

**TYRONE TOWNSHIP PLANNING COMMISSION  
WORKSHOP MEETING AGENDA  
May 17, 2023 6:00 PM**

**CALL TO ORDER:**

**PLEDGE OF ALLEGIANCE:**

**APPROVAL OF THE AGENDA:**

**CALL TO THE PUBLIC:**

**NEW BUSINESS:**

**OLD BUSINESS:**

- 1) Master Plan
- 2) Utility Scale Solar Facilities

**CALL TO THE PUBLIC:**

**MISCELLANEOUS BUSINESS:**

**ADJOURNMENT:**

# **OLD BUSINESS #1**

Master Plan



**Carlisle | Wortman**  
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

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**MEMORANDUM**

**TO:** Ross Nicholson, Tyrone Township Director of Planning and Zoning

**FROM:** Matteo Passalacqua, Associate Planner

**CC:** Douglas J. Lewan, Executive Vice President, AICP, PCP

**DATE:** May 2, 2023

**RE:** Master Plan Update Materials

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Mr. Ross Nicholson,

As it relates to the current work being conducted on the Tyrone Township Master Plan, we wanted to provide some material updates. Please see the list below outlining the attachments and their contents. Several maps are included and meant to provide a side-by-side comparison of current conditions and past objectives.

- Task Schedule
  - A timeline showing the remaining items to be completed per the goal of Master Plan adoption in December 2023.
- 2023 Existing Land Use Map
  - Provides the current use of various parcels and regions within the Township.
- Existing Land Use Analysis
  - Context for the land uses and their intent. There is supplemental land use information regarding neighboring communities as it relates to designations along the Township border.
- 2012 Master Plan Future Land Use Map
  - Current map being used to guide future land uses and context for review and updating the new Future Land Use Map.

Benjamin R. Carlisle, *President* Douglas J. Lewan, *Executive Vice President* John L. Enos, *Vice President*  
David Scurto, *Principal* Sally M. Elmiger, *Principal* R. Donald Wortman, *Principal*  
Paul Montagno, *Principal*, Megan Masson-Minock, *Principal*, Laura Kreps, *Senior Associate*  
Richard K. Carlisle, *Past President/Senior Principal*



## Carlisle | Wortman

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- Future Land Use Analysis Section 11.14
  - Provides descriptions of the future land use areas and corresponding current zoning districts. Future land use designations from the Township's previous master plan are included for comparison.
- 2017 Current Zoning Map
  - Zoning Map establishing current zone designations and locations.

Thank you for your time and please feel free to reach out with any questions/comments. We look forward to the upcoming Planning Commission and Workshop Meetings.

Yours Truly,

CARLISE/WORTMAN ASSOC., INC.

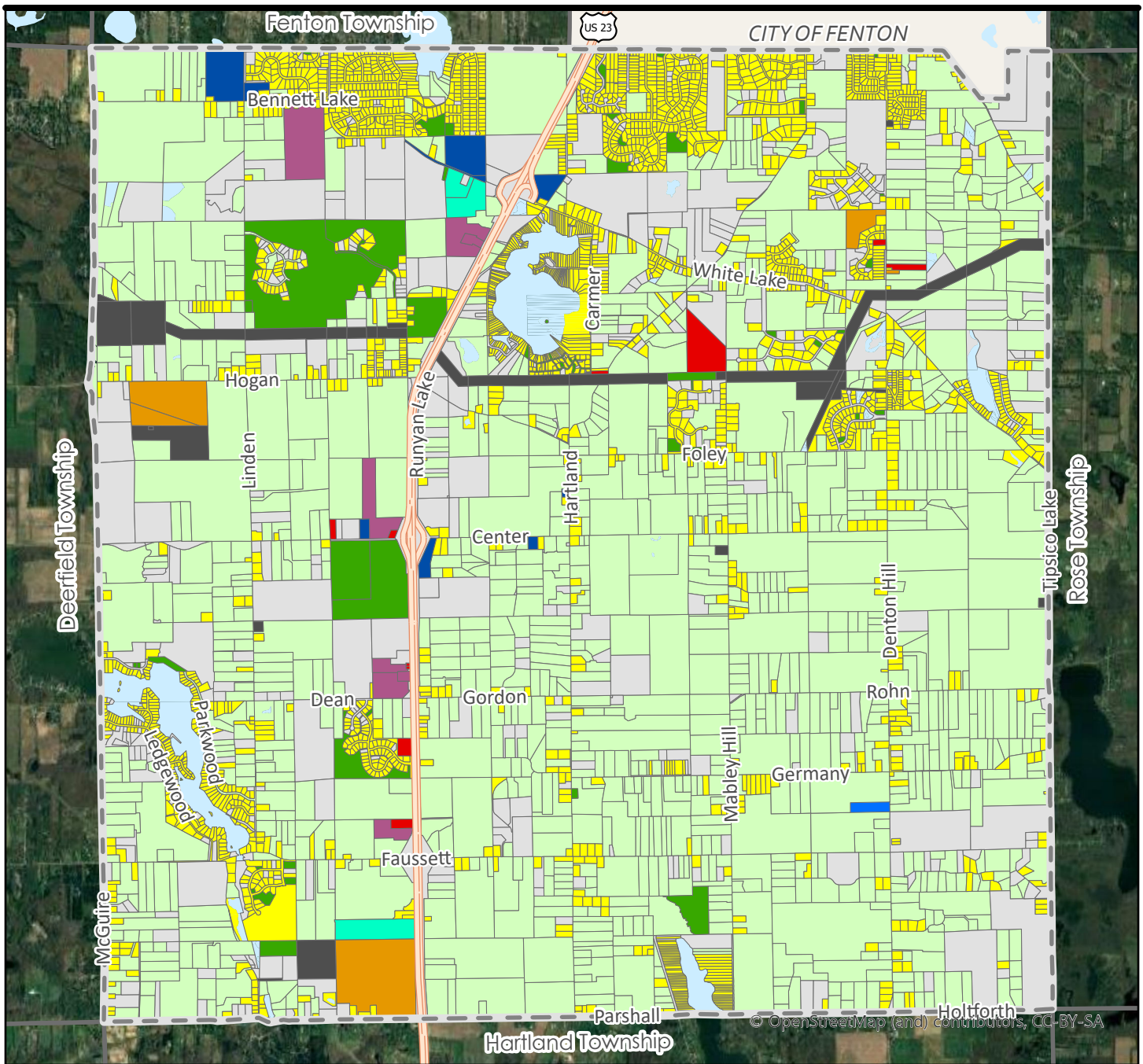
Matteo Passalacqua, MUP

Associate Planner

Benjamin R. Carlisle, *President* Douglas J. Lewan, *Executive Vice President* John L. Enos, *Vice President*  
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TASK	Month (2023)								Comments
	1	2	3	4	5	6	7	8	
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1.1: Inventory Existing Land Uses									IN PROGRESS
1.2: Develop Future Land Use									IN PROGRESS
1.3: Develop Implementation Plan									IN PROGRESS
1.4: Prepare Initial Draft									Background articles complete. IN PROGRESS.
1.5: Prepare Distribution Draft									Distribution draft to be approved by Planning Commission and Township Board.
*Wait for Reviews*									Surrounding communities and interested parties have 63 days to offer comments.
1.6: Conduct Public Hearing									Planning Commission holds public hearing.
1.7: Prepare Final Draft									Final draft per Planning Commission revisions.
1.8: Adoption!									Adoption by Planning Commission or Township Board by resolution.

\*Based on Planning Commission input on sections to be completed.



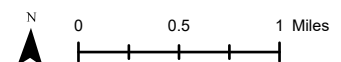
## Existing Land Use Categories

- Agricultural/Rural Residential
- Recreation/Open Space
- Commercial
- Industrial
- Institutional
- Mixed Use
- Multi-Family Housing
- Single-Family Housing
- Transportation/Communication/Utilities
- Vacant

## Tyrone Twp Boundary

- Tyrone Township
- Highways
- Roads

## Existing Land Use Tyrone Township





# EXISTING LAND USE ANALYSIS

## 9.1 Overview

Several important land use conditions in the Township are:

- The vast majority of the land area is undeveloped. 75.7% of the total land area in Tyrone Township is either agricultural or vacant (17,201 acres). According to SEMCOG, 89% of land in Tyrone Township is either woodlands or open space.
- When combined with single-family residential homes, 88.1% of land is used for low-intensity purposes (20,160 acres).
- Commercial and industrial establishments make up only 0.1% of land in the Township (276 acres).

## 9.2 Land Use Categories

Eleven land use categories were established to describe and map existing land use throughout Tyrone Township. These categories are based on data extrapolated from SEMCOG and are as follows:

**Agricultural/Rural Residential.** These lands include cultivated, crop-producing fields, animal husbandry, dairying, farmer's market, and horse stables. It may include large properties used for the above agricultural uses, including a single-family house. It does not include uncultivated, open space or woodlands.

**Single-family Residential.** Any land occupied by a dwelling unit which houses one family and is not attached to any other dwelling of which sizes may vary.

**Multiple-family Residential.** These lands are occupied by dwelling units that house multiple families that may or may not be attached, such as duplexes, apartment complexes, and manufactured home communities.

**Commercial.** Any land occupied by a business or retail establishment primarily for the sale of goods or services. This category includes offices.

**Industrial.** Any land involved in the intensive production or assembly of goods used for export and lighter uses such as warehousing or distribution centers. Extractive operations that produce raw materials, such as mines, quarries, and oil and gas wells are also considered industrial uses.

**Institutional.** These lands are associated with a public body, such as the Township, County, or State, and public institutions, such as schools or libraries. Quasi-public institutions, such as private schools and places of worship, are also considered institutional uses.

**Recreation/Open Space.** These are publicly or privately-owned lands used for personal enjoyment and recreational purpose, such as parks, preserved woodlands, and golf courses.

## Existing Land Use Analysis Article

Draft 04.17.2023

**Transportation, Communications, and Utilities.** These lands are used for roads, public infrastructure, communication facilities, and other transportation routes, such as a rail line.

**Vacant.** These lands are open, uncultivated, undeveloped, uninhabited, and unused areas, such as wetlands, woodlands, scrublands, and open meadows.

**Mixed Use.** Properties on which various uses such as office, commercial, institutional, or residential are combined in a single building or property in an integrated development project. This land use combination of land uses on a single property. Although this can include a mixture of any of the types of land mentioned, the most common form is a combination of commercial and residential use.

**Water.** These areas include all bodies of water including lake, streams, ponds, drains, reservoirs, and other waterways

### 9.3 Land Use Survey

Land use in Tyrone Township has been documented by various entities for several decades.

Previous master plans have included information based on a land use survey from the Township's planning consultant and the Southeastern Michigan Council of Governments (SEMCOG).

Land use information from SEMCOG is used for the current land uses. In some cases, corrections have been made based on local information or recent changes.

Although it can be difficult to compare information generated by different entities at different times, looking at general changes over time helps provide a picture of land use trends in the Township.

**Table 9.3: Land Use in Tyrone Township 2023**

	Tyrone Twp		Oceola Twp	Rose Twp	Deerfield Twp	Brighton Twp	Marion Twp	Hartland Twp
	Acres	%						
Agriculture Residential	12,892.9	56.5%	69.6%	70.6%	73.6%	31.9%	64.8%	45.0%
Single-Family Residential	2,820	12.4%	11.4%	6.7%	4.0%	23.4%	13.2%	15.4%
Multiple-Family Residential	20.3	0.1%	0.3%	0.0%	0.0%	0.1%	0.0%	0.3%
Commercial	24	0.1%	1.2%	0.1%	0.0%	3.1%	0.4%	1.8%
Industrial	204.6	0.9%	0.3%	0.0%	0.7%	13.8%	0.3%	1.8%
Institutional	76.4	0.3%	0.7%	1.2%	0.3%	1.5%	1.1%	2.7%
Recreational/Open Space	395.4	1.7%	3.9%	5.7%	8.6%	6.2%	3.6%	6.9%
TCU	414.7	1.8%	0.5%	1.5%	1.5%	0.6%	1.1%	0.7%
Vacant	4,367.2	19.2%	8.0%	8.3%	6.8%	7.3%	11.0%	18.0%
Mixed-Use	107.4	0.5%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%
Water	789.2	3.5%	1.7%	4.9%	3.9%	4.8%	2.6%	3.9%
Not Parceled	692.3	3.0%	1.3%	1.3%	0.5%	7.5%	2.3%	3.1%
<b>Total</b>	<b>22,804.4</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



(Source: SEMCOG)

## **9.4 Land Use Analysis**

Like most communities in Livingston County, agriculture is not as prominent in Tyrone Township as in years past. Agricultural land use has declined by almost 10% in the last two decades due to residential growth and development. In spite of this, it remains the most prominent land use category in the township, accounting for over half of its total acreage (57.7%). The southeast quadrant of the Township has the most extensive, contiguous stretch of agricultural land.

Tyrone Township primarily consists of low-density single-family residential lots, mainly farming residential followed by single-family residential. Single-family residential has smaller lots with the most density concentrated in the northern portion of the township, along the boundary of Fenton, primarily one-acre lots. Farming residential lots are dispersed throughout the Township and have a minimum of 3 acres. The most significant housing increase in the Township has been in Multiple-Family housing. Since 2008, the Township has experienced an increase in multiple-family housing land use via 1.2 acres in 2015 to 20.3 acres in 2020.

Commercial uses have mainly remained steady in the Township but are infrequently found. Commercial establishments are primarily concentrated along the US-23 corridor and North Fenton Road.

## **9.5 Adjacent Communities Land Use Analysis**

Land uses can create benefits and impacts that extend beyond a community's boundaries. It is essential to consider and examine land uses in adjacent communities in order to plan appropriately.

Land uses in the communities that share a border with Tyrone Township, including Fenton Township, City of Fenton, Rose Township, Hartland Township, and Deerfield Township, are examined. The communities the township shares a limited boundary (corner) are not included in this examination because of the limited impacts those land uses are likely to create (*Argentine Township, Holly Township, Highland Township, and Oceola Township*).

### **Fenton Township**

Fenton Township shares a boundary with the western portion of Tyrone Township's northern border. Bennet Lake Road forms a portion of this boundary.

Land uses in Fenton Township along and near this border are primarily single-family dwellings, as individual lots or in subdivisions, small agricultural fields, and undeveloped woodlands. Marl Lake extends into Tyrone Township from Fenton Township and connects to Silver Lake, home of the Silver Lake Ski Team. Land uses on both sides of this border appear to be generally compatible.

## **Existing Land Use Analysis Article**

Draft 04.17.2023

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### **City of Fenton**

The City of Fenton shares a boundary with the eastern portion of Tyrone Township's northern border. Shiawassee Avenue and Jayne Road form a portion of this boundary.

Land uses in the City of Fenton along and near this border are primarily single-family dwellings. Lots in the City of Fenton are predominantly small, residential lots (62.5% of properties are between 8,000 to 13,999 square feet), and 37.5% of properties are 1/3 to just under an acre in total size. There are several institutional uses, including schools. There are also several undeveloped woodlands and agricultural fields. Significant commercial and industrial areas are roughly a mile north of this border, along Owen Road.

Public water and sanitary sewers are available in the City of Fenton, which allows for noticeably smaller lot sizes for residential uses.

Land uses on both sides of this border are generally compatible. There are some locations with a significant difference in the size of single-family residential lots.

### **Rose Township**

Rose Township shares a boundary with the eastern side of Tyrone Township. Tipsico Lake Road forms most of this boundary, but the road alignment wanders in several locations because of its natural features.

Land uses in Rose Township along and near this border are primarily single-family dwellings, on larger lots of 1-2.4 acres (23.2%) and smaller lake lots (22.8% of properties are between 1/3 of an acre to just under an acre), agricultural fields, and undeveloped woodlands. Tipsico Lake, with a DNR access site and 41-acre park, is just east of the border and in the northwest quadrant of the Township.

Land uses on both sides of this border are generally compatible. The lake residential area and DNR access site in Rose Township are small in area but are more intensive than the uses immediately to the west in Tyrone Township.

### **Hartland Township**

Hartland Township shares a boundary with the southern side of Tyrone Township. This border is defined by Allen Road, Parshallville Road, Parshall Road, and Holtforth Road.

Land uses in Hartland Township along and near this border are primarily single-family dwellings, on larger and smaller lake lots, agricultural fields, and undeveloped woodlands. There are limited commercial uses and a fire station/emergency medical services facility along this border. The hamlet of Parshallville is along this border.

Tyrone Lake extends into both Townships.

Land uses on both sides of this border appear to be generally compatible. The Cider Mill Mobile Home Park, at the northwest corner of Old US-23 and Parshallville Road, is a significantly more intense use than the adjacent residential uses immediately to the south in Hartland Township.

## Existing Land Use Analysis Article

Draft 04.17.2023

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### Deerfield Township

Deerfield Township shares a boundary with the western side of Tyrone. This border is defined by McGuire Road and O'Connell Road.

Land uses in Deerfield Township along and near this border are primarily single-family dwellings at nearly 50% of the total land area, on both larger and smaller lake lots, undeveloped woodlands, and agricultural fields. There is an extraction operation just west of this border on the north side of Hogan Road.

Lake Shannon and Hoisington Lake extend into both Townships.

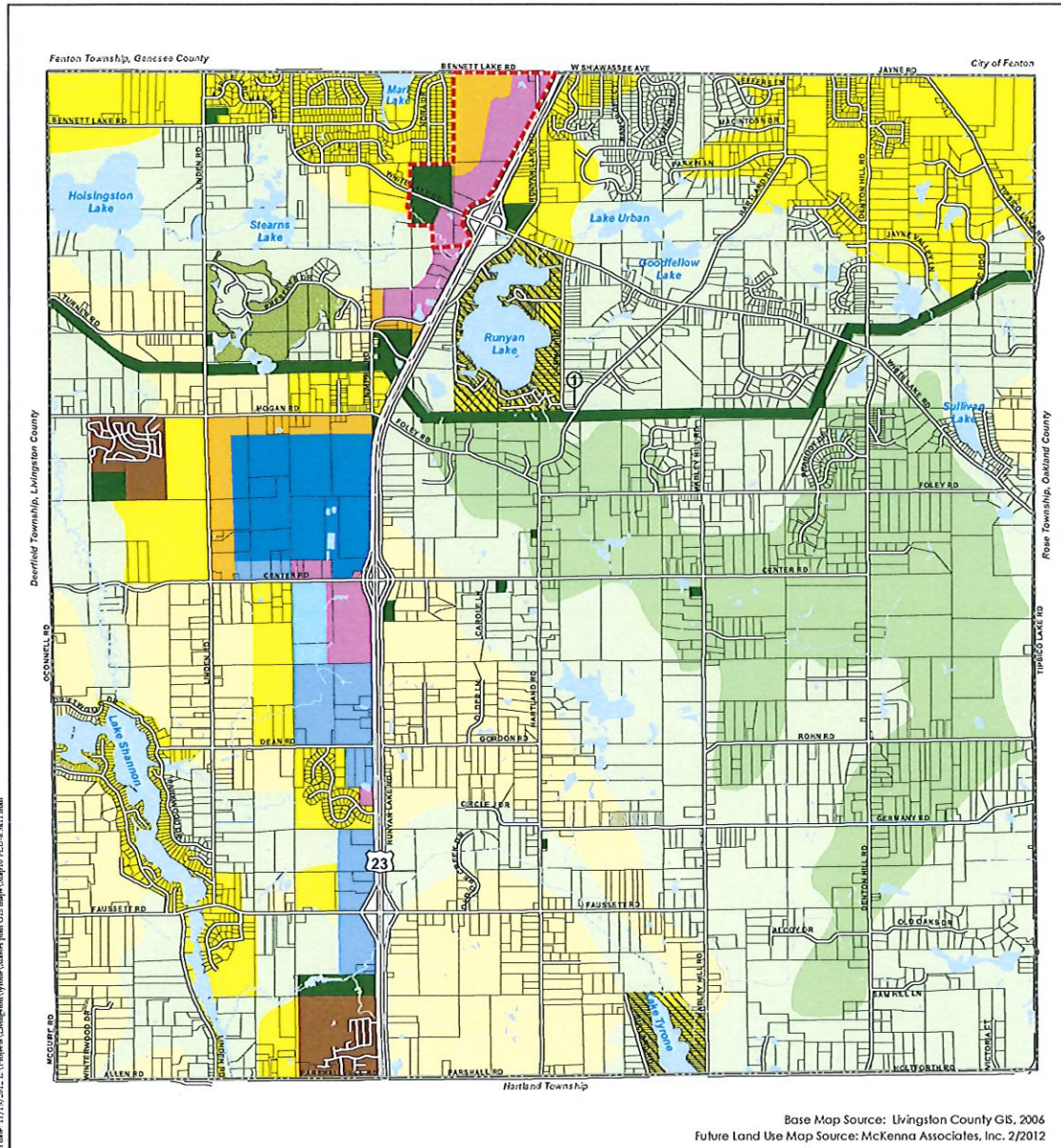
Land uses on both sides of this border appear to be generally compatible. The extraction operation generates truck traffic that travels through Tyrone Township to access US-23.

*[Balance of page intentionally blank.]*

**Existing Land Use Map**



draft (April 2023) for PC review



## Future Land Use Categories

### Residential

- Agricultural/Residential
- Residential/ Natural Resources Preservation
- Low Density Single Family Detached Residential
- Medium Density Single Family Detached Residential
- Medium Density Single Family - Lake Side
- High Density Attached Residential
- Manufactured Single Family Detached Residential

### Non-Residential

- Planned Commercial Services
- Planned Office
- Planned Industrial Research Office
- Planned Commercial Industrial
- Commercial Recreation
- Public/ Quasi-Public

Special Planning Area

① Footnote  
(see following page)

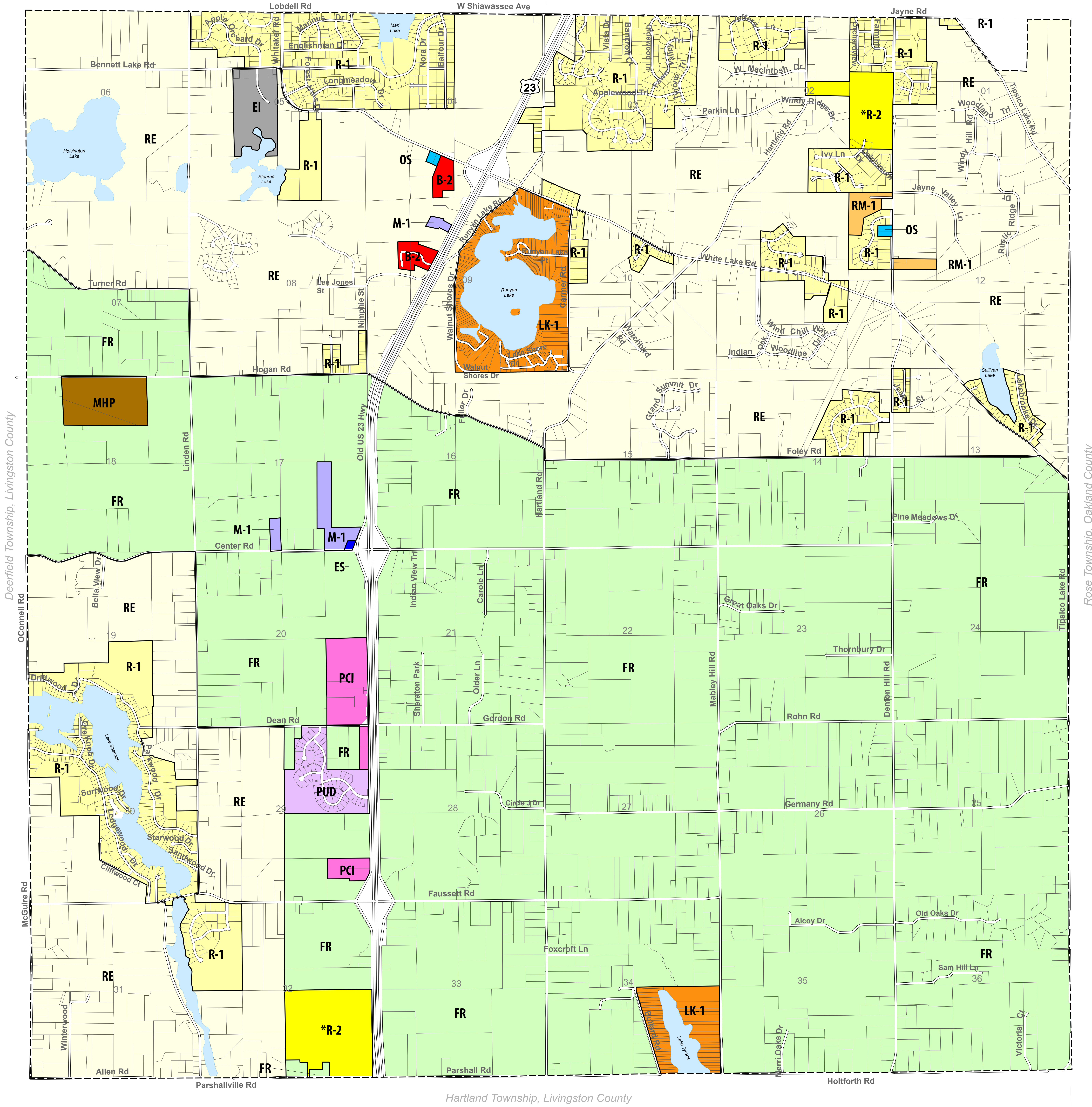
## Map 10 Future Land Use

0 2,000 4,000 FT



11/15/12





July 20, 2017

# Zoning Map

Tyrone Township, Livingston County, Michigan

**Zoning District**

FR	Farming Residential	M-1	Light Manufacturing
RE	Rural Estate	M-2	Heavy Industrial
R-1	Single Family Residential	ROM	Research-Office-Manufacturing
R-2	Single Family Residential	EI	Extractive Industry
RM-1	Multiple Family Residential	PUD	Planned Unit Development
LK-1	Lake Front Residential	PCS	Planned Commercial Services
MHP	Manufactured Home Park	PCI	Planned Commercial Industrial
B-1	Local Business	PIRO	Planned Industrial Research and Office
B-2	Community Business		
OS	Office Service		
ES	Expressway Service		

\* Consent Judgment

**NOTE**

This map represents generalized zoning district boundaries. Exact zoning district boundaries should be confirmed by parcel descriptions and detailed maps that accompany rezoning ordinances and that are maintained as separate by Tyrone Township

**CERTIFICATION**

I, MARCELLA HUSTED, CLERK OF THE TOWNSHIP OF TYRONE, LIVINGSTON COUNTY, DO HEREBY CERTIFY THAT THIS IS A TRUE COPY OF THE MAP ADOPTED BY THE TOWNSHIP BOARD OF THE TOWNSHIP OF TYRONE ON OCTOBER 21, 2003, AS WELL AS THOSE AMENDMENTS MADE AS OF REVISION DATE.

MARCELLA HUSTED, CLERK, TYRONE TOWNSHIP

Date: \_\_\_\_\_

**REVISION DATES**

October 17, 2003	May 5, 2016		
April 7, 2009			
December 3, 2013			
January 6, 2015			

FEET 0 1,000 2,000

**McKenna** ASSOCIATES

Base Map Source: Tyrone Township, Livingston County, 2014



# **OLD BUSINESS #2**

Utility Scale Solar Facilities



# Livingston County Department of Planning

## MEMORANDUM

**TO:** Tyrone Township Supervisor  
**FROM:** Robert Stanford, Principal Planner  
**DATE:** February 23, 2023  
**SUBJECT:** Staff Courtesy Review

Robert A. Stanford  
AICP, PEM  
Principal Planner

Scott Barb  
AICP, PEM  
Principal Planner

**Township Utility Scale Solar Ordinance  
Article 22 Special Uses, Section 22.05 Site Design  
Conditions, Item T. Utility-scale Solar Energy Facilities**

Tyrone Township has requested a courtesy review regarding *Tyrone Township Zoning Ordinance #36, Article 22 Special Uses, Section 22.05 Site Design Conditions, Item T. Utility-scale Solar Energy Facilities*. As requested, I have performed a preliminary, cursory review of the above-referenced Ordinance. Current language is shown in Times Roman font. Staff's comments are listed below in ***bold italics***. Suggested additions are shown in **highlighted text**.

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### ARTICLE 22 SPECIAL LAND USES

#### SECTION 22.05 SITE DESIGN CONDITIONS

All special land uses shall comply with the site plan design requirements of Article 23. In addition, certain special land uses shall also comply with design conditions unique to that use. Those special land uses and conditions are listed herein.

##### **T. Utility-scale Solar Energy Facilities.**

Tyrone Township recognizes the positive environmental impact solar energy systems promise as an energy alternative to traditional sources. Concurrently, the Township has an obligation to ensure use of lands within its jurisdiction provide a net positive effect in terms of impact, support of the Township Master Plan, and availability of land resources.

**1. Regulations.** The following regulations are intended to ensure the interests of the landowner and the Township are achieved harmoniously with no negative effect to the long-term viability of the subject property or those surrounding it. In zoning districts where they are permitted or special land uses, facilities for the capture, storage, and distribution of solar energy for commercial purposes are subject to the following standards:

#### Department Information

Administration Building  
304 E. Grand River Avenue  
Suite 206  
Howell, MI 48843-2323

●  
(517) 546-7555  
Fax (517) 552-2347

●  
Web Site  
[co.livingston.mi.us](http://co.livingston.mi.us)



**a. Lease Unit Boundary.** The boundary around a parcel, multiple parcels, or portions thereof, leased or purchased for the purposes of operating a solar energy facility. The Lease Unit Boundary may cross road rights-of way, but required setbacks shall be provided and calculated on each side of any such road.

**b. Location and Setbacks.** The solar energy system shall not be located closer to the road than any portion of a principal building located on the same parcel. The solar energy facility setback requirements are found in the table below. For parcels abutting Old US-23, the minimum setback from Old US-23 shall be 50 feet. All accessory equipment shall be subject to the same requirements. Setback requirements for all yards may be increased or decreased by the Planning Commission based upon impacts to existing or likely adjacent development.

District	FR	PCI	PIRO-A	PIRO-B	PIRO-C
Front Yard Setback	*50	100	100	100	100
Side Yard Setback	30	30	30	30	30
Rear Yard Setback	75	30	30	30	30

\*In the FR district if the prevailing setbacks of structures on adjacent properties within 500 feet are greater than 50 feet the front yard setback must be increased to those average setbacks, but is not required to be greater than 150 feet.

**STAFF COMMENTS:** *The above setback provisions should clarify how they are measured. There are several different alternatives. For example, setbacks can be measured from the property line or road ROW to the closest point at minimum tilt or from any solar energy system component. If the solar energy system facility is located next to a residential zoning district, the township may want to consider expanding these setback requirements to decrease the undesirable aspects of the facility on these neighboring properties (glare, noise, visual impacts, etc.).*

**The Township proposes to allow Utility Scale Solar Energy Facilities as a Special Use in the FR, PCI, and PIRO A, B, and C zoning districts. The intent statement for each of these districts are listed below:**

#### **SECTION 4.00 INTENT**

*The intent of the FR Farming Residential District is to protect lands best suited to agricultural uses from the encroachment of incompatible uses, while designating an area appropriate to the type of single family residential development that does not alter the general agricultural character of the district. Moreover, the intent also is to protect vital natural resources, including wetlands, inland lake water quality, groundwater supplies, fertile and stable soils, and significant stands of wood lots and vegetative cover. Lands in the FR and RE District are not likely to be served with centralized public water and sewer facilities.*

#### **SECTION 13A.00 INTENT**

*The PCI Planned Commercial Industrial District is designed to accommodate land extensive commercial uses serving both residents and businesses in the Township. These uses typically*



*include outdoor storage or display, may require large sites, access to a major thoroughfare, and may have offsite impacts. Standards are provided to create an environment of consistent attractive character and design with generous landscaping, screening, and attractive buildings, where permitted uses will not negatively impact adjacent uses in other zoning districts. The PCI District is intended to be located near the freeway, with interchange access but not immediately adjacent to the interchange. Therefore, the appearance of uses in this district is important to the image of the community and maintaining the quality of life.*

## **SECTION 16A.00 INTENT**

*The intent of the PIRO District is to encourage the development of a high quality office, research and industrial environment, in campus-type settings with generous landscaping, low intensity lot coverage, and preserving significant natural features. Such areas are often visible from freeways, in high image locations and can impact the impression the Township makes on visitors and travelers, which influences the marketability of the land and the community.*

*The PIRO District is intended to provide a desirable location for larger office, light industrial, and limited heavier industrial uses as provided in the table of permitted and special uses provided below. The District provides opportunities for enterprises to locate office facilities with laboratories or small assembly or distribution sites nearby. By integrating these uses into a planned development, potential impacts of the heavier uses may be mitigated.*

*The distribution of land uses in the PIRO District is regulated in three sub-districts: PIRO-A (Research and Office), PIRO-B (Light Industry), and PIRO-C (General Industry). The subdistricts are designated to ensure that appropriate land transitions occur and that potential use incompatibilities are avoided. The planned location of these sub-districts is illustrated and described in the Future Land Use Plan chapter of the Tyrone Township Master Plan. Development of PIRO-zoned land shall be consistent with this Plan, as determined by the Township. The boundaries of the sub-districts as illustrated on the Future Land Use Map are general, allowing for flexibility when rezoning to one or more of the PIRO sub-districts. When reviewing a potential rezoning, the Township shall consider the proposed location and range of uses that would be permitted in the context of the overall PIRO planned district, to ensure that the purpose and intent of these regulations will be maintained, including proper land transitions and protections from negative impacts and incompatible uses. The Township's Zoning Map shall identify the boundaries of each sub-district as it is adopted, and the land within each sub-district shall be regulated as provided herein.*

*Use of the Planned Unit Development (PUD) process is encouraged for sites larger than 20 acres. This will provide additional flexibility to the property owner and designer, and further enable coordination among various on-site uses.*

***Staff would recommend that the Township reevaluate including the FR Farming Residential zoning district into the group of targeted districts for utility-scale solar energy facilities. While the district is the largest zoning district in the Township by acreage, which means that there are still large unoccupied parcels available, the intent of the district does not support the development of utility-scale solar energy facilities in these areas. As the intent statement states: the desired characteristics of the FR district are: "the protection of lands***



*best suited to agricultural uses from the encroachment of incompatible uses, while designating an area appropriate to the type of single family residential development that does not alter the general agricultural character of the district. The intent of the district is also the protection of vital natural resources, including wetlands, inland lake water quality, groundwater supplies, fertile and stable soils, and significant stands of wood lots and vegetative cover. Therefore, staff does not believe that the development of utility-scale solar energy facilities is conducive to the continued long-term viability of the intended nature of this zoning district.*

*In addition, staff believes that the PCI and specifically the PIRO-B and PIRO-C zoning Districts would be the more suitable for supporting utility-scale solar energy facilities. While the intended development pattern within these districts calls for a campus-like atmosphere with “generous landscaping, low intensity lot coverage, and preserving significant natural features”, the inherent characteristics of these areas, are that they are intended to support “a desirable location for larger office, light industrial, and limited heavier industrial uses as provided in the table of permitted and special uses [for each district]”. Thus, these areas would be more conducive to supporting utility-scale solar energy facilities than the FR Farming Residential zoning district.*

*Also, the text states that these areas fall under the category of “PUDs”, or Planned Unit Developments. Therefore, the use of the PUD process is encouraged for sites larger than 20 acres (typically utility-scale solar facilities are much larger than 20 acres in area) and provides additional flexibility to the development and design process and further enable coordination among various on-site uses.*

*As staff was unable to identify any PIRO-designated zoning districts on the current zoning map available online, it is highly recommended that the township consider adding these areas in the desired locations so that the official zoning map of the township identifies all districts identified in the map legend (currently it is somewhat confusing).*

**c. Height.** The height of the solar energy system and any mounts shall not exceed 15 feet when oriented at maximum tilt.

***STAFF COMMENT:** Staff would recommend revising this provision to be a bit more inclusive of all components associated with the utility-scale solar energy facility in the following manner:*

**The height of the Commercial Solar Energy System and any mounts, buildings, accessory structures, and related equipment must not exceed fifteen (15) feet when orientated at maximum tilt. Lightning rods may exceed fifteen (15) feet in height, but they must be limited to the height necessary to protect the Commercial Solar Energy System from lightning.**

**d. Screening.** Landscaping shall be provided to screen the racking and any accessory equipment from view at a six (6) foot ground level from adjacent properties or public rights-of-way, unless otherwise determined and/or modified by the Planning Commission and/or Township Board.

***STAFF COMMENT:** Staff would recommend revising this provision to be a bit more comprehensive and descriptive. An example would be the following:*



#### **Screening and Vegetation.**

Greenbelt screening is required around any Commercial Solar Energy System and around any equipment associated with the system to obscure, to the greatest extent possible, the Solar Energy System from any adjacent residences. The greenbelt must consist of shrubbery, trees, or other non-invasive plant species that provide a visual screen. At least 50% of the plants must be evergreen trees that are at least six feet tall at the time of planting. In lieu of a planting greenbelt, a decorative fence that is at least 50% opaque and that meets the requirements of this Ordinance applicable to fences may be used if approved by the Planning Commission. Each owner, operator, or maintainer of any Commercial Solar Energy System to which this ordinance applies shall utilize good husbandry techniques with respect to said vegetation, including but not limited to, proper pruning, proper fertilizer, and proper mulching, so that the vegetation will reach maturity as soon as practical and will have maximum density in foliage. Dead or diseased vegetation shall be removed and must be replanted at the next appropriate planting time. Plants or grasses not part of the buffer area shall be maintained by the facility operator not to exceed a height of twelve (12) inches.

*Staff would also encourage staggering of any shrubbery, trees, or non-invasive plant species within the established greenbelt.*

*Staff would also recommend that the applicant/solar developer provide a long-term landscaping maintenance plan at the time of application or prior to final approval by the Township.*

**e. Glare.** Solar energy systems must be placed and oriented such that concentrated solar radiation or glare does not project onto roadways and nearby properties. Applicants have the burden of proving any glare produced does not cause annoyance, discomfort, or loss in visual performance and visibility.

*STAFF COMMENT: To ensure compliance with this provision, the township should require that the applicant/solar developer provide a Glare Study. The provision of such a study could be described in the following manner:*

**Glare Study:** An analysis by a third-party qualified professional to determine if glare from the SES will be visible from nearby residents and roadways. If required, the analysis shall consider the changing position of the sun throughout the day and year, and its influence on the SES.

**f. Batteries and Accessory Equipment.** When solar storage batteries are included as part of the solar energy system, they must be placed in a secure container or enclosure when in use, and when no longer used shall be disposed of in accordance with applicable laws and regulations.

*STAFF COMMENT: If possible, Staff would recommend against permitting on-site battery storage for safety and welfare of local residents and emergency response personnel that may not be properly trained in dealing with these specialized emergency situations.*

**g. Natural Feature Preservation.** The plan for installation of a solar farm shall include a tree survey and plan for cutting of trees greater than 6" DBA. No such trees shall be cut in any required





setback other than those reasonably required for the installation of a drive to access the facility. Retention of natural grades, soils, and groundcover material is encouraged where feasible.

***STAFF COMMENT: In this same regard, staff would recommend adding the following provision:***

**Environmental Impact Analysis:** An applicant shall have a third-party qualified professional conduct an analysis to identify and assess any potential impacts on the natural environment including, but not limited to, wetlands and other fragile ecosystems, historical and cultural sites, and antiquities. The applicant shall take appropriate measures to minimize, eliminate, or mitigate adverse impacts identified in the analysis.

An applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts. The applicant shall comply with applicable parts of the following:

- Michigan Natural Resources and Environmental Protection Act (Act 451 of 1994, MCL 324.101 et seq.) including but not limited to Part 31 Water Resources Protection (MCL 324.3101 et seq.).
- Part 91 Soil Erosion and Sedimentation Control (MCL 324.9101 et seq.), Part 301 Inland Lakes and Streams (MCL 324.30101 et seq.).
- Part 303 Wetlands (MCL 324.30301 et seq.).
- Part 323 Shoreland Protection and Management (MCL 324.32301 et seq.).
- Part 325 Great Lakes Submerged Lands (MCL 324.32501 et seq.).
- Part 353 Sand Dunes Protection and Management (MCL 324.35301 et seq.).

***Other types of analysis that may be of benefit to the township, which have been utilized in other utility scale solar energy system ordinances, to include as part of the required application/permit package, consist of the following:***

**• Wildlife Impact Analysis:**

An applicant shall have a third-party qualified professional conduct an analysis to identify and assess any potential impacts on wildlife and endangered species. The applicant shall take appropriate measures to minimize, eliminate, or mitigate adverse impacts identified in the analysis. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts. Sites requiring special scrutiny include wildlife refuges, other areas where birds are highly concentrated, bat hibernacula, wooded ridge tops that attract wildlife, sites that are frequented by federally or state listed endangered species of birds and bats, significant bird migration pathways, and areas that have landscape features known to attract large numbers of raptors. At a minimum, the analysis shall include a thorough review of existing information regarding species and potential habitats in the vicinity of the project area. Where appropriate, surveys for bats, raptors, or general avian use should be conducted. The analysis shall include the potential effects on species listed under the federal Endangered Species Act and Michigan's Endangered Species Protection Law. The applicant shall follow all pre-construction and post-construction recommendations of the United States Fish and Wildlife Service. The analysis shall indicate whether a



post-construction wildlife mortality study will be conducted and, if not, the reasons why such a study does not need to be conducted. Power lines should be placed underground, when feasible, to prevent avian collisions and electrocutions. All aboveground lines, transformers, or conductors should follow any Avian Power Line Interaction Committee (APLIC, <http://www.aplic.org/>) guidelines to prevent avian mortality.

- **Provision of Manufacturers' Safety Data Sheet(s) on-site:**

Documentation shall include the type and quantity of all materials used in the operation of all equipment.

- **Fire Suppression Plan:**

A plan describing the fire suppression process and procedure, as well as training for emergency personnel.

- **Anticipated Construction Schedule**

- **Permits from the Livingston County Road Commission and/or Michigan Department of Transportation (MDOT) for permission to connect access roads to existing County roads and from the Livingston County Drain Commission for any culverts or other drainage facilities.**

- **A complete set of photos and video of the entire development area prior to construction. This would be helpful historical documentation for the township to secure and to refer to once the time comes for decommissioning and redevelopment as agricultural or other prior land use activities takes place.**

**h. Drainage and Stormwater.** Solar energy facilities shall not increase stormwater runoff onto adjacent properties. The application shall include a drainage plan prepared by a registered civil engineer showing how stormwater runoff shall be managed and demonstrating that runoff from the site shall not exceed the agricultural runoff rate or otherwise cause undue flood. Any necessary permits from outside agencies for off-site discharge shall be provided. It should also be demonstrated that maintenance procedures and products will not introduce chemicals or create detrimental impacts to the natural environment, groundwater, and wildlife. Detergents should be of a biodegradable variety, and frequency of anticipated cleaning should be described.

***STAFF COMMENT: To ensure compliance with this provision, the township should require that the applicant/solar developer provide a Stormwater Study. The provision of such a study could be described in the following manner:***

**Stormwater Study:** An analysis by a third-party qualified professional that takes into account the proposed layout of the SES and how the spacing, row separation, and slope affects stormwater infiltration, including calculations for a 100-year rain-event (storm). Percolation tests or site-specific soil information shall be provided to demonstrate infiltration on-site without the use of engineered solutions.

**i. Lot Coverage.** Impervious surfaces required for the installation of ground-mounted solar energy systems shall be subject to the maximum lot coverage standards of the zoning district. Impervious surfaces for the purpose of calculating lot coverage for solar energy systems include, but are not limited to, mounting pads, footings, concrete or asphalt driveways and walkways, and



accessory structures. In the case of a solar energy system on a lease unit, maximum lot coverage standards shall apply for each parcel included within a lease unit.

***STAFF COMMENT: Staff prefers this arrangement in determining maximum lot coverage as opposed to a set percentage that some communities chose to use.***

**j. Abandonment and Removal.** If a solar energy system ceases to perform its intended function (generating electricity) for more than 12 consecutive months, the operator shall remove the collectors, mounts, and associated equipment and facilities no later than 90 days after the end of the 12-month period. Where the removal has not been lawfully completed as required above, and after at least 30 days' written notice, the Township may remove or secure the removal of the solar energy system or portion thereof, with the Township's actual cost and reasonable administrative charges to be covered by the operator's security bond. Any costs incurred by the Township above and beyond the value of the security bond will be the responsibility of the operator.

***STAFF COMMENT: Within this same context, the township should consider adding provisions for repowering the facility, in cases where repairs or replacements to solar energy system components are necessary, in order to properly maintain the system. These regulatory provisions should only pertain to repowering the solar energy system in order to maintain or increase the power rating within the EXISTING project footprint. Any proposal to change the project footprint of an existing solar energy system should be processed as a NEW application and permit.***

**k. Decommissioning.** The ground shall be restored to its original condition within 60 days of removal of structures. Acceptable ground covers include grasses, trees, crops, or other material demonstrated to be characteristic of the surrounding land. All above and below ground materials shall be removed when the solar energy system is decommissioned.

***STAFF COMMENT: As part of this process, the township must consider what, if any, infrastructure would be allowed to remain on site (service road, fencing, etc.).***

***The decommissioning process should take on the form of an overall comprehensive plan.***

**l. Security. A letter of credit, cash deposit, or other security instrument found acceptable to the Tyrone Township Board.** The owner(s) and/or operator of the solar energy facility shall post a security instrument in a form acceptable to the Township equal to one-hundred fifty (150) percent of the total estimated decommissioning and reclamation costs. The cost of decommissioning shall be re-reviewed and submitted to the Township annually to ensure adequate funds are allocated for decommissioning. The security instrument, defined herein, shall be appropriately adjusted to reflect the current decommissioning estimate.

- i. The applicant shall engage a certified professional engineer acceptable to the Township to estimate the total cost of decommissioning all structures in the facility in accordance with the requirements of this Ordinance, including reclamation to the original site conditions.



- ii. A security bond, if utilized, shall be posted and maintained with a bonding company licensed in the State of Michigan or a Federal or State-chartered lending institution acceptable to the Township.
- iii. Any bonding company or lending institution shall provide the Township with 90 days' notice of the expiration of the security bond. Lapse of a valid security bond is grounds for the actions defined in Subsection v., below.
- iv. In the event of sale or transfer of ownership and/or operation of the solar energy facility, the security instrument shall be maintained throughout the entirety of the process.
- iv. If at any time during the operation of the solar energy facility or prior to, during, or after the sale or transfer of ownership and/or operation of the facility the security instrument is not maintained, the Township may take any action permitted by law, revoke the special land use, order a cessation of operations, and order removal of the structure and reclamation of the site.
- v. The security instrument shall be maintained until decommissioning and removal has been completed to the satisfaction of the Township.

**2. Site Plan Approval and Supporting Materials.** All applications for Utility-scale Solar Energy Facilities must be accompanied by detailed site plans, drawn to scale and dimensioned and certified by a registered engineer licensed in the State of Michigan. All site plans shall conform to the requirements of Article 23.

In addition they shall display the following information:

- a. All lot lines and dimensions, including a legal description of each lot or parcel comprising the Utility-scale Solar Energy Facility.
- b. Vicinity map showing the location of all surrounding land uses.
- c. Location and height of all proposed Solar Array(s), buildings, structures, electrical tie lines and transmission lines, security fencing, and all aboveground structures and utilities associated with a Utility-scale Solar Energy Facility.
- d. Horizontal and vertical to scale drawings (elevations) with dimensions that show the location of the proposed Solar Array(s), buildings, structures, electrical tie lines and transmission lines, security fencing and all above ground structures and utilities on the property.
- e. Location of all existing and proposed overhead and underground electrical transmission or distribution lines within the Utility-scale Solar Energy Facility and within one hundred (100) feet of all exterior property lines of the Utility-scale Solar Energy Facility. (exterior means the physical property lines versus the lease unit boundary lines)



- f. Proposed setbacks from the Solar Array(s) to all existing and proposed structures within the Utility-scale Solar Energy Facility.
- g. Topography for the Solar Array(s) location and the relationship to the land elevations of all existing and proposed structures within the Utility-scale Solar Energy Facility at a minimum of two (2) foot contour intervals.
- h. Access driveways within and to the Utility-scale Solar Energy Facility, together with a detailed narrative regarding dimensions, composition, and maintenance of each proposed driveway. All access driveways shall be subject to Livingston County Road Commission (LCRC) approval and shall be planned so as to minimize the use of lands for that purpose.
- i. Planned security measures to prevent unauthorized trespass and access during the construction, operation, removal, maintenance or repair of the Utility-scale Solar Energy Facility.
- j. A written description of the maintenance program to be used for the Solar Array(s) and other components of the Utility-scale Solar Energy Facility, including decommissioning and removal. The description shall include maintenance schedules, types of maintenance to be performed, and decommissioning and removal procedures and schedules if the Utility-scale Solar Energy Facility is decommissioned.
- k. Planned lightning protection measures.
- l. Additional detail(s) and information as required by the Tyrone Township Zoning Ordinance, or as required by the Planning Commission and/or Township Board.

***STAFF COMMENT: In addition to the application items listed above, the township should consider including any number of the following additional application items:***

- A plan for resolving complaints from the public or other property owners concerning the construction and operation of the Commercial Solar Energy System, which is subject to the Township's review and approval.
- A plan for managing any hazardous waste, which is subject to the Township's review and approval.
- A transportation plan for construction and operation phases, including any applicable agreements with the County Road Commission and Michigan Department of Transportation, which is subject to the Township's review and approval.
- An attestation that the applicant will indemnify and hold the Township harmless from any costs or liability arising from the approval, installation, construction, maintenance, use, repair, or removal of the Solar Energy System, which is subject to the Township's review and approval.

***ADDITIONAL STAFF COMMENTS: At a minimum, staff would recommend that the township add the following definitions related to utility-scale solar energy facilities:***



**Solar Energy: The following definitions shall apply in the application of this Ordinance.**

- 1. Abandonment:** Any solar energy system or facility that is no longer producing power.
- 2. Building Integrated Photovoltaics (BIPVs):** A private or utility solar energy system that is integrated into the structure of a building, such as solar roof tiles or solar shingles.
- 3. Decommission:** To remove or retire a solar energy system or facility from active service.
- 4. Ground-Mounted Solar Energy System:** A private or utility solar energy system that is not attached to or mounted on any roof or exterior wall of any principal or accessory building.
- 5. Height:** The height of a solar energy system, measured vertically from the adjacent grade to its highest point at maximum tilt.
- 6. Inhabited Structure:** Any existing structure usable for living or non-agricultural commercial purposes, including, but not limited to: working, sleeping, eating, cooking, recreation, office, office storage, or any combination thereof. An area used only for storage incidental to a residential use, including agricultural barns, is not included in this definition. If it is not clear by this definition, the Zoning Administrator shall make a determination of any structure regarding whether or not it is inhabited.
- 7. Non-Participating Property:** A property that is not subject to a Utility Solar Energy Facility lease or easement agreement at the time an application is submitted for a Special Land Use for the purposes of constructing a Utility Solar Energy Facility.
- 8. Participating Property:** A property that participates in a lease or easement agreement, or other contractual agreement, with or that is owned by an entity submitting a Special Land Use Permit application for the purpose of developing a Utility Solar Energy Facility.
- 9. Private Solar Energy System:** A Solar Energy System used exclusively for private purposes and not used for commercial resale of energy, except for the sale of surplus electrical energy back to the electrical grid.
- 10. Roof or Building-Mounted Solar Energy System:** A private or utility solar energy system that is attached to or mounted on any roof or exterior wall of any principal or accessory building but excluding BIPVs.
- 11. Solar Energy System:** A device designed to collect and transform solar energy into electricity.
- 12. Solar Farm:** See Utility Solar Energy Facility.
- 13. Utility Scale Solar Energy System or Facility:** A Solar Energy System where the principal design, purpose, or use of such system is to provide energy to off-site uses or the wholesale or retail sale of generated electricity to any person or entity.

*As an example of one of the more preferred development methods regarding regulating utility-scale solar energy facilities that County Planning Staff and the County Planning Commission has recently received for review and recommendation was submitted by Marion Township. Marion Township has established an overlay zone for siting this land use within its township (since the map's initial conception, the Township has been diligently revising the overall area boundaries and has reduced the size considerably). The following are the intent statements and associated permitted and special use provisions along with the initial proposed Overlay District Map for this district:*





### **SFO: Solar Farm Overlay District**

**Intent:** It is the intent of the Solar Farm Overlay District (SFO) to provide for the location and siting of Utility Solar Energy Facilities to promote economic development while protecting the public health, safety, and welfare; mitigating adverse impacts to agricultural lands, natural and environmentally-sensitive areas, and developed residential areas; and preserving scenic views and cultural resources. The Solar Farm Overlay District is intended to include areas with large tracts of land in proximity to electrical transmission lines to limit potential impact on other areas and uses within the Township.

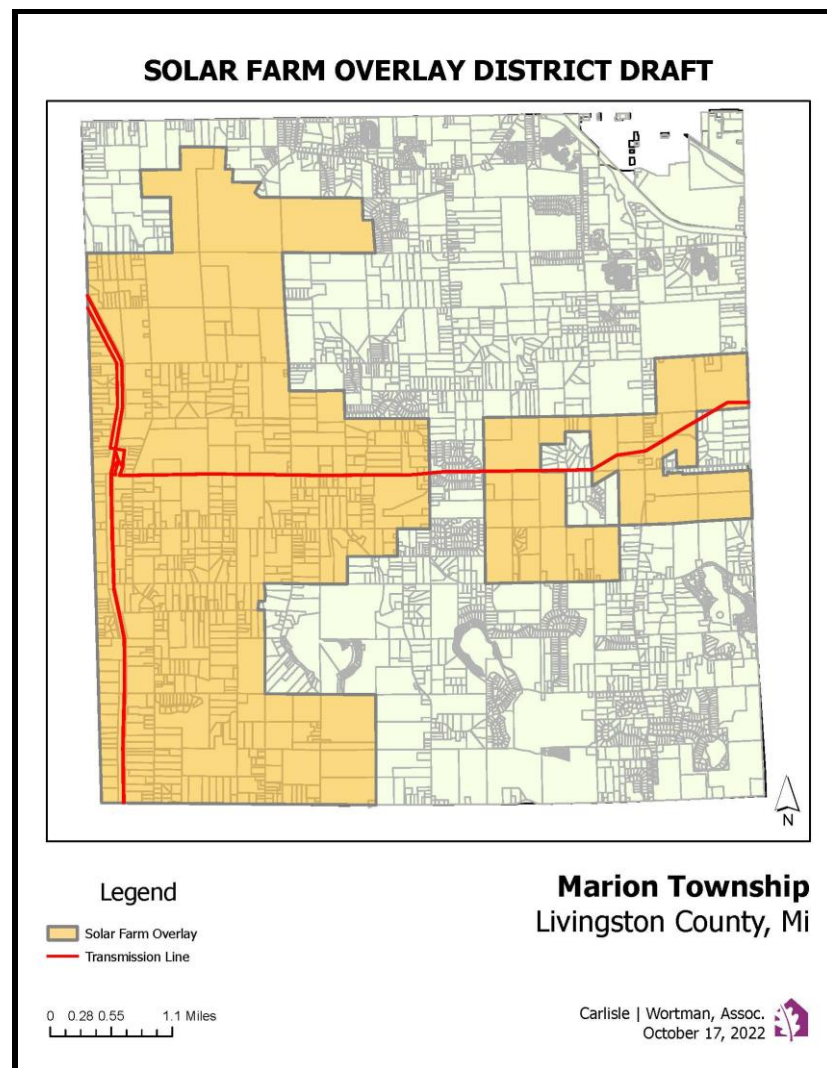
### **Permitted Accessory Uses:**

Accessory uses or structures clearly incidental to the operation of an approved Utility Solar Energy Facility.

### **Uses Permitted By Special Use Permit: (See specific Provisions in Article XVII)**

Utility Solar Energy Facilities.

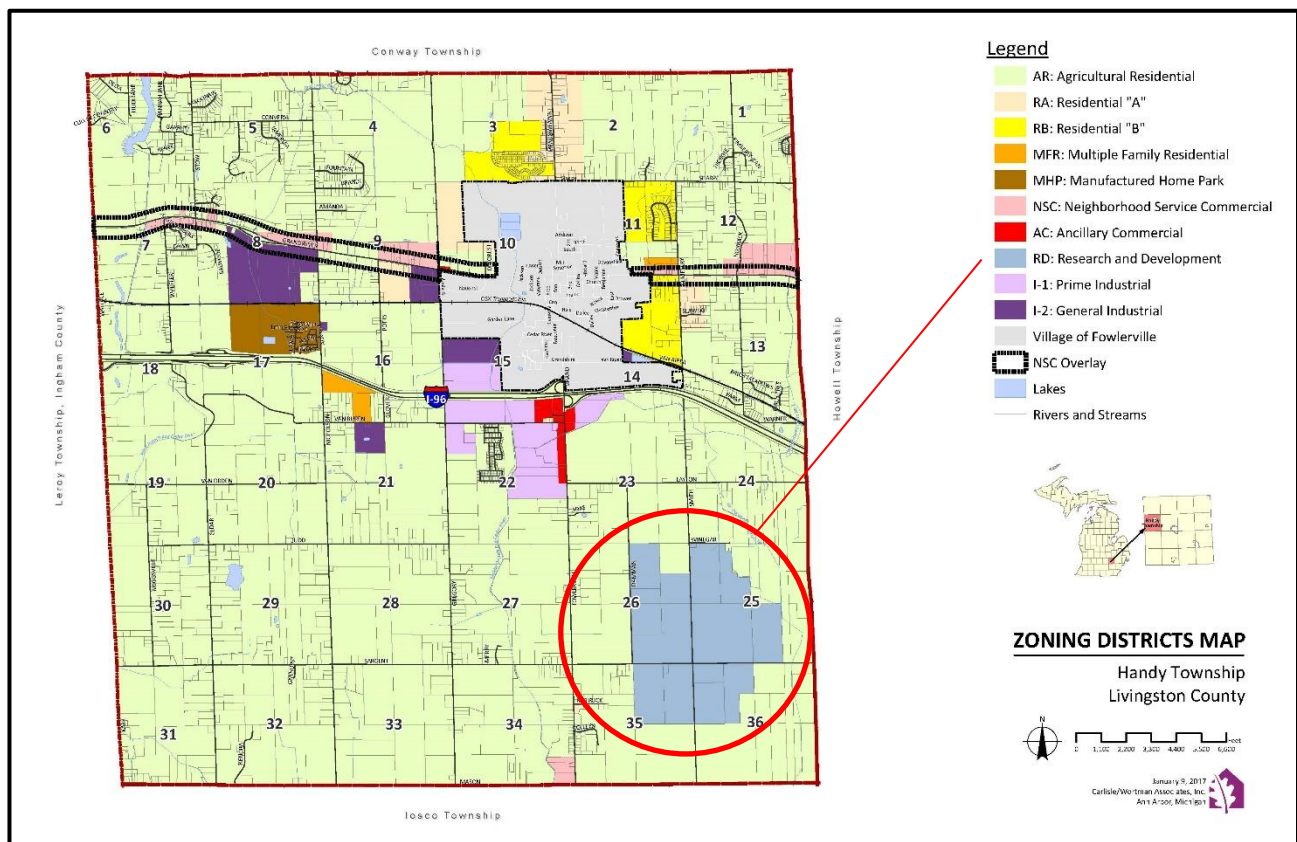
### **Marion Township Initial Solar Farm Overlay District (as of December 2022)**





**Another one of the preferred alternatives recently reviewed by County Planning and the County Planning Commission is that of Handy Township. Handy Township's utility solar ordinance utilizes a previously designated and well-established Research and Development zoning district (located southeast of the Village of Fowlerville) by which to plan and allow for future utility-scale solar energy facility development. The benefit of this alternative is that the site is of relative size to support this type of land use activity (200 acres+) and is in close proximity to an existing overhead high power electricity line corridor. Handy Township has chosen to prohibit utility-scale solar energy facilities on PA 116 lands (which are allowed in other, more appropriate lands within the township, thus, the township is proactively protecting the community's agricultural and rural, open space nature while also allowing this new renewable energy source at a well defined area of the township.**

### **Handy Township R & D Zoning District (highlighted below)**





*The Township should also decide whether it wishes to permit utility-scale solar energy facilities on properties enrolled in the PA 116 Farmland and Open Space Preservation Program.*

*If not already done so, it would be beneficial for the township consider all permutations of solar energy systems: accessory roof-mounted, accessory ground mounted, principal use (small-scale), and principal use (large-scale, utility-scale).*

*It's also important to include the following provisions in any utility-scale solar energy facilities ordinance:*

#### **Validity and Severability**

If any portion of this Ordinance is found invalid for any reason, such holding will not affect the validity of the remaining portions of this Ordinance.

#### **Repealed**

All other ordinances inconsistent with the provisions of this Ordinance are hereby repealed to the extent necessary to give this Ordinance full force and effect.

#### **Effective Date**

This Ordinance takes effect seven (7) days after publication as provided by law.

*Lastly, it's very important to consult with and utilize township legal counsel with developing the township's solar energy facility ordinance language.*

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*There are now available Community Energy Management Incentive Programs available to upgrade plans and ordinances for renewable energy:*

*Grants for updating plans and ordinance for renewables:  
up to \$25,000*

*sending postcards to residents for planning process, support for public meetings, etc.*

*2023 cycle open – January 1 -May 31 or until funds are 100% committed:*

*Email: Jessica Crawford: [crawfordj15@michigan.gov](mailto:crawfordj15@michigan.gov)*

*Apply at: [www.michigan.gov/energy](http://www.michigan.gov/energy)*

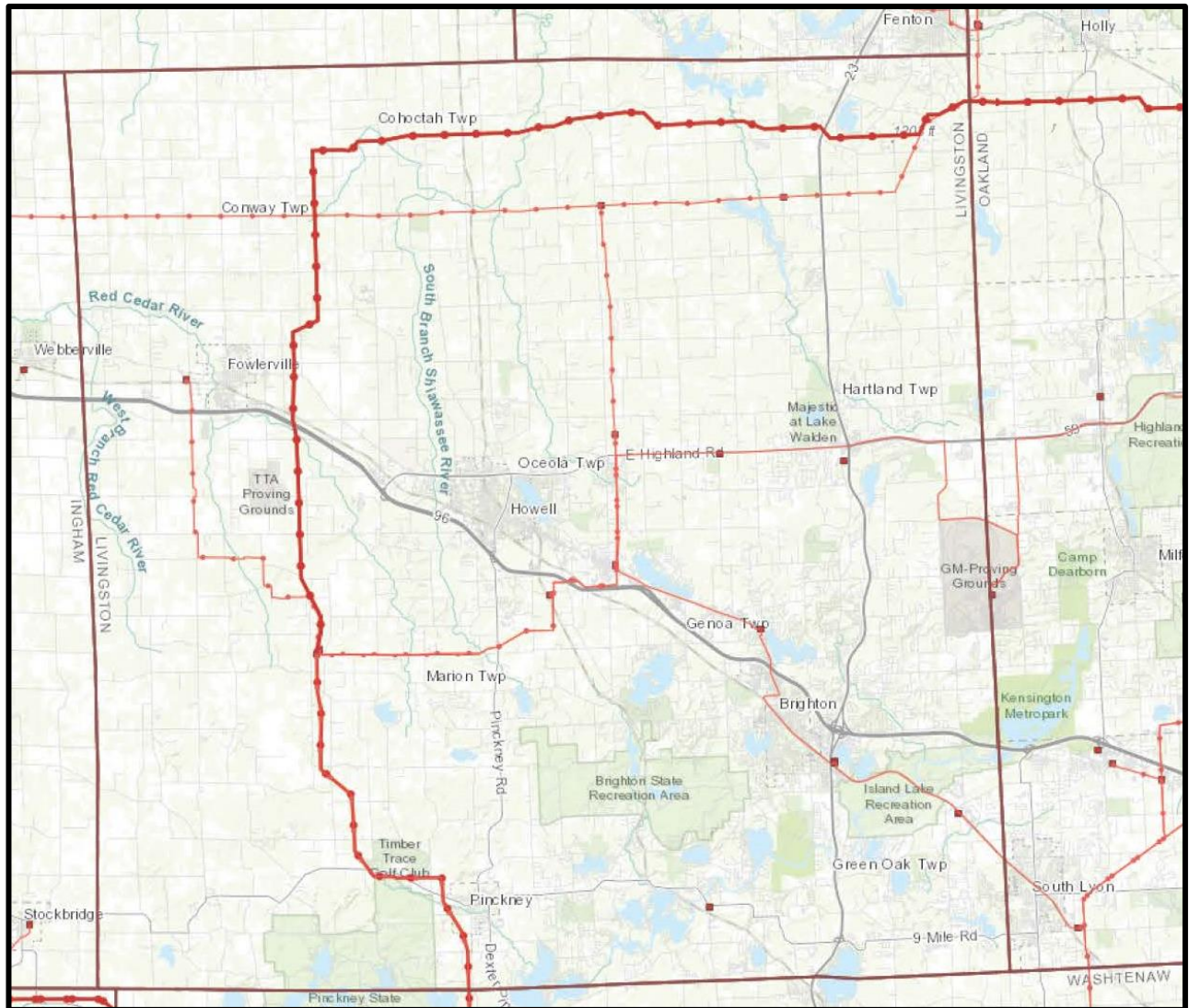
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*County Planning Staff hopes that Tyrone Township finds this courtesy review helpful and derives some practical benefit from it when determining whether to revise its current standards. County Planning Staff is always willing to share best practices it becomes aware of with all 20 of our local community planning partner communities, either knowledge gained in the course undertaking the monthly review of township zoning and master plan amendments submitted by one or many of our fourteen local township planning partners, or via the numerous planning conferences, webinars and training sessions attended by staff on a regular basis.*





**The map below provides the location of all main electrical transmission lines in the County.**



**Livingston County Electric Transmission Lines**

Source: <https://ezmt.anl.gov>