWNSHIP

Winter Solstice Solar Insolation, Total of 6 to 8 Hours

Data Source: Acme Township, Michigan CGI Data Library





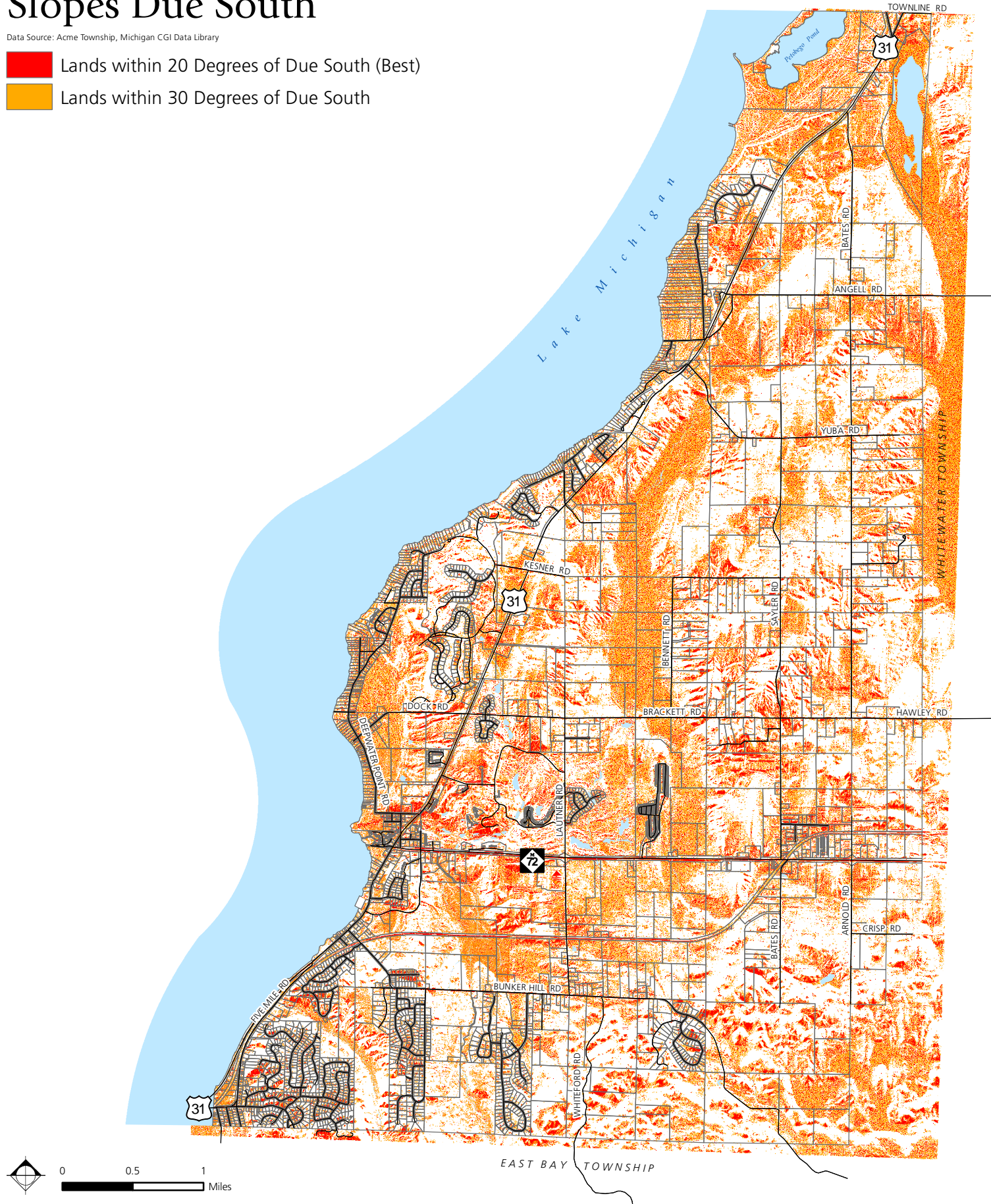
0 0.5 1 Miles

ACME TOWNSHIP

Slopes Due South

Data Source: Acme Township, Michigan CGI Data Library

-  Lands within 20 Degrees of Due South (Best)
-  Lands within 30 Degrees of Due South

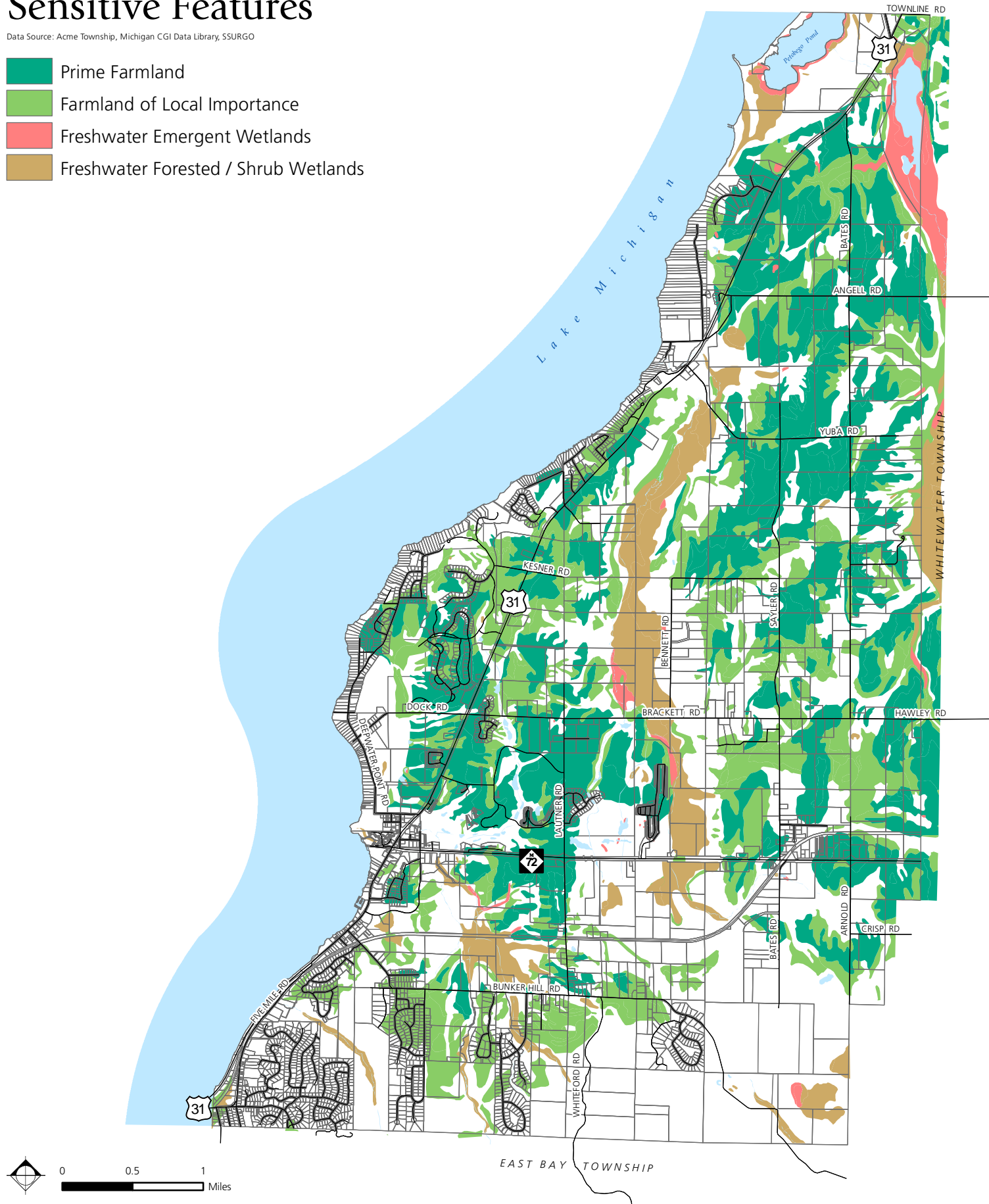


ACME TOWNSHIP

Sensitive Features

Data Source: Acme Township, Michigan CGI Data Library, SSURGO






- Prime Farmland
- Farmland of Local Importance
- Freshwater Emergent Wetlands
- Freshwater Forested / Shrub Wetlands

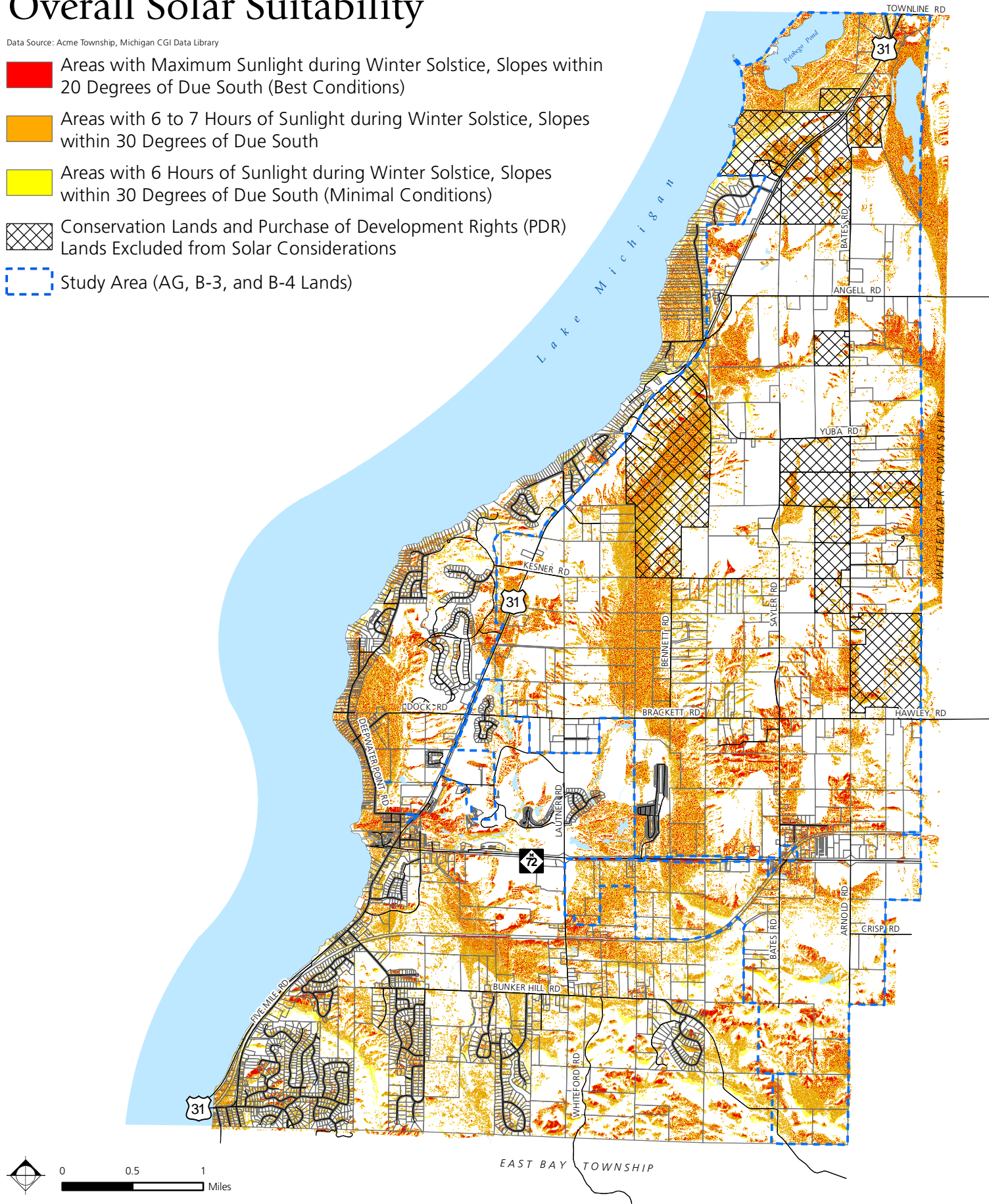


ACME TOWNSHIP

Overall Solar Suitability

Data Source: Acme Township, Michigan CGI Data Library




-  Areas with Maximum Sunlight during Winter Solstice, Slopes within 20 Degrees of Due South (Best Conditions)
-  Areas with 6 to 7 Hours of Sunlight during Winter Solstice, Slopes within 30 Degrees of Due South
-  Areas with 6 Hours of Sunlight during Winter Solstice, Slopes within 30 Degrees of Due South (Minimal Conditions)
-  Conservation Lands and Purchase of Development Rights (PDR)
Lands Excluded from Solar Considerations
-  Study Area (AG, B-3, and B-4 Lands)

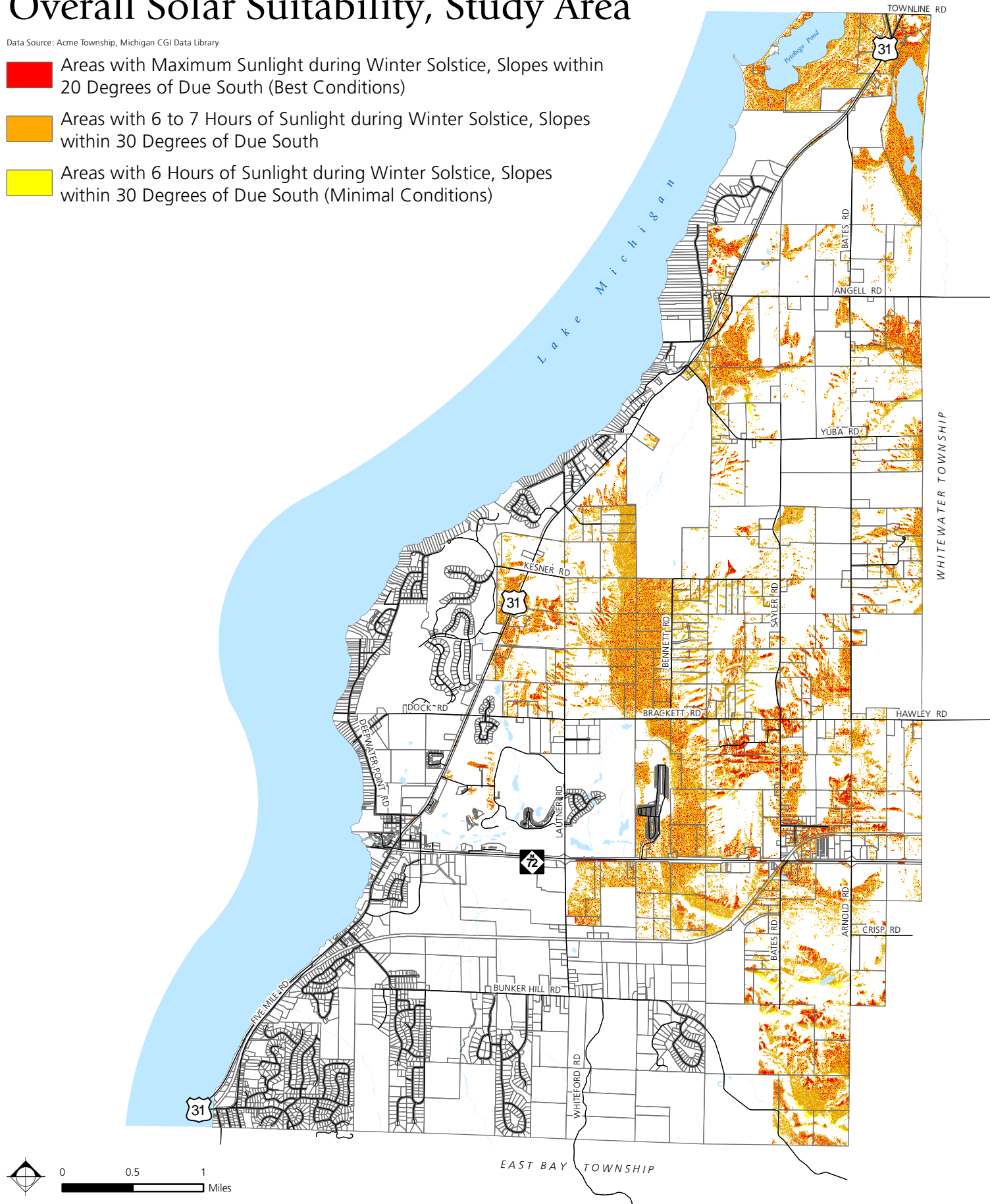


ACME TOWNSHIP

Overall Solar Suitability, Study Area

Data Source: Acme Township, Michigan CGI Data Library

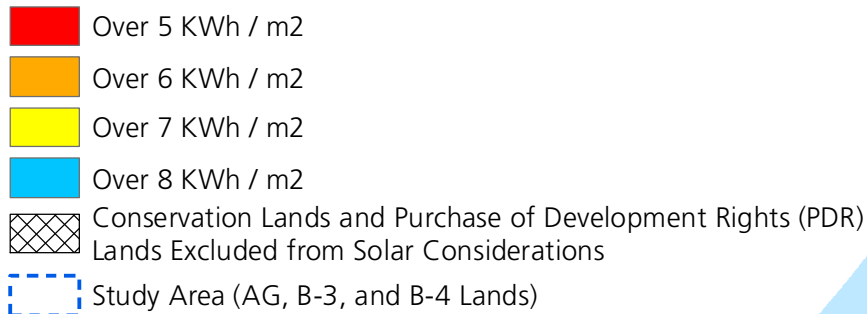
-  Areas with Maximum Sunlight during Winter Solstice, Slopes within 20 Degrees of Due South (Best Conditions)
-  Areas with 6 to 7 Hours of Sunlight during Winter Solstice, Slopes within 30 Degrees of Due South
-  Areas with 6 Hours of Sunlight during Winter Solstice, Slopes within 30 Degrees of Due South (Minimal Conditions)



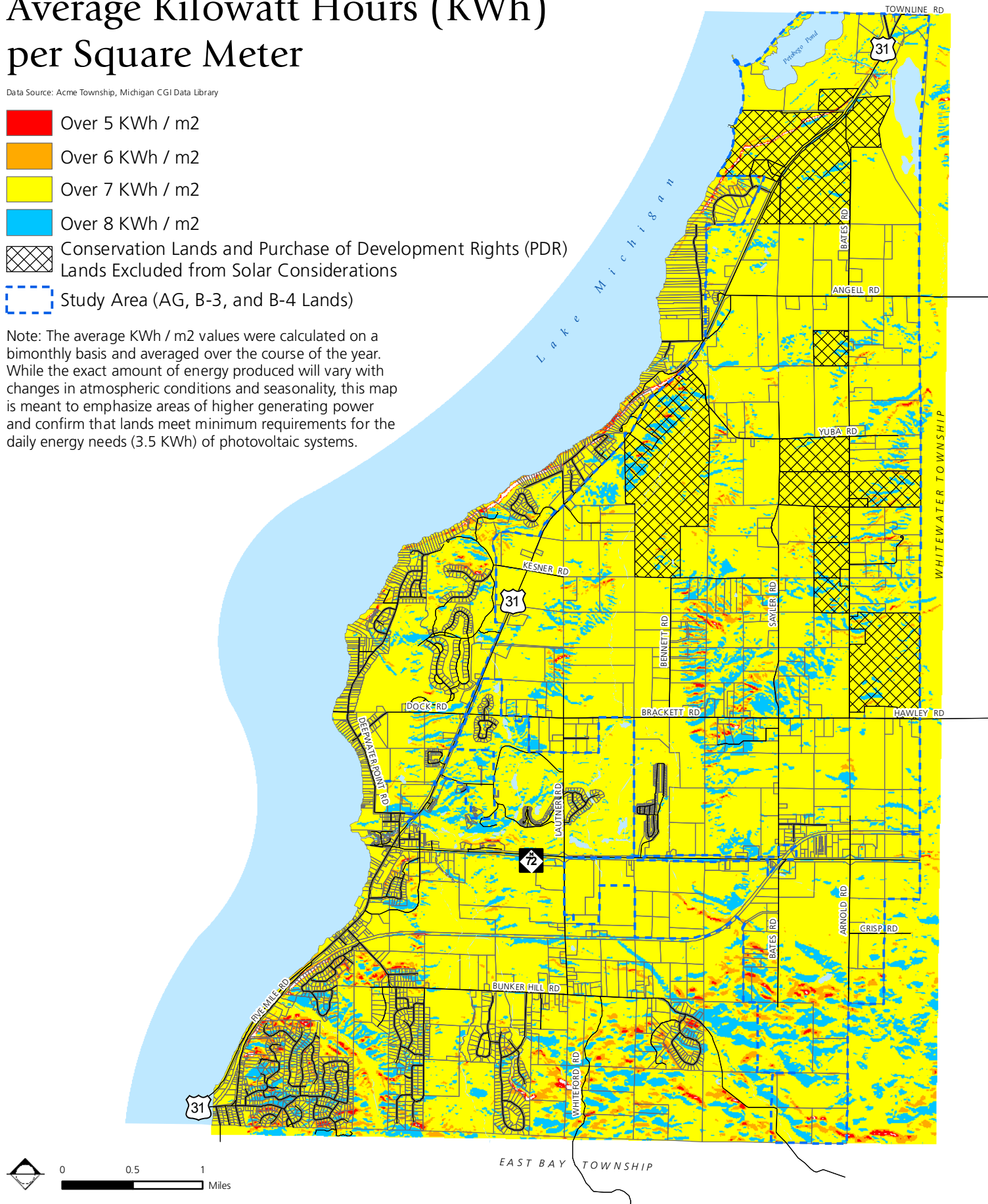
ACME TOWNSHIP

Average Kilowatt Hours (KWh) per Square Meter

Data Source: Acme Township, Michigan CGI Data Library



Note: The average KWh / m2 values were calculated on a bimonthly basis and averaged over the course of the year. While the exact amount of energy produced will vary with changes in atmospheric conditions and seasonality, this map is meant to emphasize areas of higher generating power and confirm that lands meet minimum requirements for the daily energy needs (3.5 KWh) of photovoltaic systems.



ACME TOWNSHIP

Zoning Districts

Data Source: Acme Township

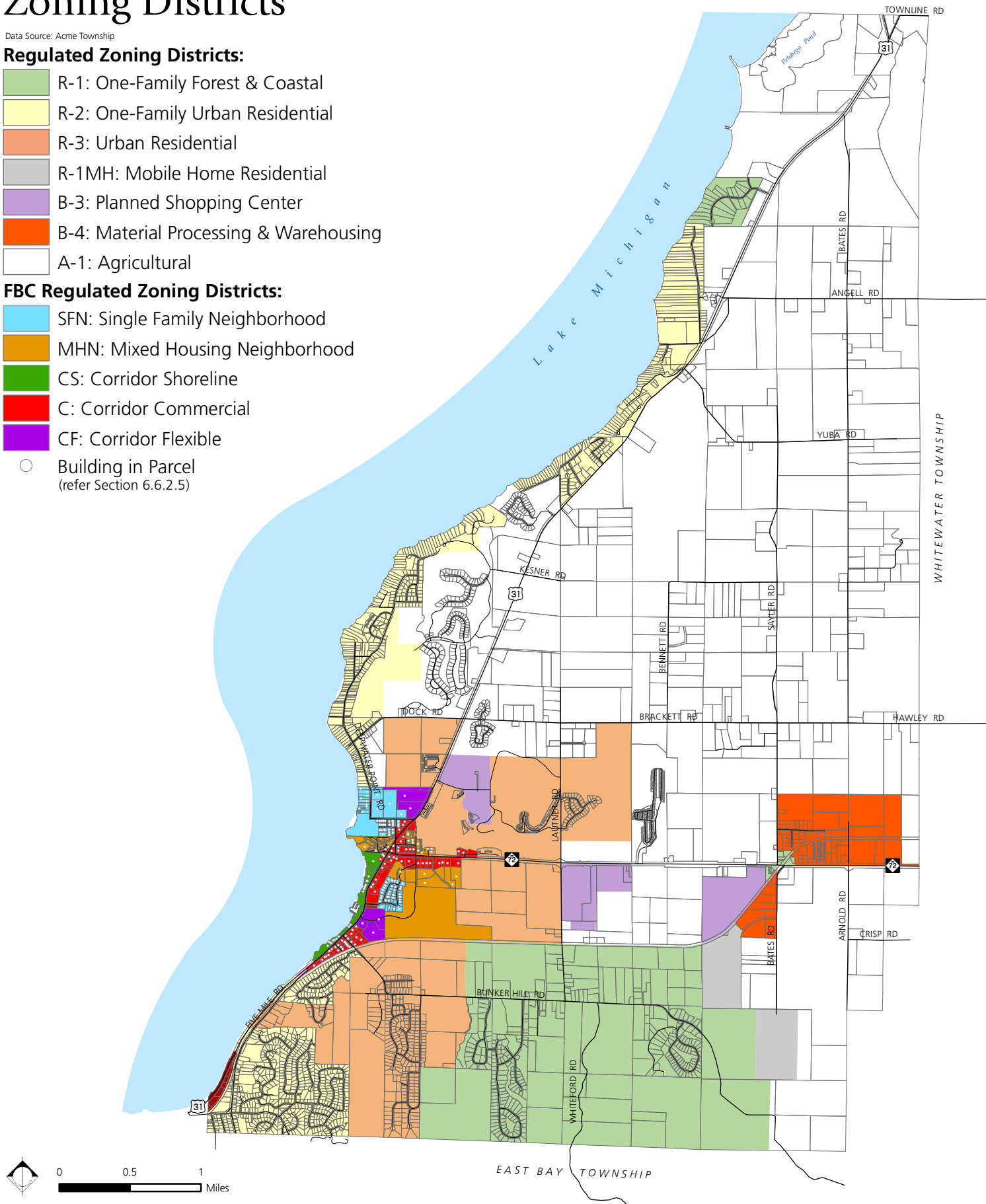
Regulated Zoning Districts:

- R-1: One-Family Forest & Coastal
- R-2: One-Family Urban Residential
- R-3: Urban Residential
- R-1MH: Mobile Home Residential
- B-3: Planned Shopping Center
- B-4: Material Processing & Warehousing
- A-1: Agricultural

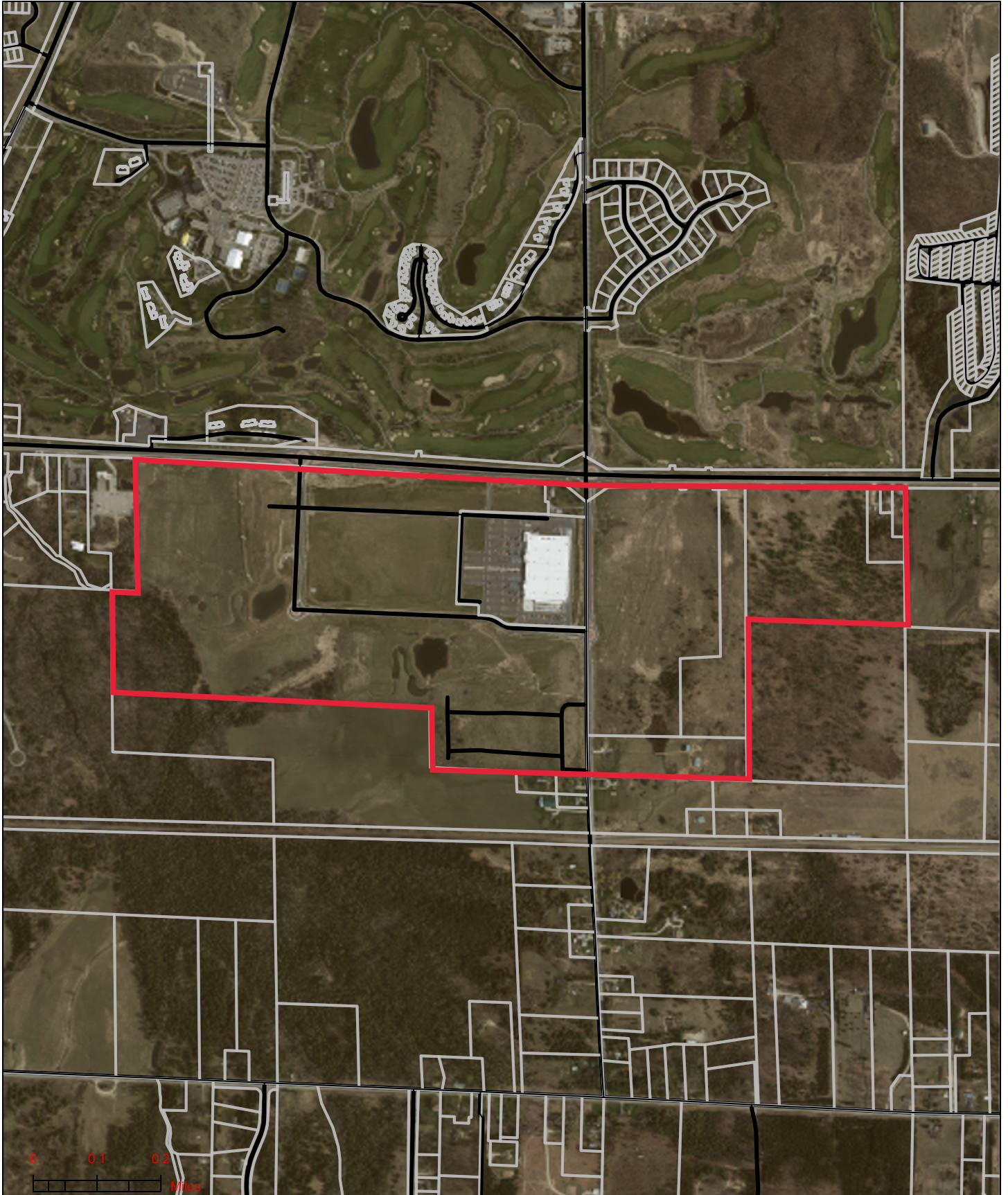
FBC Regulated Zoning Districts:

- SFN: Single Family Neighborhood
- MHN: Mixed Housing Neighborhood
- CS: Corridor Shoreline
- C: Corridor Commercial
- CF: Corridor Flexible

- Building in Parcel
(refer Section 6.6.2.5)



ACME



ACME TOWNSHIP

Zoning Districts

Data Source: Acme Township, Michigan CGI Data Library

- AG: Agricultural
- SFR: Single Family Rural
- SFN: Single Family Neighborhood
- MHN: Mixed Housing Neighborhood
- RMH: Manufactured Housing
- CS: Corridor Shoreline
- C: Corridor Commercial
- CF: Corridor Flexible
- LIW: Light Industrial & Warehouse
- Building in Parcel
(refer Section 6.6.2.5)

