Land Use Scenario Environmental Report (Task 3.5)

THE GRAND VISION™
Land Use & Transportation Strategy

Report prepared by

MEAD & HUNT

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June 2010

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1.0 Introduction

The Land Use Scenario Environmental Report is a synthesis of data collected and analyzed in previous reports and applied to the corridors of significance. The corridors of significance are existing roadway sections within the TC-TALUS boundary area that will play an important role in the transportation network as the region grows and develops over the next thirty years. They have been identified through a combination of the travel demand model (TDM) results, community input and local knowledge. The corridors have been evaluated and approved by the TC-TALUS Technical Committee and the TC-TALUS Board for further analysis. As the land use scenarios and TDM results are applied to specific corridors, further observations and analysis become possible.

This report contains and combines information from the Grand Vision's land use scenarios and the *Travel Demand Model Methodology Report* (Kimley-Horn Associates) and applies the data to the eleven selected corridors of significance. Additionally, a physical resource inventory and a land use inventory are produced for each corridor through the use of Geographic Information Systems (GIS). Data from the social, economic, and environmental (SEE) impacts are also considered at the corridor or regional levels as applicable. These are a standard set of considerations that are used for the National Environmental Policy Act (NEPA) review process. This analysis identifies and raises awareness of areas where road improvements may not be possible due to environmental constraints or desirable based on social and economic goals of the Grand Vision. These are done, in part, as a precursor to the next step of the Grand Vision project where transportation projects will be identified. Those transportation improvement projects will be located exclusively in these corridors.

The combination of data and analysis into a single report helps to assimilate all available data so that transportation decisions are not made in a vacuum. The application of the TDM to different land use scenarios on each corridor provides a direct connection between land use pattern and the road function as well as the opportunity for transit service. Regional land development patterns make a difference in how some corridors function and how effective transit is likely to be on the corridor. The overlay of TDM results for each land development scenario on the corridors demonstrates that land use has a direct impact on the transportation corridors in the region. Additionally, the application of environmental, land use and social criteria to each corridor provides a set of parameters that will guide future transportation project decisions.

2.0 Executive Summary

The report begins with a review of the scenarios. A general overview is offered through narrative text and a regional map of each scenario is provided to set the stage for future discussion.

From the regional perspective, the report shifts to a corridor focus. Each corridor is introduced and described in terms of corridor location, length, termini, design, speed limit, major intersections, classification per the national functional classification system and the average daily traffic count. After the road description, a chart is provided with a list of physical elements and a corresponding notation about whether each resource was found in the 400' buffer area around the corridor. A direct "yes" or "no" indicator is provided along with a quantitative description when possible. For instance, if wetlands are present on the corridor within the buffer area, a measurement through number of acres is provided. For some resources, like threatened and endangered species, it is possible to indicate the resource but it is not possible to provide a quantitative description.

Following the text descriptions and the chart summary, each corridor contains two maps that are each produced in a series. The maps are presented in a series to keep the mapping to a legible scale along corridors that stretch for miles. One series presents the physical environmental resources along the corridor. These include landmarks, wetlands, and prime and unique farmland soils. The other series show current land use along the corridor as well as the local jurisdiction that regulates land use. While there is no analysis provided, the maps provide a resource and land use for future corridor analysis and project selection considerations.

After the environmental inventory, the report shifts to a comparative discussion of future land use along each corridor through each scenario. First, an overview of each scenario is provided with general observations about the land use impacts of each scenario. Then, a discussion is provided for each corridor about the adjacent land use that is anticipated by each scenario. The analysis is based on a combination of the regional growth map and the development patterns associated with each scenario.

The scenarios have a variety of impacts on different land use components. Commentary is provided related to growth pressure and the physical limits of developments. Notes are made about the amount of infill development that occurs along the corridor or a notation that most new development occurs on vacant parcels (green field development). Observations are made about the anticipated development types such as single family residential or mixed use. Some corridors will see a significant increase in density with infill development or different types of new development in the Villages (C) and City focused (D) scenarios but not with the Trend (A) or Cluster (B) scenarios. Some corridors will experience an associated change in building style in some scenarios such as increased height or floor area ratio (FAR). Also, different scenarios indicate development nodes at major urban intersections in addition to villages around the region. These impact vehicular transportation along the corridor and may also provide enhanced pedestrian circulation in some areas.

The observations are not absolutes but are a tool to allow the reader to compare likely development patterns by scenario and make a connection between the land use pattern and the associated impact on the roadway corridor.

The third section of the report shifts to a focus on transportation impacts by scenario. The section begins with a discussion of the scenarios' TDM results for roads and a description of transit service included in each scenario. After the overview, a discussion of the TDM results is presented by corridor based on the TDM developed for the scenario analysis which provides a generalized guide to locations within each corridor where travel delay issues would be expected. A narrative description of the corridor sets the stage with information about its transportation function and identification of regional activity centers. The TDM provided information for each scenario about where the existing roads will likely be congested in the future if no improvements are made. These results are applied by scenario to each individual corridor and a comparative analysis adds insight to the numeric model results. This analysis does not identify any specific projects, but rather is meant to be used as a tool for use in future tasks that will identify specific projects.

Transit service was an input rather than an output for the TDM for each scenario. A transit system was developed as part of each scenario TDM to serve each future scenario land use pattern. The specific transit service is not an absolute but it is a reasonable option based on population density and location. Comparisons of transit service on each corridor provide some insight about how the regional development pattern impacts transit service at the corridor level. In the bigger picture, it provides part of the picture for future project selection and design considerations along the corridor.

After the corridor-specific analysis of environmental impacts, land use impacts, and transportation impacts of the four possible future scenarios, the report moves to more general analysis of some environmental and social impacts for which data is not available at the corridor level. In three instances, the results of the TDM and the land use scenario planning model are used as indicators. Noise is evaluated using indicators for delay time and gallons of fuel wasted from the TDM. Air quality is considered based on the metric "Air Quality (per day)" measured in CO2 from the TDM. Water quality is measured through the amount of "vacant" land converted to urbanized uses. Then, the Social, Environmental, and Economic (SEE) impact categories for the relocation of people or businesses and environmental justice are considered from a higher, policy level.

A final section follows up from the physical environmental corridor maps with some additional information related to regulation, permitting and mitigation. For each of the physical environmental resources inventoried on the map, notation about designations of significant features, regulating agency, type of permit, typical permitting and standard mitigation process when applicable. This is done as a general overview rather than at the corridor level. It provides the reader with an understanding of how many agencies and permits are involved in development projects on a regular basis and the design challenges involved when resources are present. It will also be helpful in the future as alternatives are considered for specific transportation projects.

Overall, this report brings together a variety of information in one location. An initial inventory of environmental features is new and other information is pulled from previous reports. The environmental, land use, and transportation data is applied in this report at the corridor level. The four possible land use scenarios are applied to each corridor for consideration of land use and transportation. The varying results of land use decisions on the transportation corridors emphasize the connection between the regional land development pattern and the transportation system. Going forward, these corridors of significance will be the framework for the identification, selection, analysis, and design of transportation projects for the Grand Vision.

3.0 Scenarios, Corridors and the Environmental Inventory

3.1 The Scenarios

During the process of creating the Grand Vision, four possible future scenarios were developed and presented to the public for consideration. Each one was based on a theme that was developed through public participation in a series of eleven scenario planning workshops. At each workshop, participants were told that growth is coming to the region. The question was not "whether" but "how" the growth should occur. Accordingly, each scenario included the same number of dwelling units and the same number of jobs in the region. However, each accommodated them through a different land use pattern.

The "Trend" scenario was also referred to as "Scenario A." It was a projection of a "business as usual" option for the region in 2035. It was also described as a "do nothing" scenario. Growth in this scenario sprawls out from the center of Traverse City and along major transportation corridors.

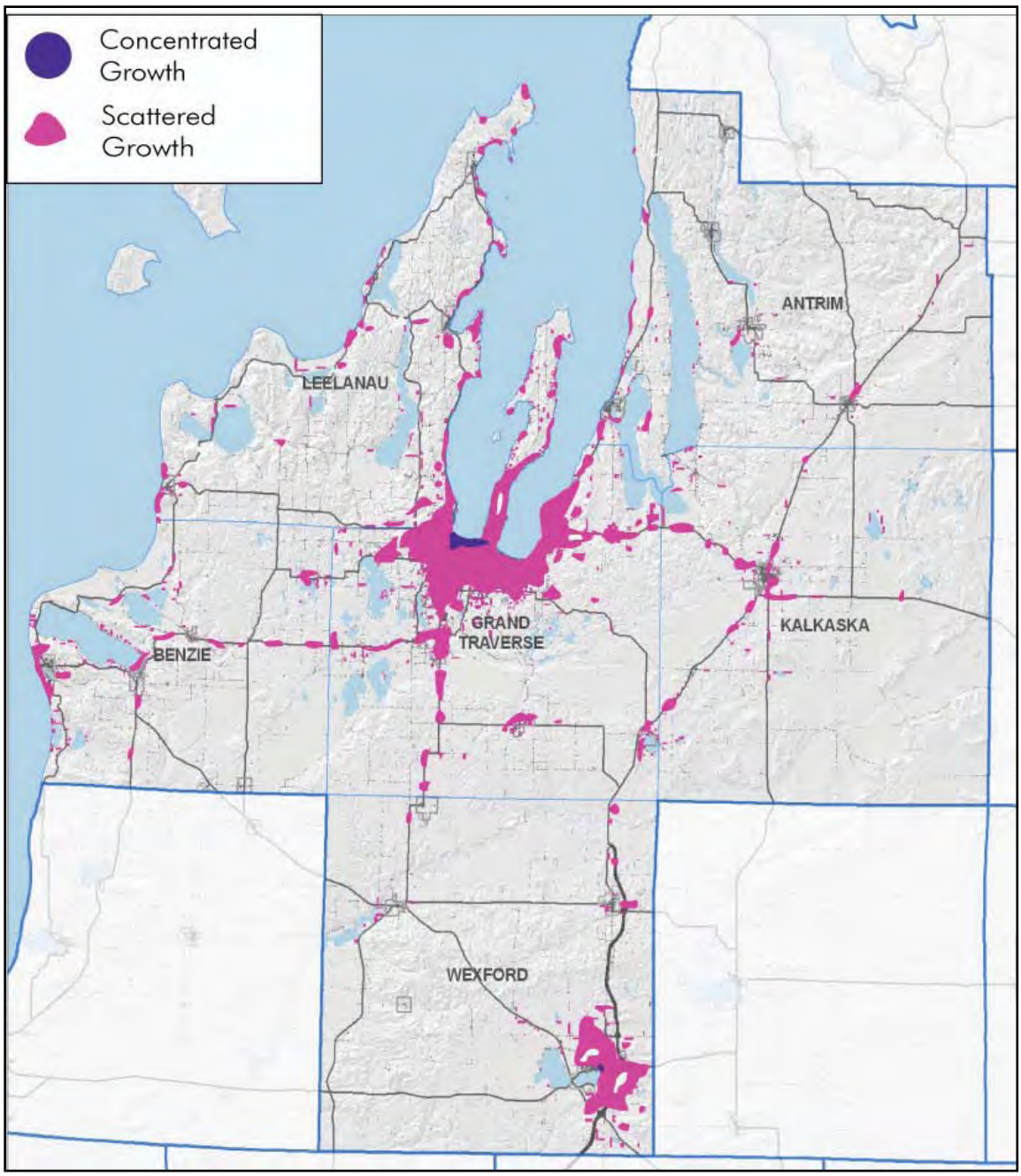


Figure 3.1 Trend Scenario (Scenario A)

The "Rural by Design" scenario was also referred to as "Scenario B." It showed growth occurring in the region's rural areas through planned developments using conservation design tools. Growth in this scenario located new housing in rural clusters to give residents access to nature.

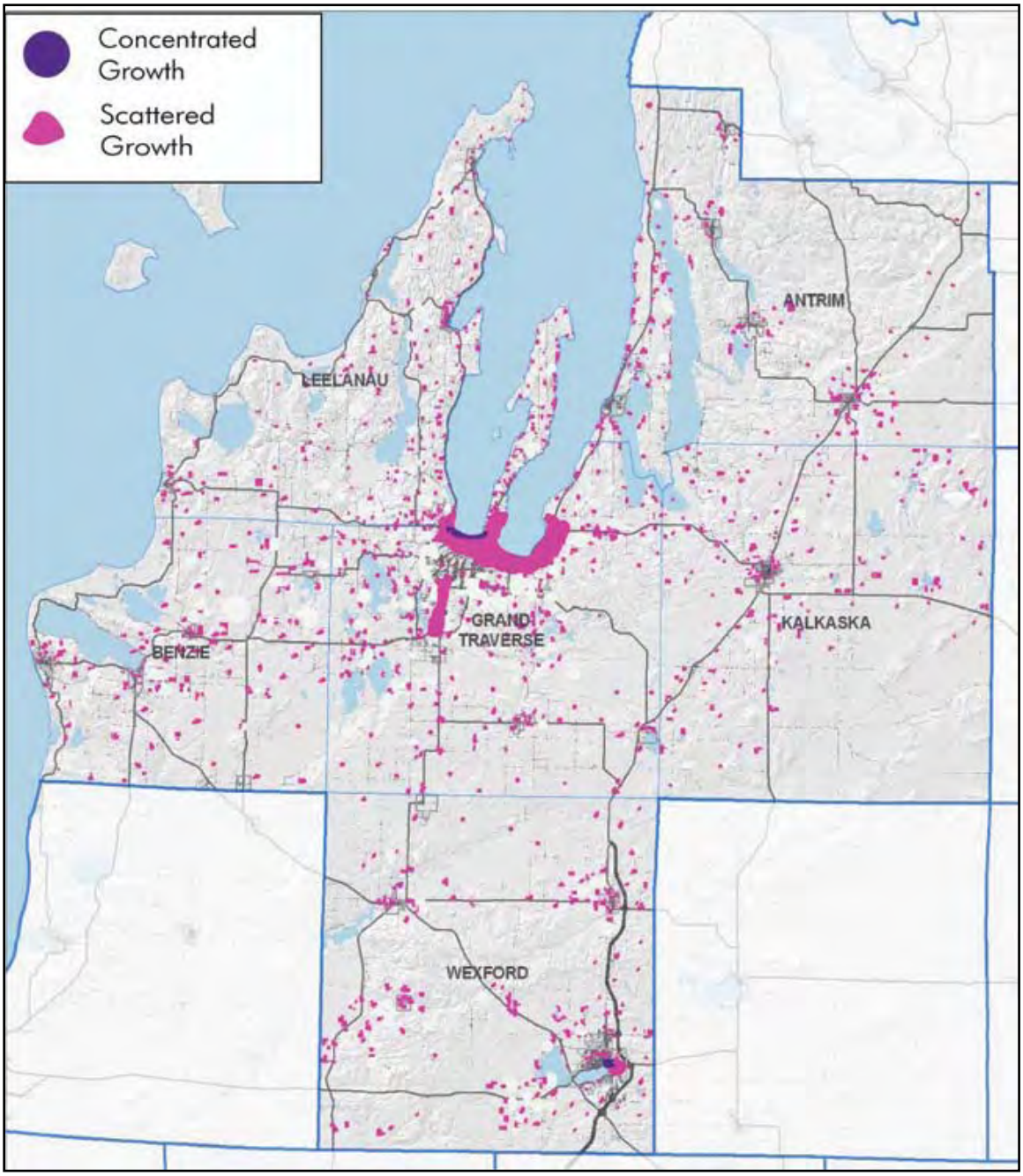


Figure 3.2 Rural by Design scenario (Scenario B)

The "Villages" scenario was also referred to as "Scenario C." It located new development in villages around the region with some additional growth in the region's two cities.

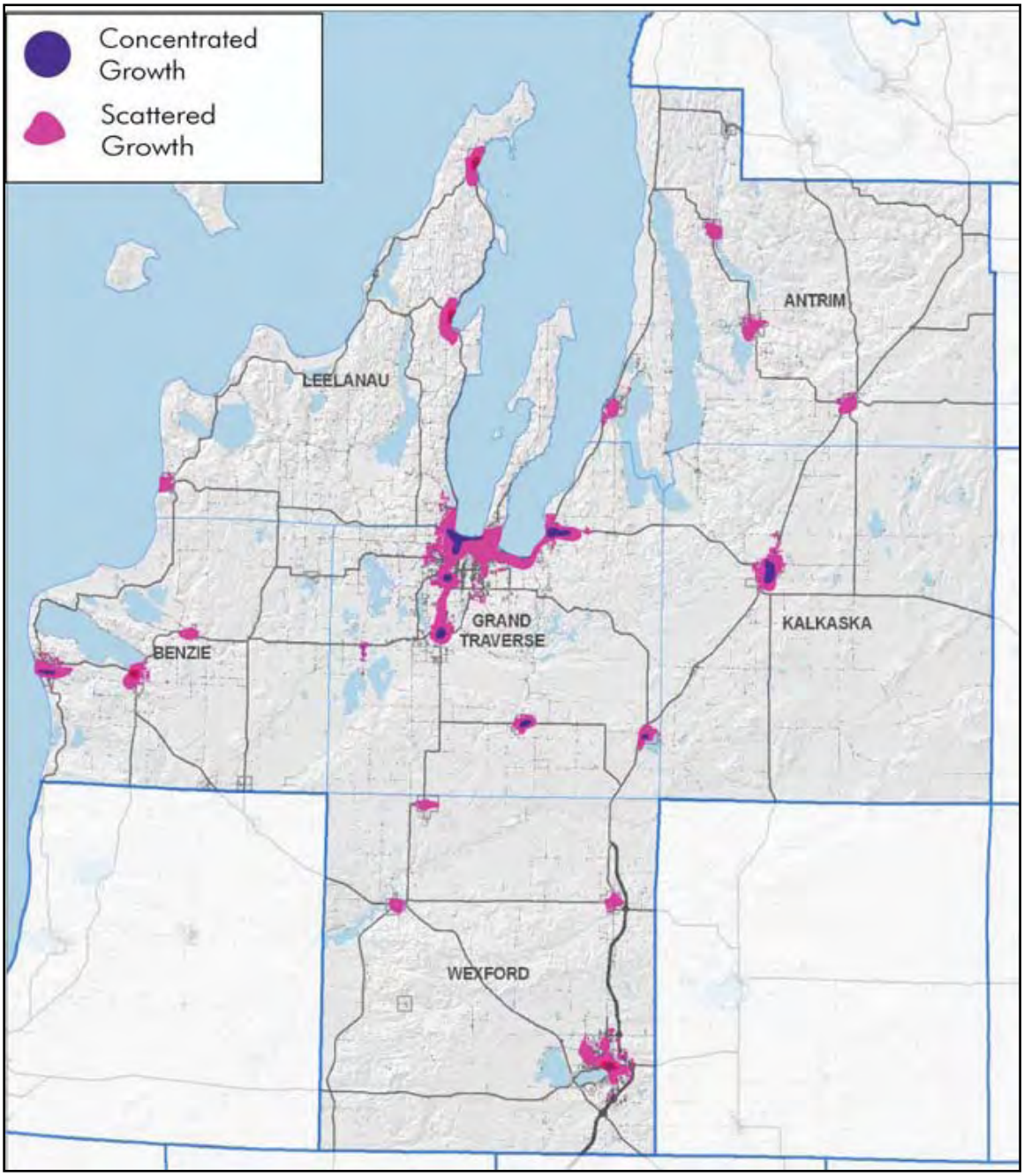


Figure 3.3 Villages scenario (Scenario C)

The “City focused” scenario was also referred to as “Scenario D.” It located almost all new growth in the region’s cities: Traverse City and Cadillac.

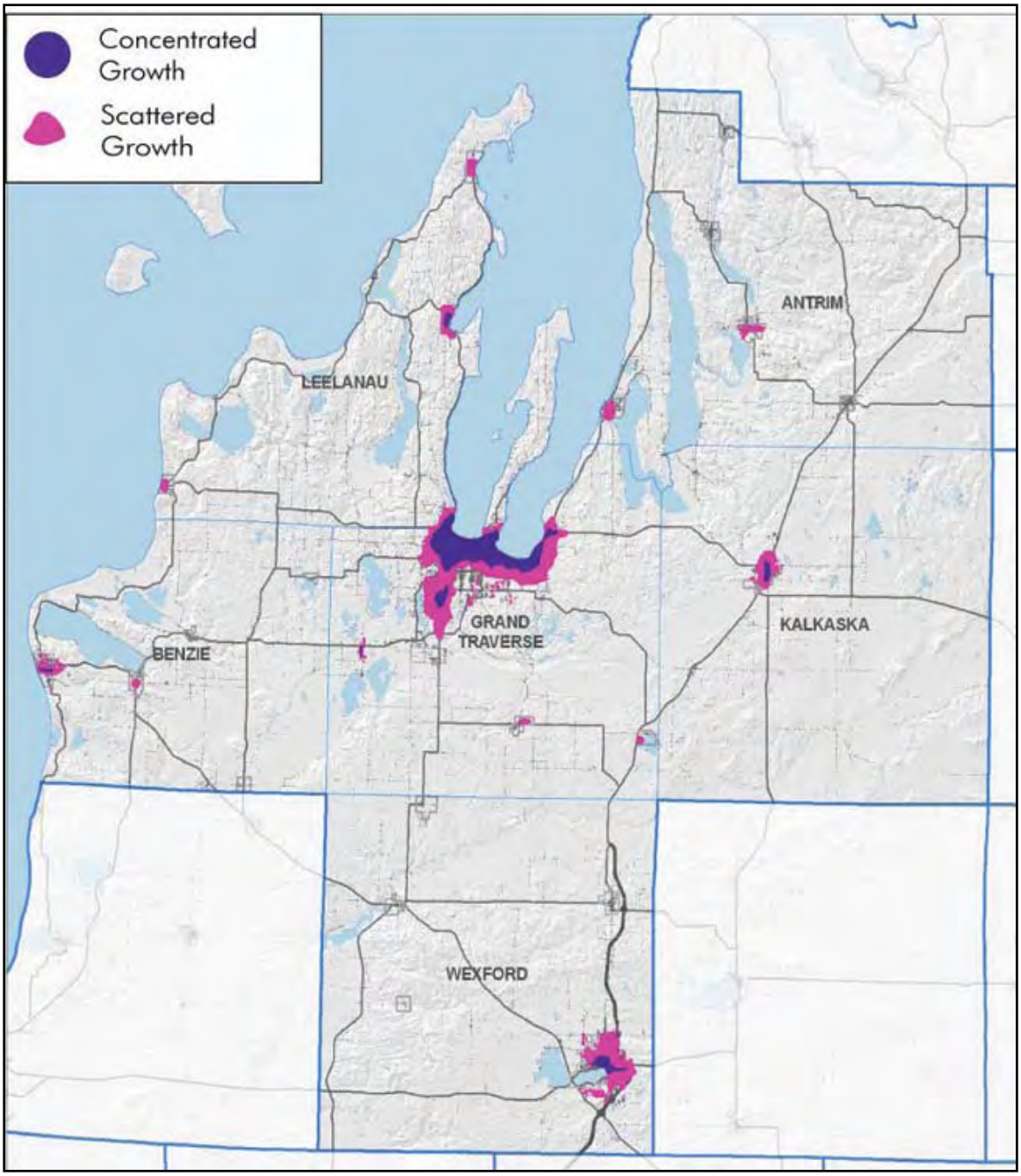


Figure 3.4 City focused scenario (Scenario D)

3.2 Corridors and Environmental Inventory

The process for selecting the final corridors involved the use of both technical travel demand modeling and local knowledge of the region's existing transportation and land use system. Fourteen corridors were identified through the results of the public involvement and scenario planning process conducted as part of Task 2. In Task 3.4, this preliminary corridor list was presented based on technical information such as the travel demand model (TDM) and public preference (i.e., number of times a corridor was highlighted during the workshop public involvement process).

The TC-TALUS Technical Committee then used this preliminary corridor list as a basis for discussion and decision making in identifying the final corridor list. Based on the Technical Committee's recommendation, the eleven corridors presented in this section have been selected and approved by TC-TALUS for further inventory and analysis.

The eleven corridors are presented below. Each corridor is generally described, followed by a specific inventory of the land use and of the physical environmental resources found within each corridor. The ADT count values are taken from the Travel Demand Methodology Report (Task 3.4). They are an average value provided as a general descriptor of the corridor as a whole. The physical environmental resources included in the survey are:

- Wild & Scenic River (the Boardman River)
- Endangered Species
- Prime or Unique Farmland
- Section 6(f) and section 4(f) properties
- 100 year base flood plain
- Michigan Costal Zone
- Hazardous/Toxic Materials
- Commercial Navigational River or Stream (Lake Michigan, the Boardman River and Boardman Lake)
- Wetlands
- Section 106 Historic or Archeological sites

The land use included with the survey represents the most recent land use/land cover information available from the Northwest Michigan Council of Governments.

Geographic information systems (GIS) were utilized to develop the physical environmental resource inventory. For the length of each corridor, a 400-foot wide buffer surrounding the roadway alignment was queried in the GIS database.

Avoidance and exclusion maps were created to graphically illustrate the environmental resources that were found and should be avoided, if possible, within the corridor. For a description of the environmental impact categories, see **Section 6.0**, Impacts, Mitigation Techniques and Permitting. A set of maps for each corridor can be found on the pages following its text summary. Note that not all environmental resources were found to occur within a given corridor.

<u>Corridor 1 – M-72</u>

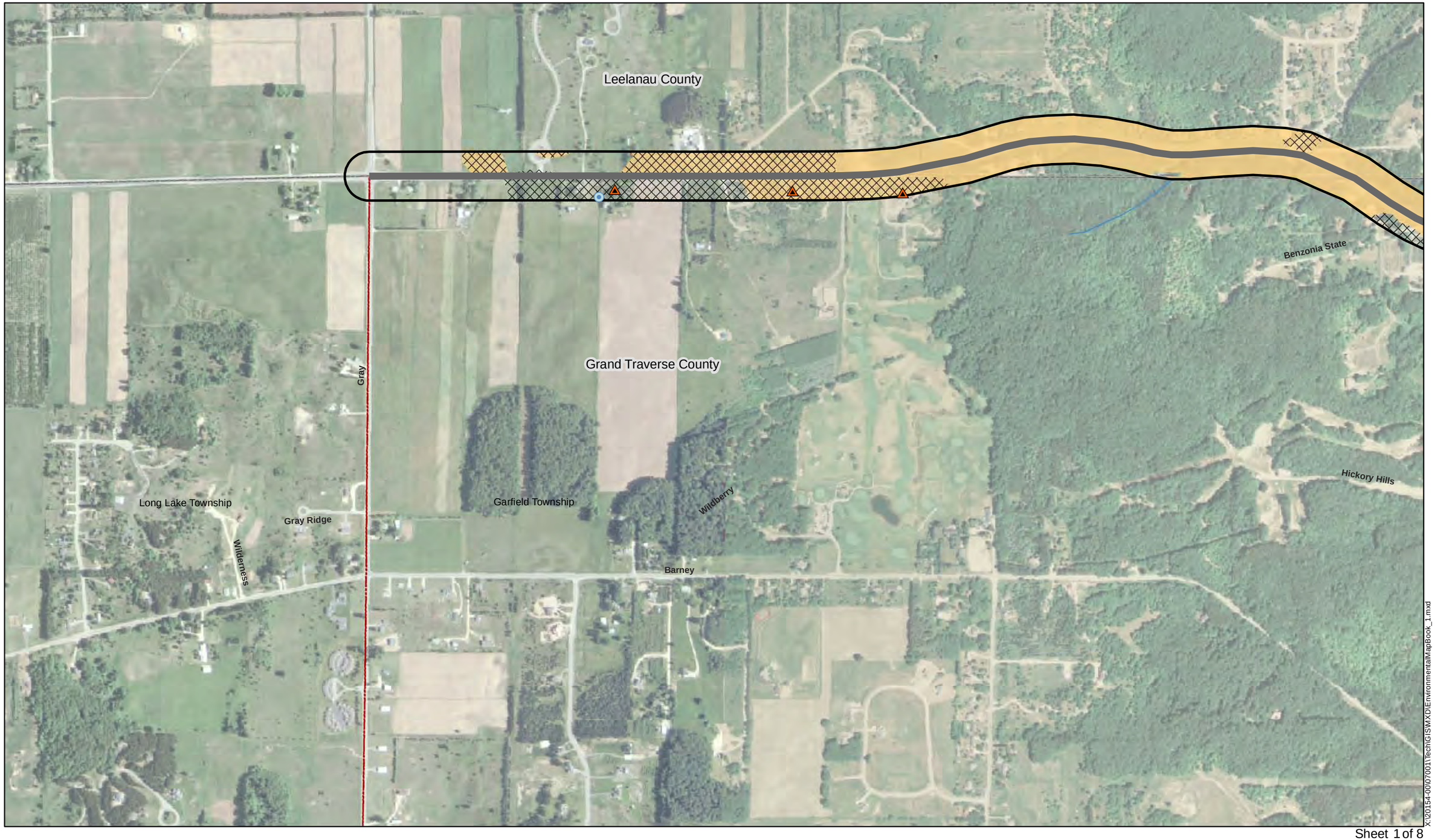
The M-72 corridor is located in both Leelanau County and Grand Traverse County and shares portions of its route with US-31 and M-22. The corridor is approximately 16.2 miles long from Bugai Road on the west to Williamsburg Road on the east. It ranges from two to five lanes with posted speeds of 35 miles per hour to 55 miles per hour. Major intersections include M-72, Holiday Road, 4 Mile Road, 3 Mile Road, Garfield Avenue, Front Street, and M-22. The roadway surface is asphalt and portions of the corridor are asphalt over concrete composite. The existing functional class is Principal Arterial. It currently has an

average daily traffic (ADT) count of approximately 28,000 vehicles per day, though this count varies along the length of the corridor. The total land area within the 16.2 mile, 400-foot buffer is approximately 785 acres.

The table below summarizes the presence of environmental resources in the M-72 corridor. Specific geographic information is shown on the maps on the following pages.

Table 3.1 M-72 Physical Environmental Resource Summary

Resource Category	**Resource Summary**
Commercial / navigational rivers or streams	Lake Michigan and the Boardman River
Landmarks	yes, 25 identified
Threatened or endangered species	yes
Wetlands	yes, 43.68 acres identified
Flood prone areas	yes, 41.41 acres identified
Coastal resources	yes, many identified
Wild and scenic rivers / natural rivers	No
Prime and unique farmland soils	yes, 231.14 acres identified
Hazardous materials	yes, 27 locations identified



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Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 1 - M-72 / M-22 / US-31

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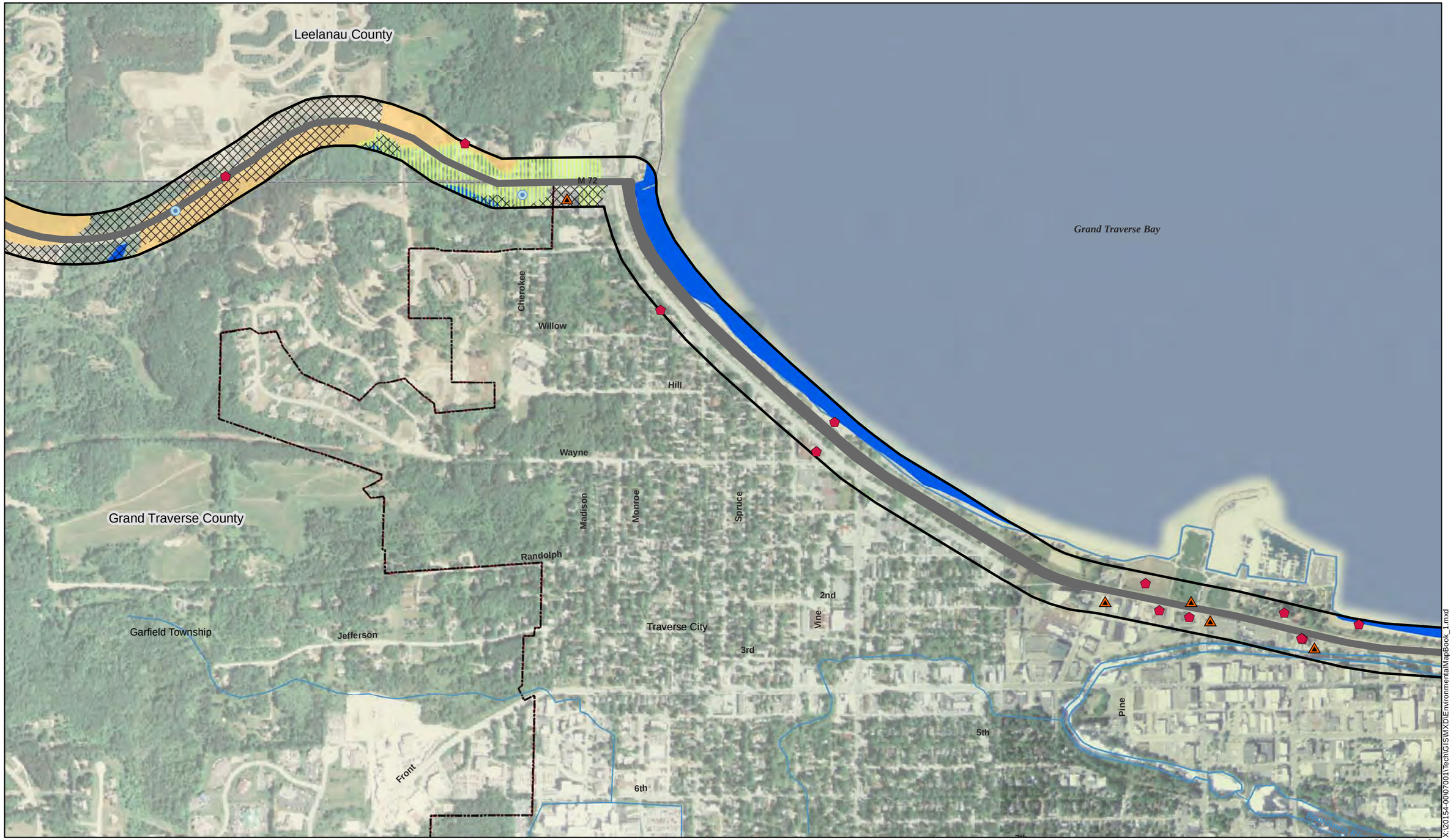

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Feet

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Corridor 1 - M-72 / M-22 / US-31

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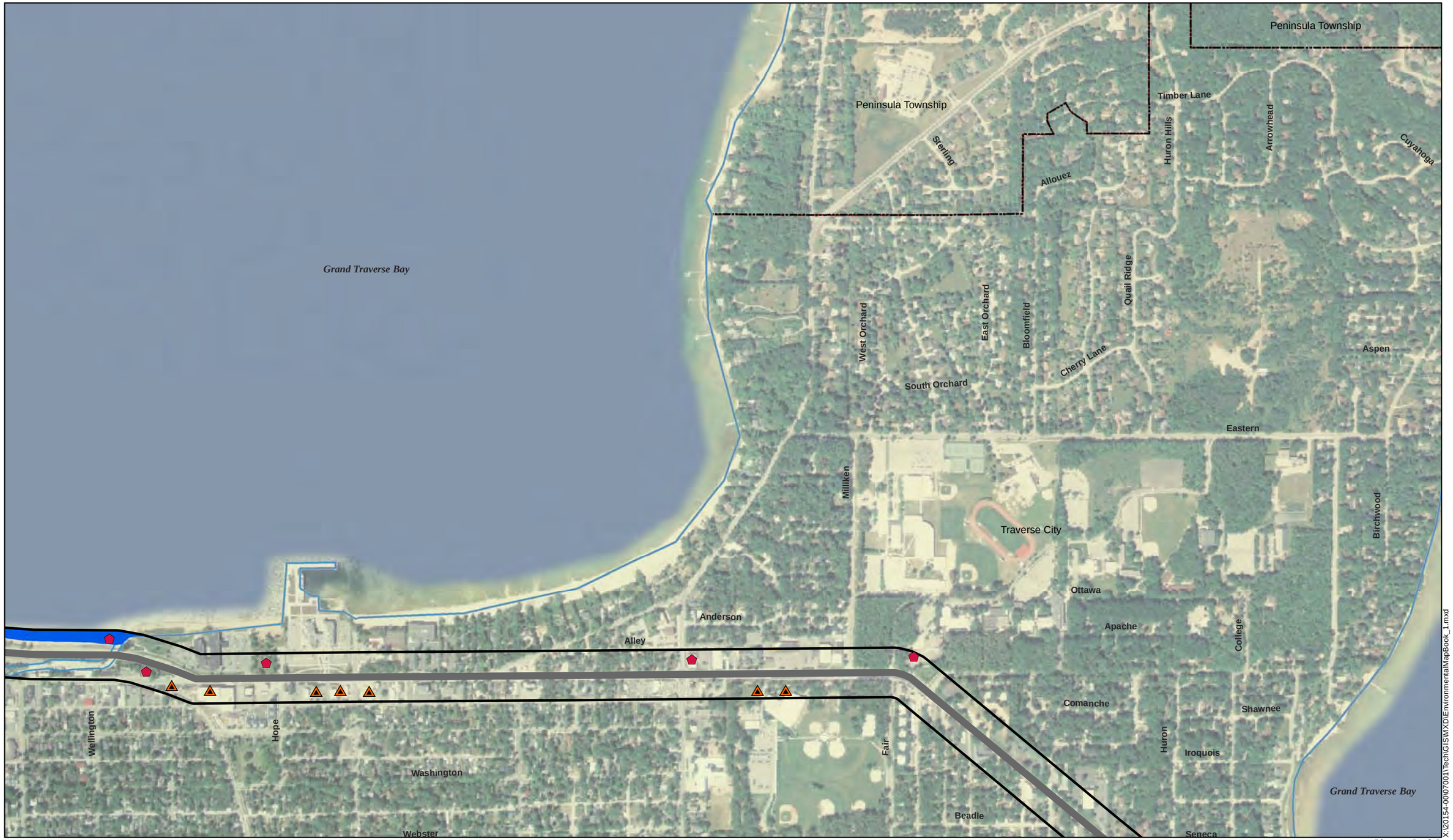

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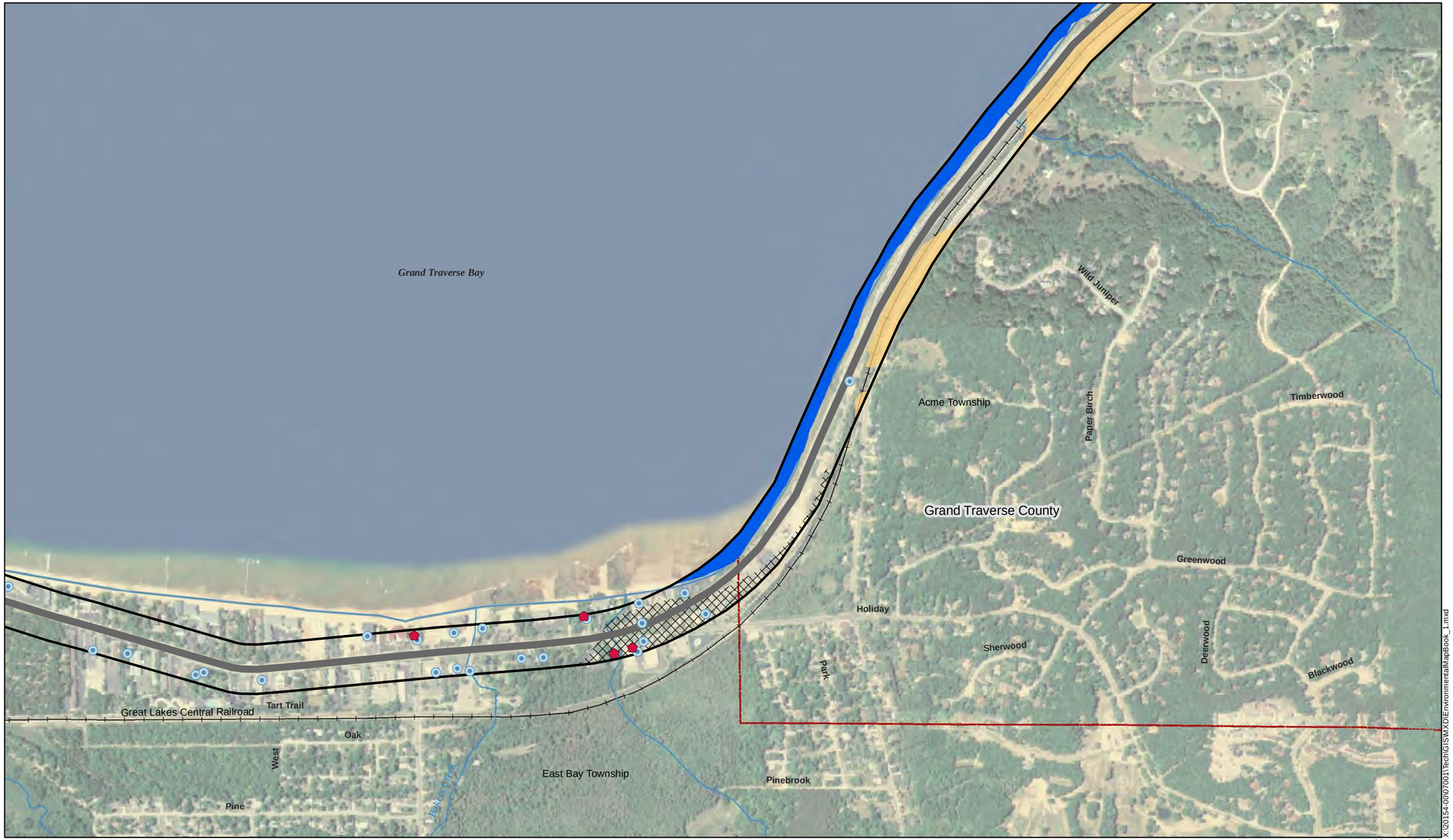

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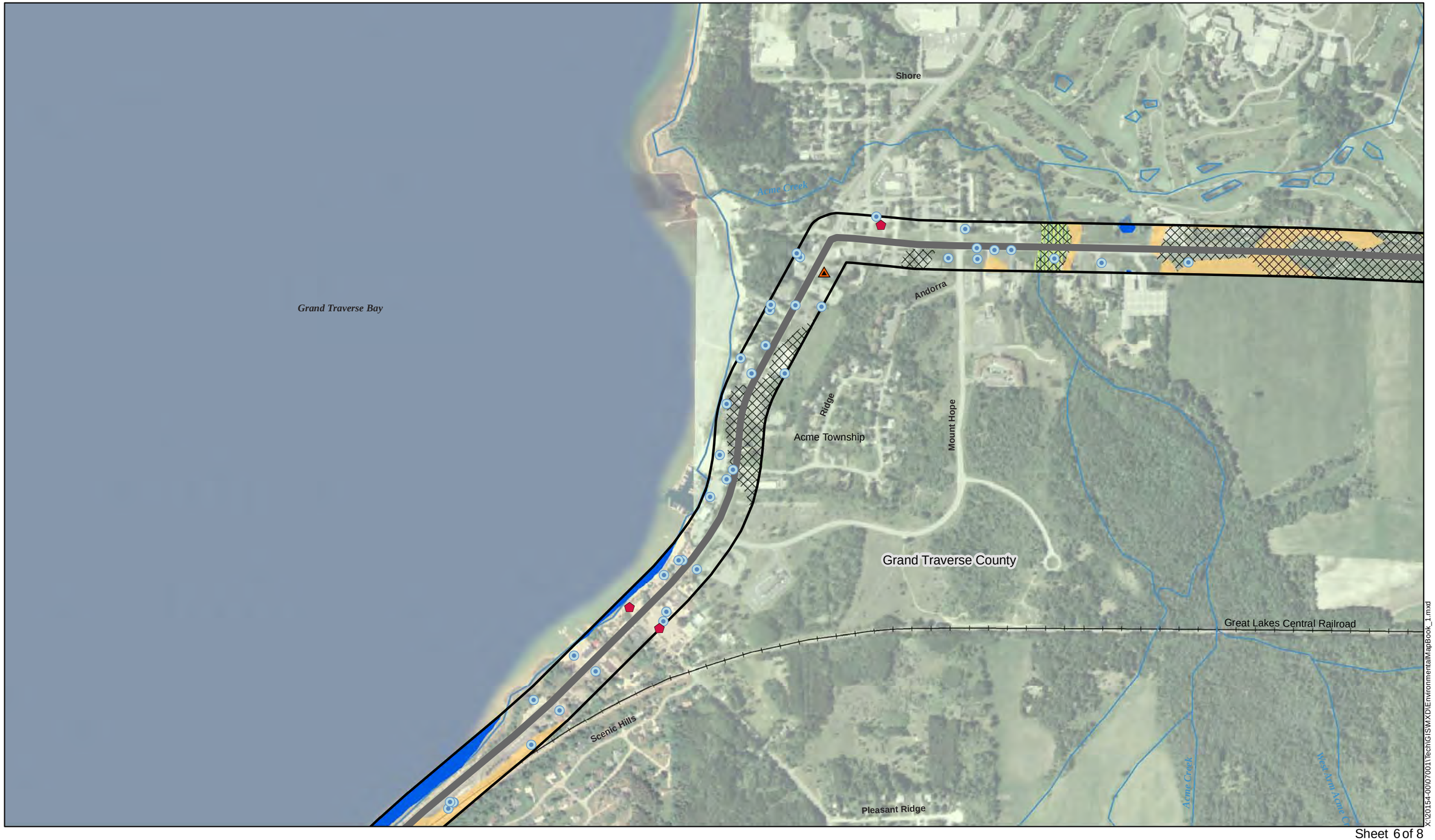

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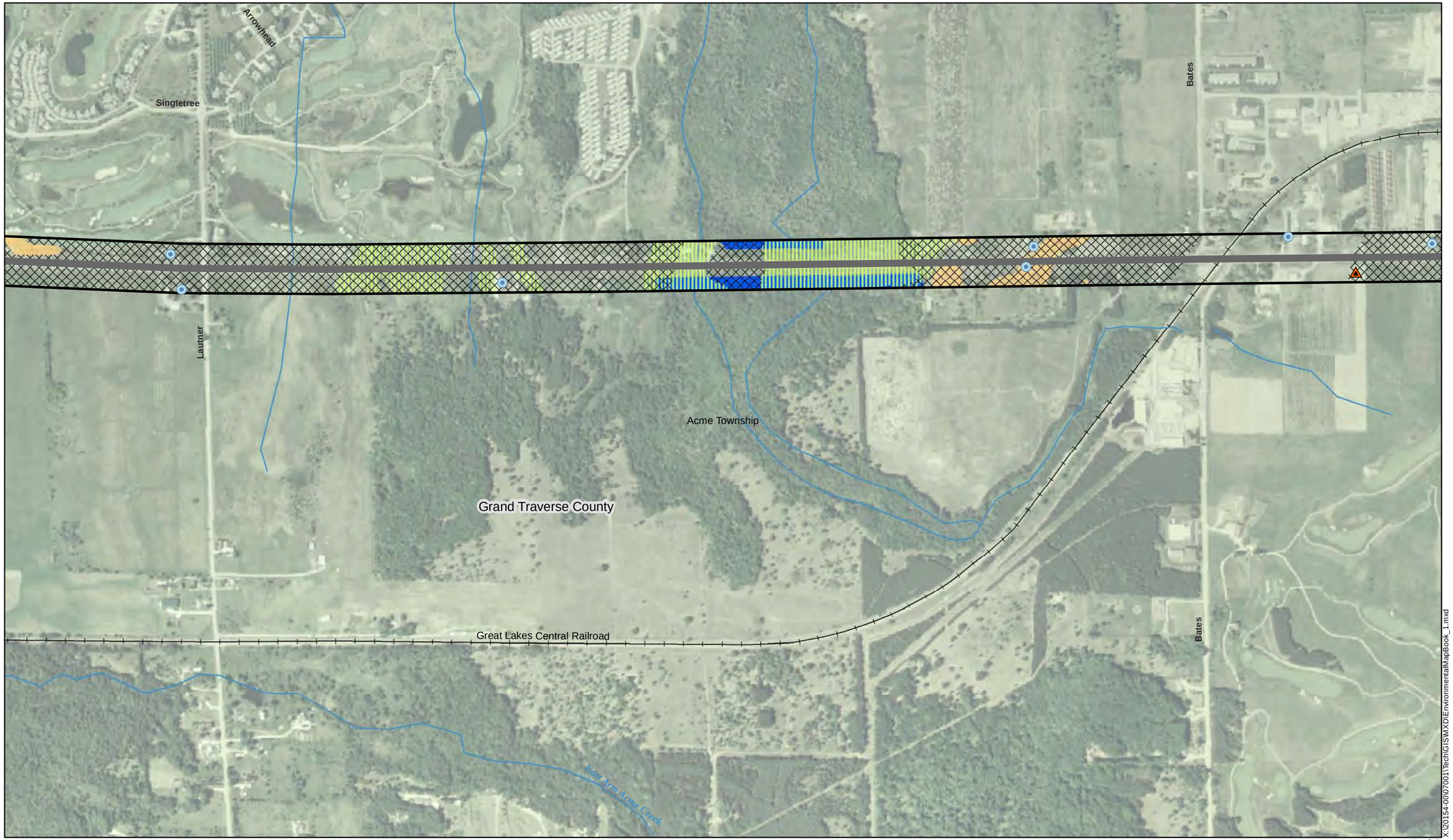

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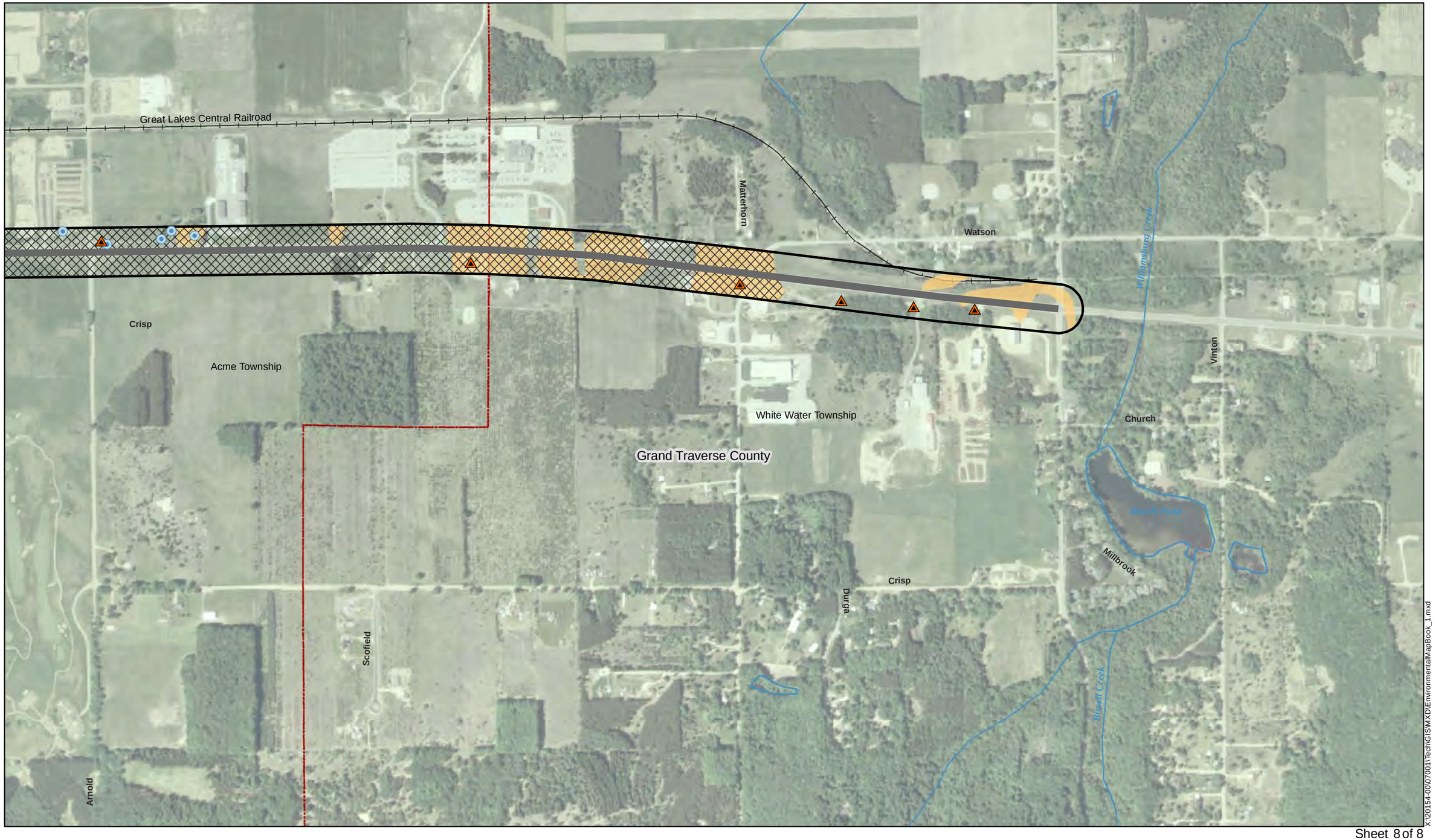

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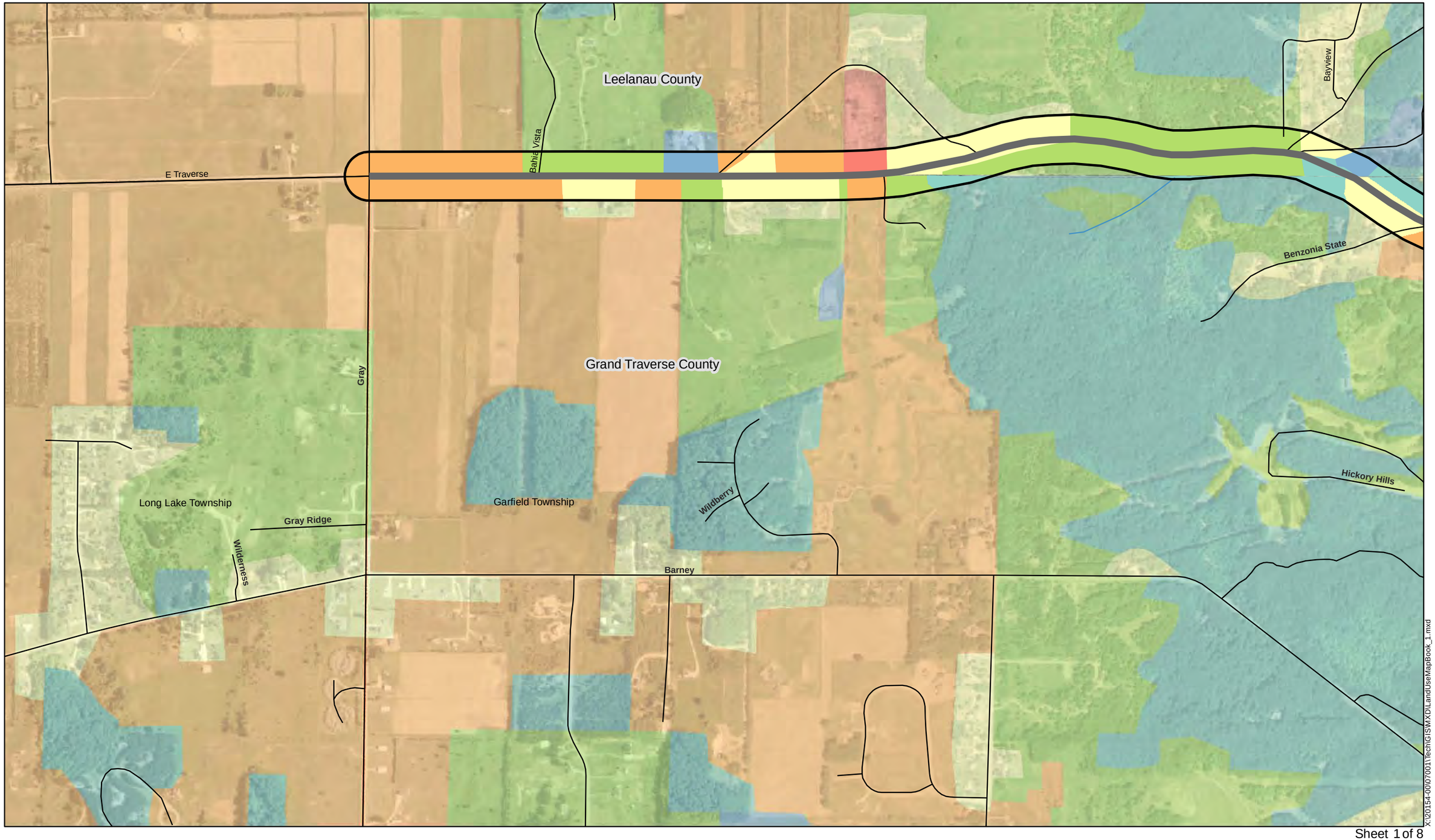

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LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Water Bodies
- Rivers/Streams
- Railroad
- Roads

LAND USE

- Mixed Residential
- Mixed Agricultural
- Mixed Commercial
- Mixed Industrial
- Open Land
- Forested Land
- Public/Semi-Public

N

0 375 750 1,500

Feet

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Corridor 1 - M-72 / M-22 / US-31

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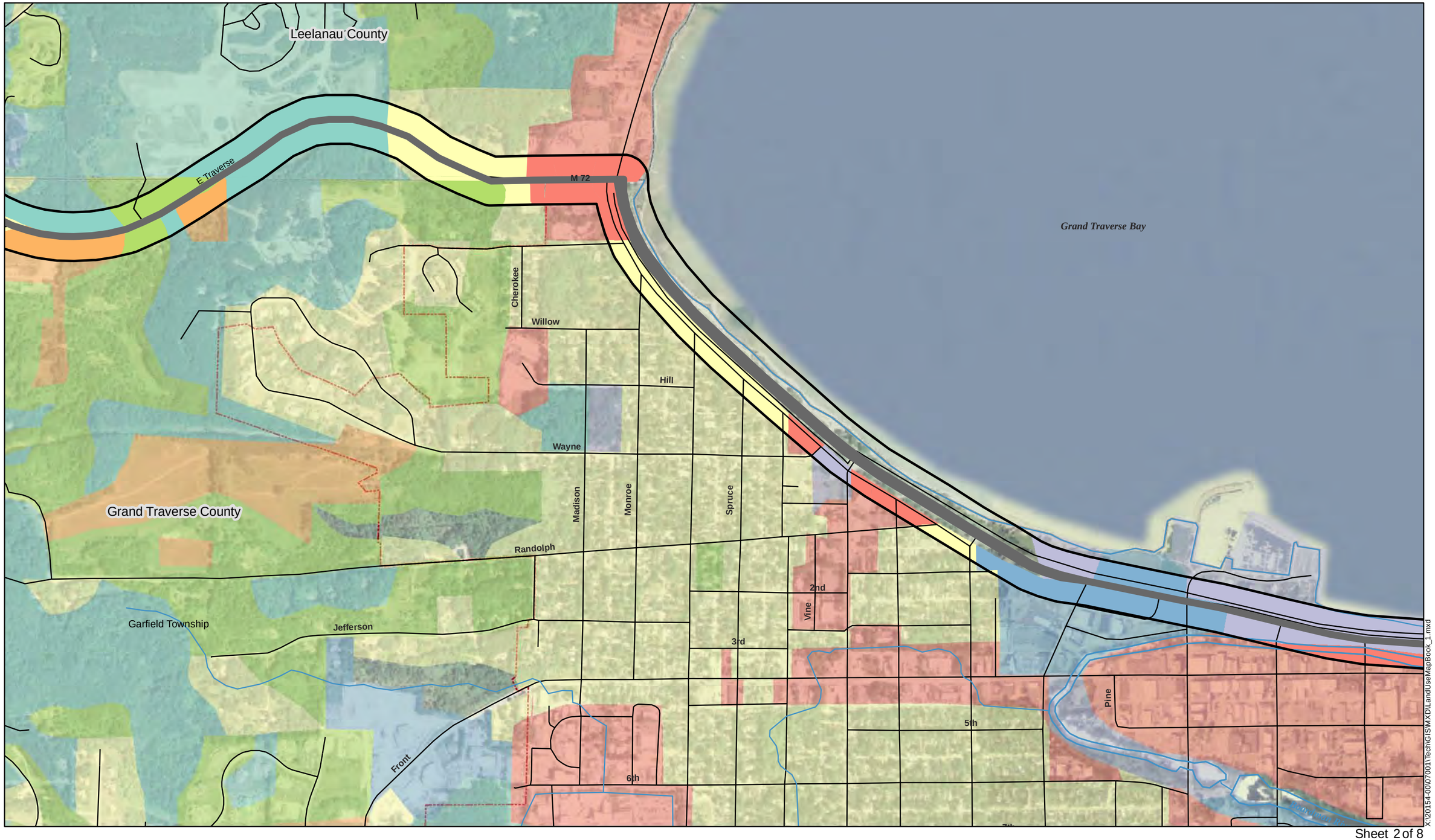

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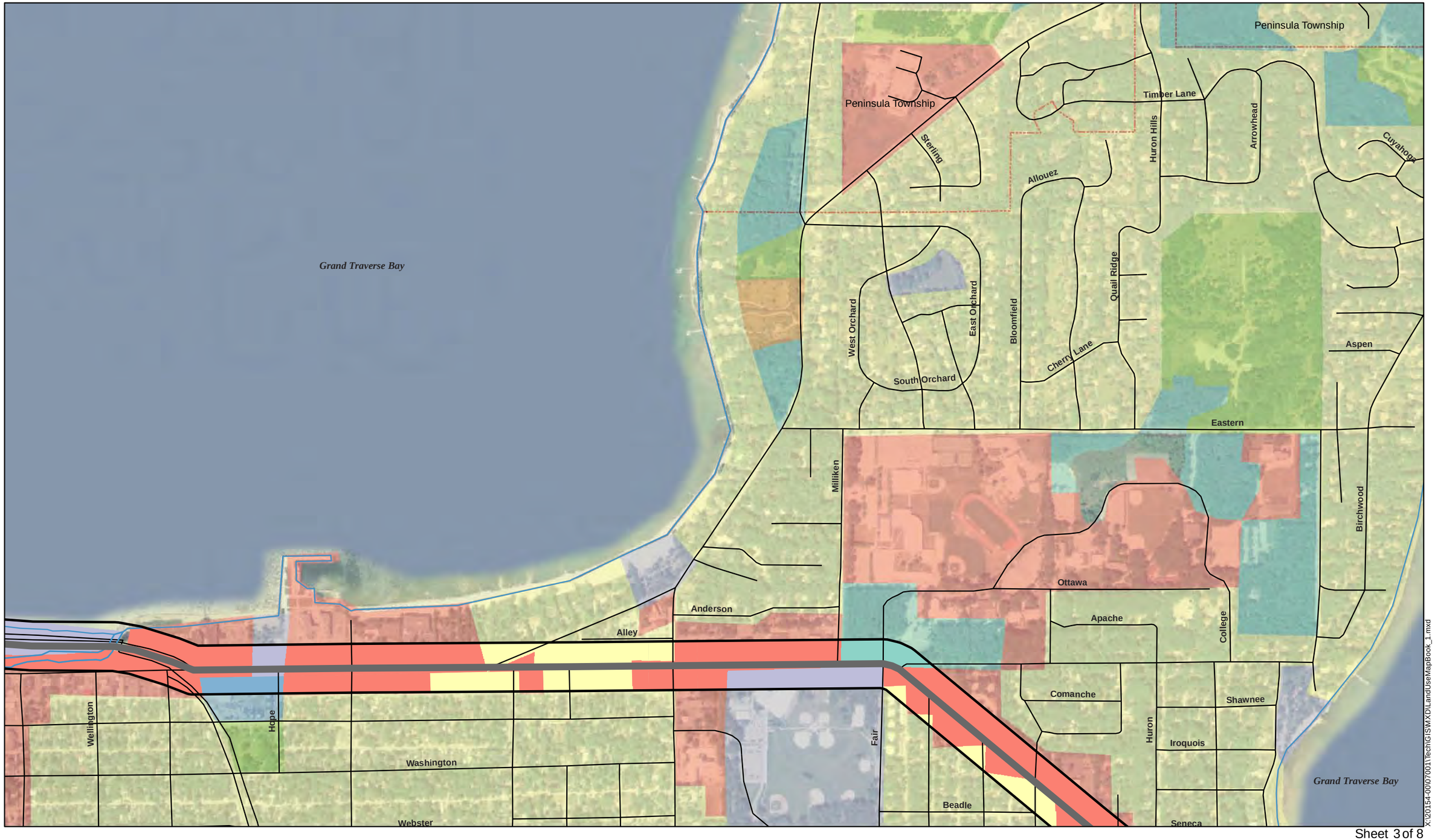

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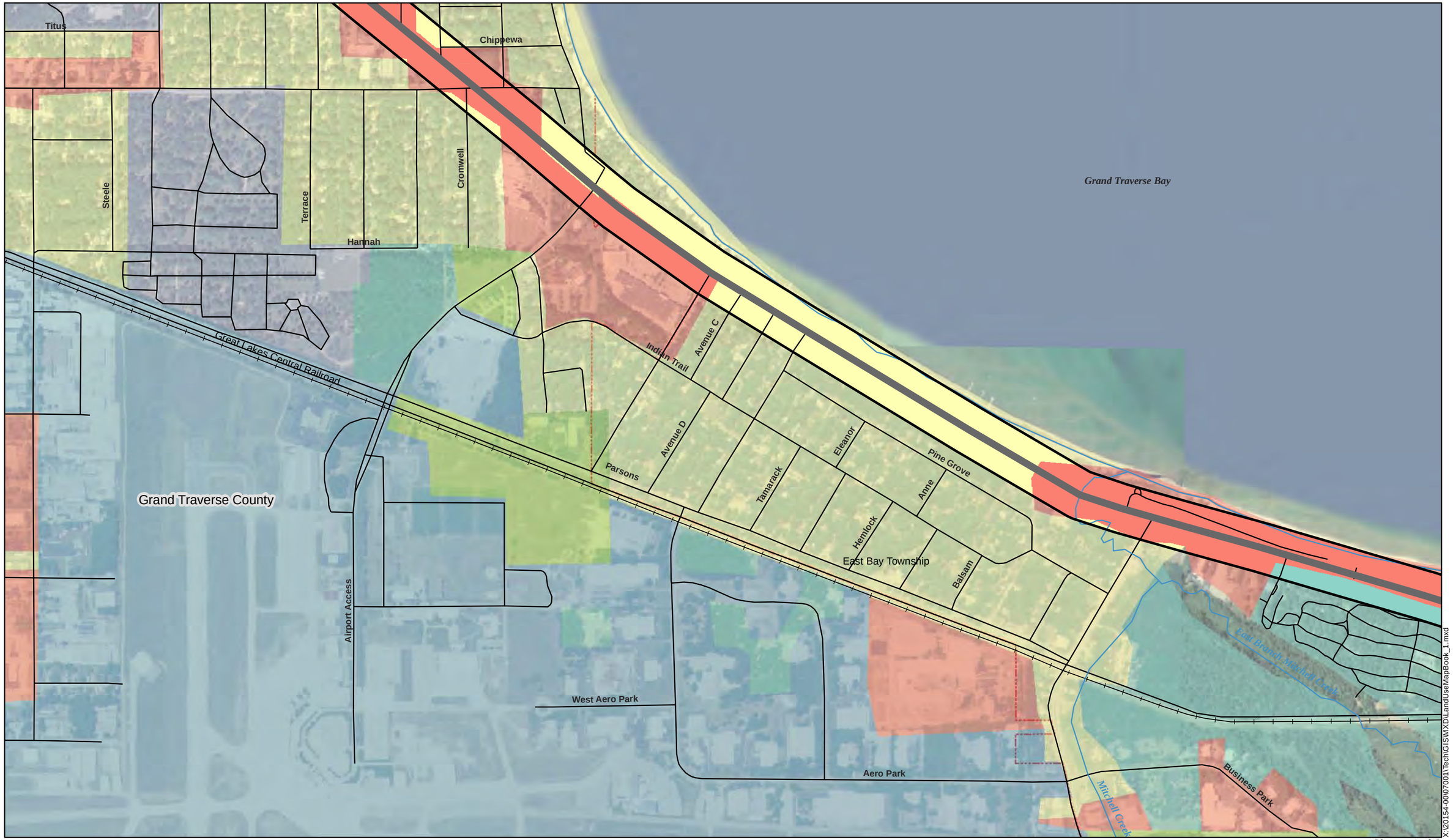

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Corridor 1 - M-72 / M-22 / US-31

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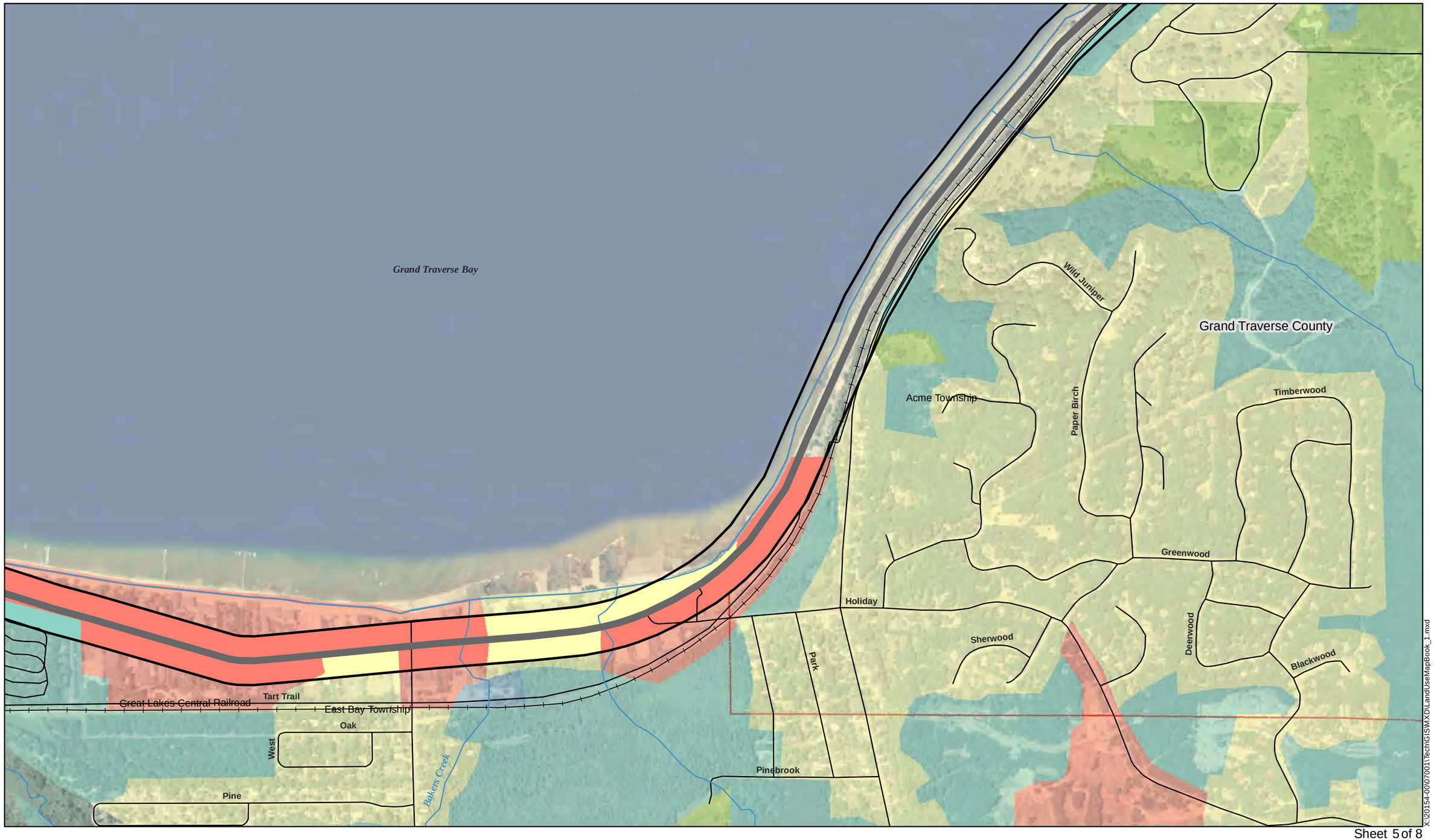


Data Sources:
Land Cover - MDNR, Forest, Mineral and Fire Management Division
Land Use - Grand Traverse County
Orthophotgraphy - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Water Bodies
- Rivers/Streams
- Railroad
- Roads

LAND USE

- Mixed Residential
- Mixed Agricultural
- Mixed Commercial
- Mixed Industrial
- Open Land
- Forested Land
- Public/Semi-Public

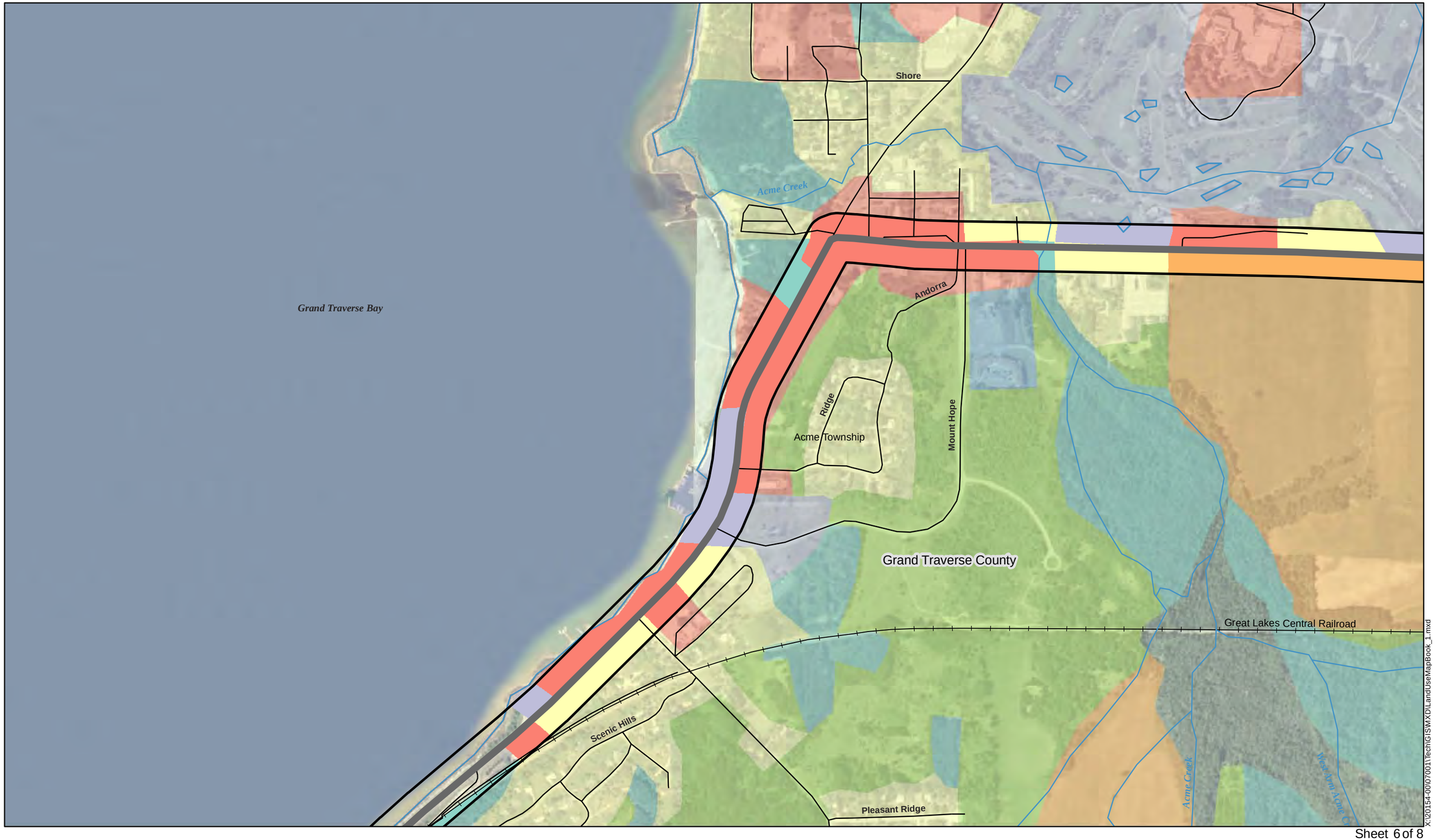
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 1 - M-72 / M-22 / US-31

MEAD & HUNT



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Sheet 6 of 8

Data Sources:
Land Cover - MDNR, Forest, Mineral and Fire Management Division
Land Use - Grand Traverse County
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

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LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Water Bodies
- Rivers/Streams
- Railroad
- Roads

LAND USE

- Mixed Residential
- Mixed Agricultural
- Mixed Commercial
- Mixed Industrial
- Open Land
- Forested Land
- Public/Semi-Public

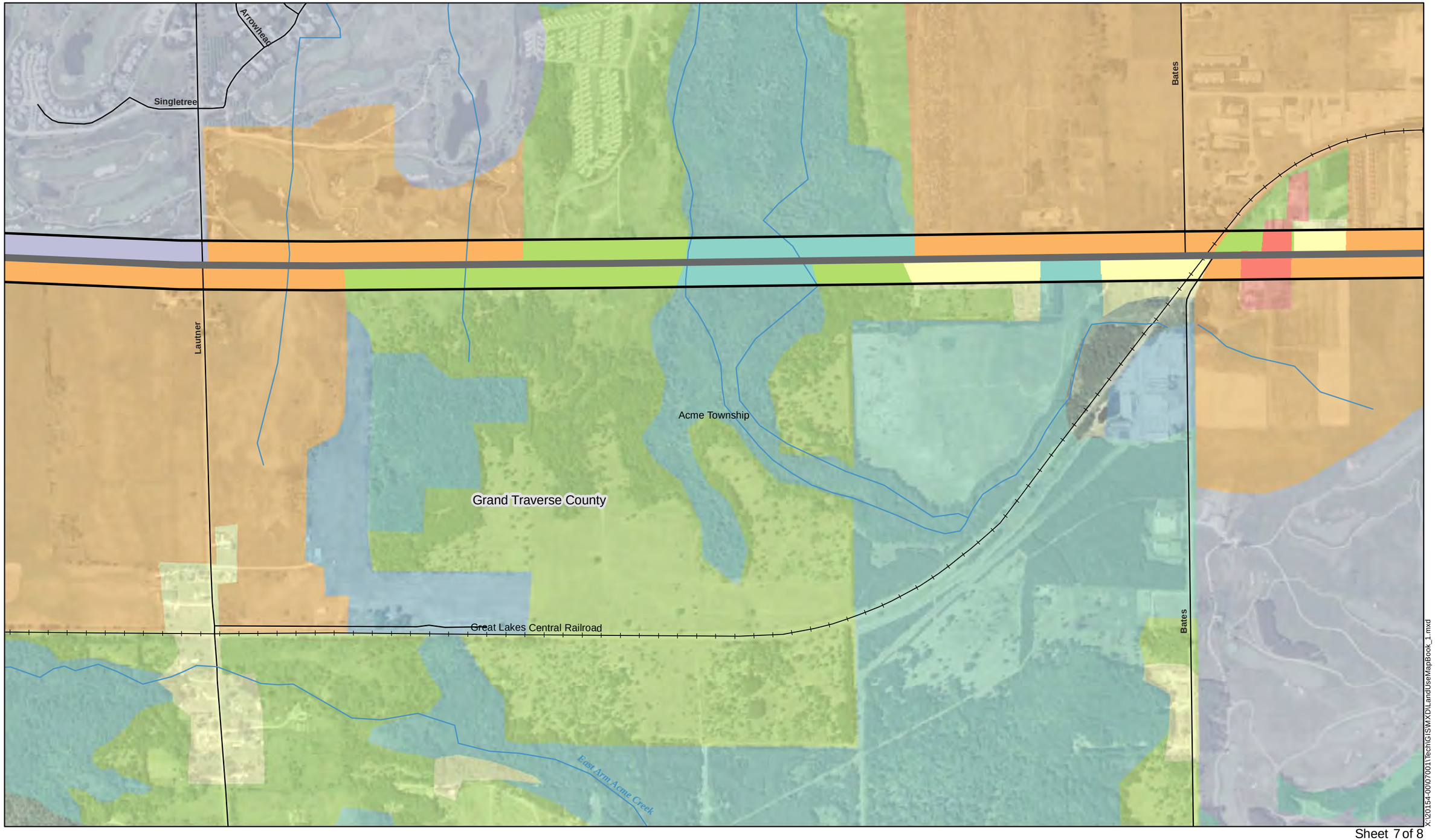
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 1 - M-72 / M-22 / US-31

MEAD & HUNT



Data Sources:
Land Cover - MDNR, Forest, Mineral and Fire Management Division
Land Use - Grand Traverse County
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Water Bodies
- Rivers/Streams
- Railroad
- Roads

LAND USE

- Mixed Residential
- Mixed Agricultural
- Mixed Commercial
- Mixed Industrial
- Open Land
- Forested Land
- Public/Semi-Public

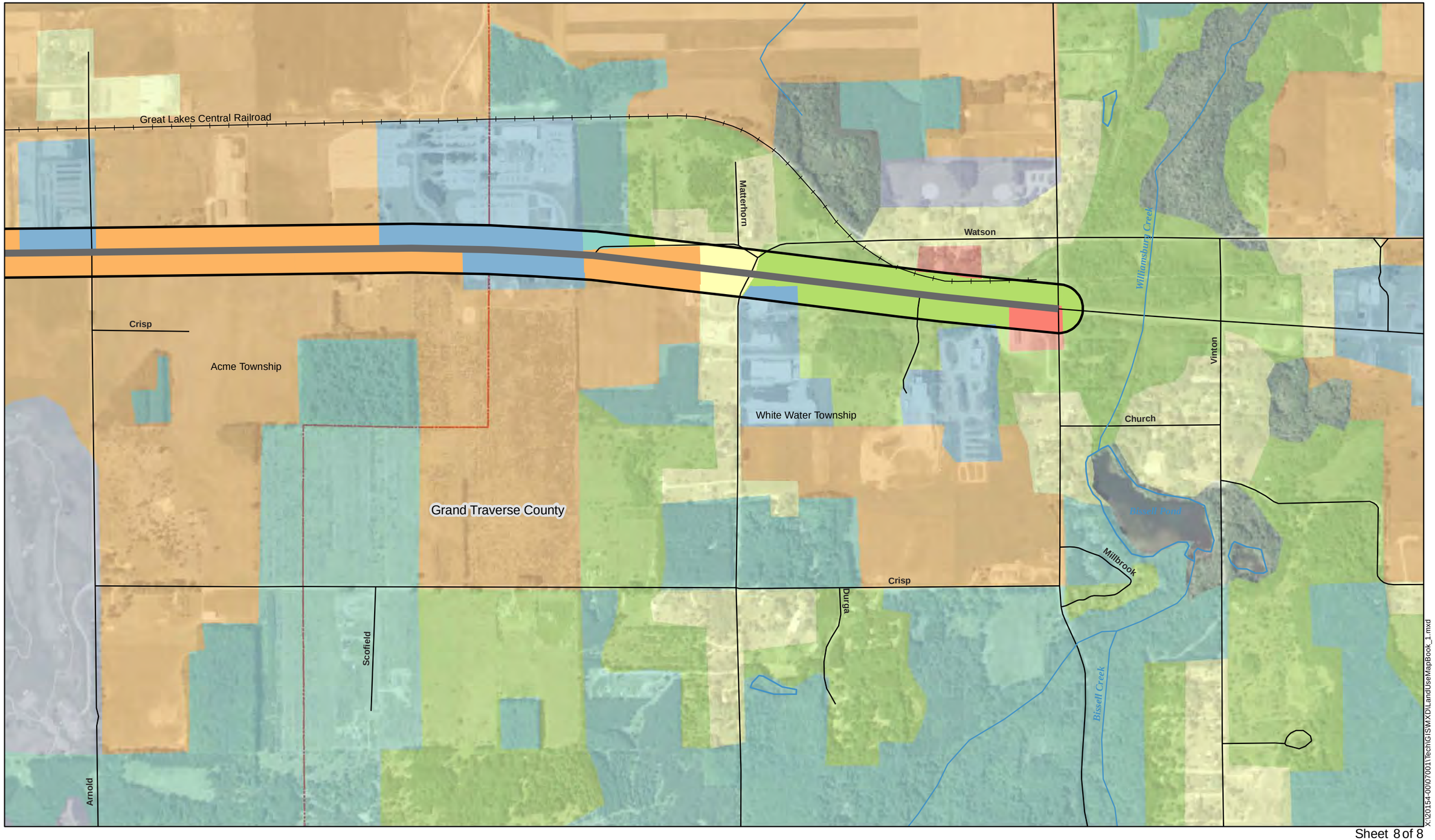
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 1 - M-72 / M-22 / US-31

MEAD & HUNT



Sheet 8 of 8

Data Sources:
Land Cover - MDNR, Forest, Mineral and Fire Management Division
Land Use - Grand Traverse County
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Water Bodies
- Rivers/Streams
- Railroad
- Roads

LAND USE

- Mixed Residential
- Mixed Agricultural
- Mixed Commercial
- Mixed Industrial
- Open Land
- Forested Land
- Public/Semi-Public

N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 1 - M-72 / M-22 / US-31

MEAD & HUNT

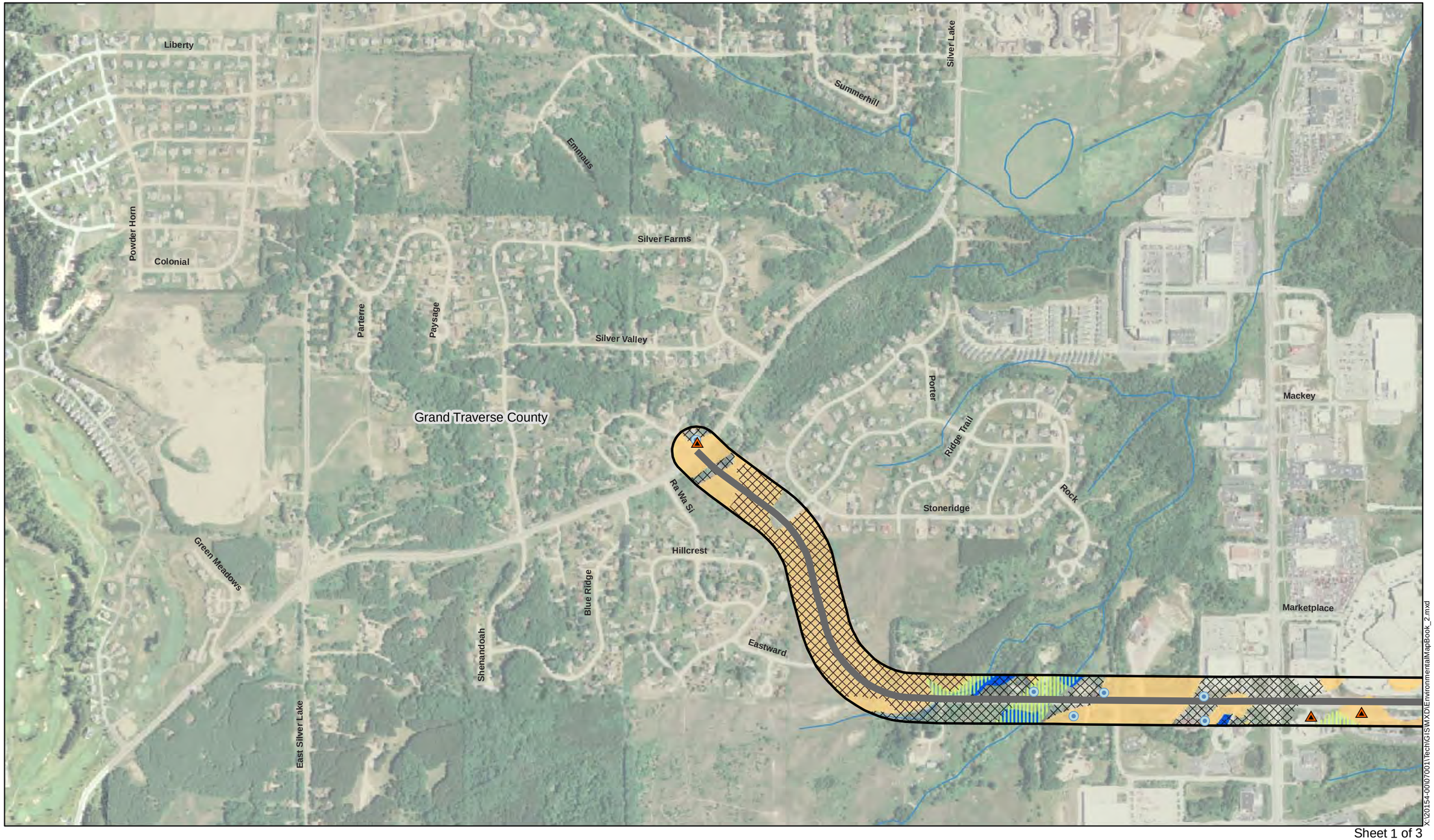
Corridor 2 – S. Airport Road

The South Airport Road corridor is located in Grand Traverse County in the townships of East Bay and Garfield. The corridor is approximately 6.1 miles long, and it begins at Silver Lake Road and terminates at 3 Mile Road. It ranges from two to five lanes with posted speeds of 35 miles per hour to 45 miles per hour. Major intersections include 3 Mile Road, Townline Road, Garfield Avenue, La Franier Road, Park Drive, Cass Road, Veterans Drive, Division Street, and Silver Lake Road. The roadway surface is asphalt and the existing functional class is Minor Arterial. It has an average daily traffic (ADT) count of 35,955 cars per day, though this count varies along the length of the corridor. The total land area within the buffer is approximately 297 acres.

The table below summarizes the presence of environmental resources in the South Airport Road corridor. Specific geographic information is shown on the maps on the following pages.

Table 3.2 South Airport Road Physical Environmental Resources Summary

Resource Category	**Resource Summary**
Commercial / navigational rivers or streams	Boardman River
Landmarks	yes, eight identified
Threatened or endangered species	yes
Wetlands	yes, 6.08 acres identified
Flood prone areas	yes, 16.39 acres identified
Coastal resources	yes, one area identified
Wild and scenic rivers / natural rivers	No
Prime and unique farmland soils	yes, about 38.70 acres identified
Hazardous materials	yes, 18 locations identified



Sheet 1 of 3

Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

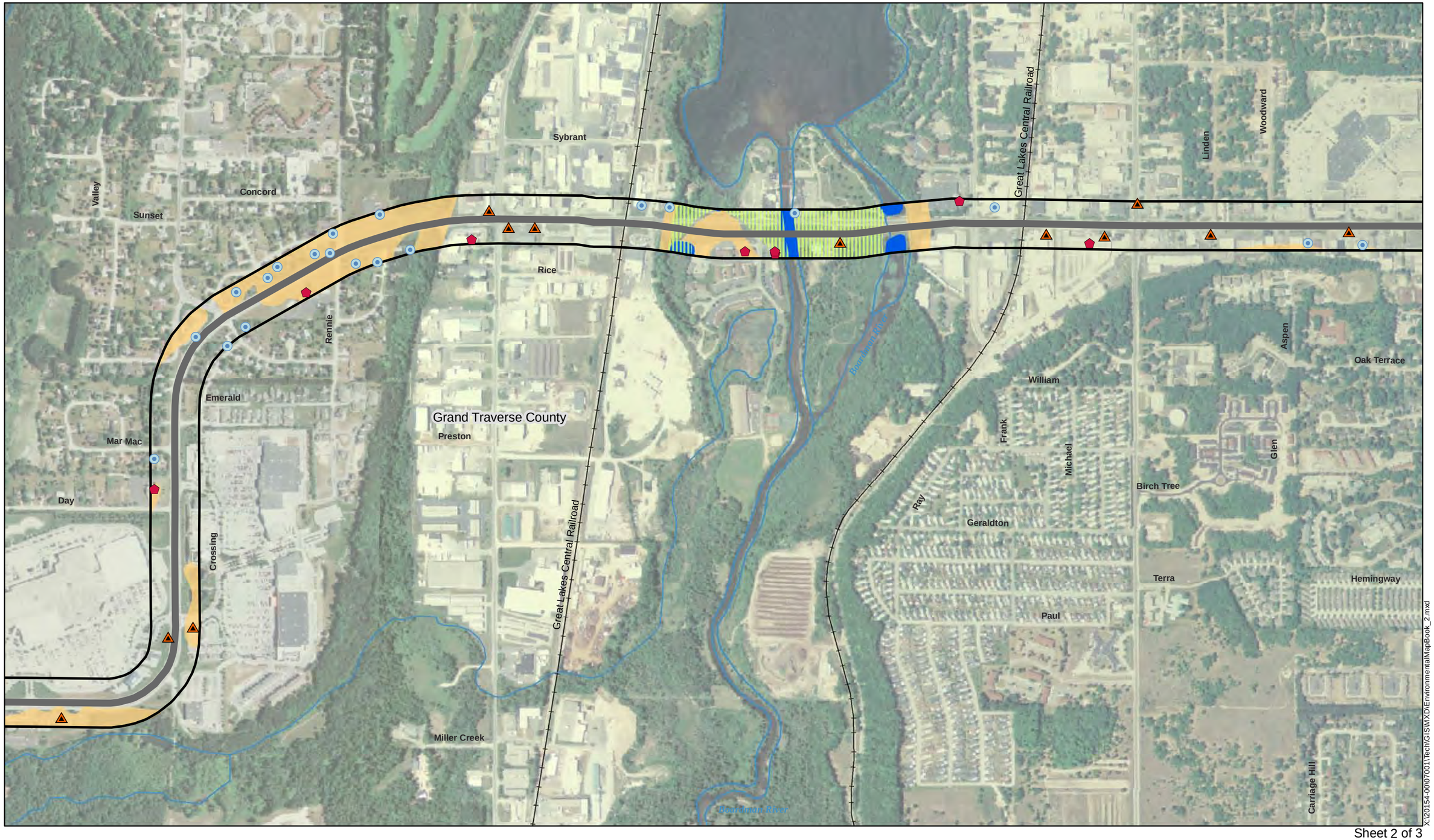
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 2 - South Airport Road

MEAD & HUNT



Sheet 2 of 3

Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

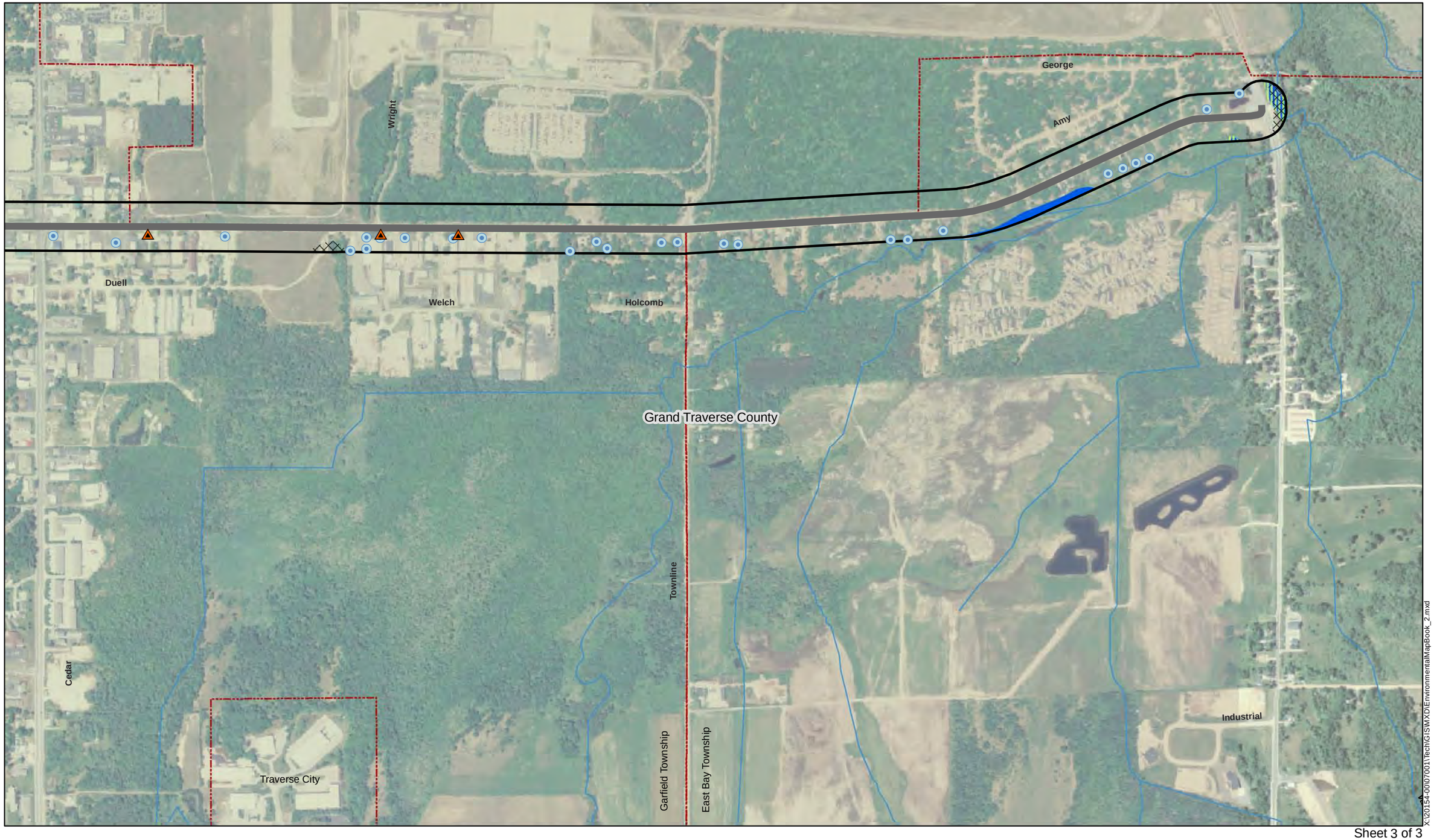
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 2 - South Airport Road

MEAD & HUNT



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Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

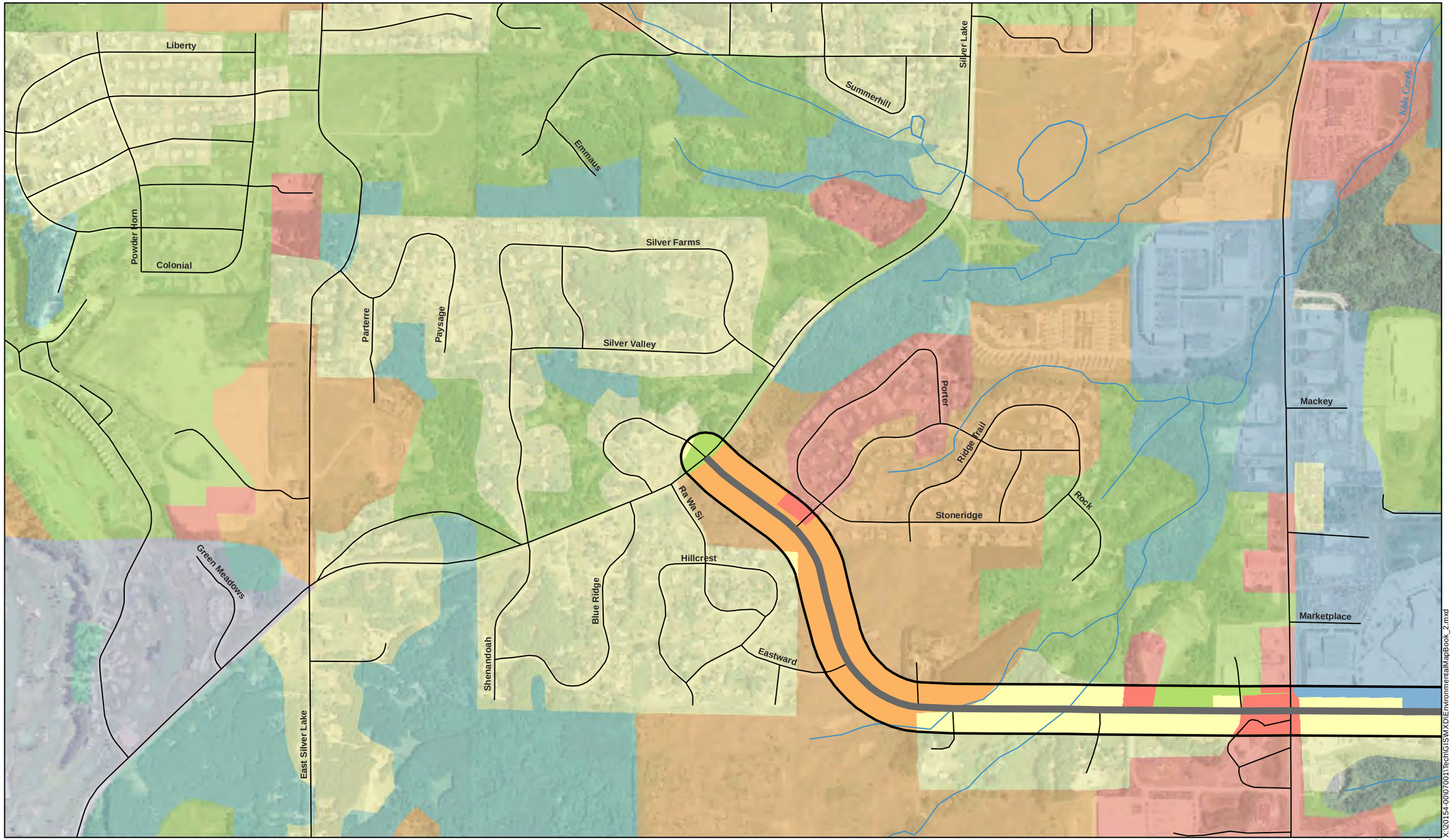
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 2 - South Airport Road

MEAD & HUNT



Sheet 1 of 3

Data Sources:
Land Cover - MDNR, Forest, Mineral and Fire Management Division
Land Use - Grand Traverse County
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Water Bodies
- Rivers/Streams
- Railroad
- Roads

LAND USE

- Mixed Residential
- Mixed Agricultural
- Mixed Commercial
- Mixed Industrial
- Open Land
- Forested Land
- Public/Semi-Public

N

0 375 750 1,500

Feet

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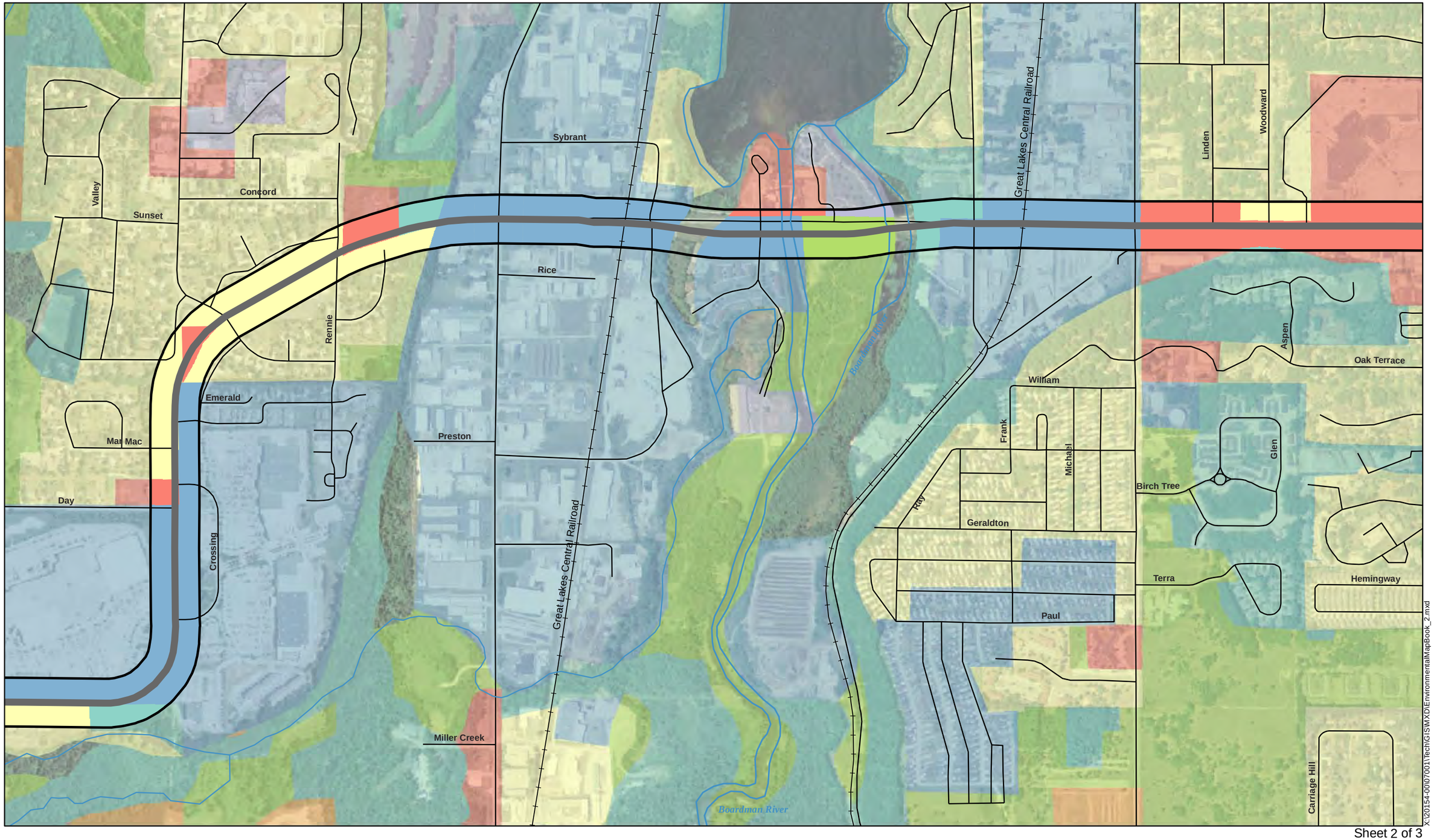
Corridors of Significance Environment Reports
Corridor 2 - South Airport Road

MEAD & HUNT



Sheet 2 of 3

Data Sources:
Land Cover - MDNR, Forest, Mineral and Fire Management Division
Land Use - Grand Traverse County
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

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LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Water Bodies
- Rivers/Streams
- Railroad
- Roads

LAND USE

- Mixed Residential
- Mixed Agricultural
- Mixed Commercial
- Mixed Industrial
- Open Land
- Forested Land
- Public/Semi-Public

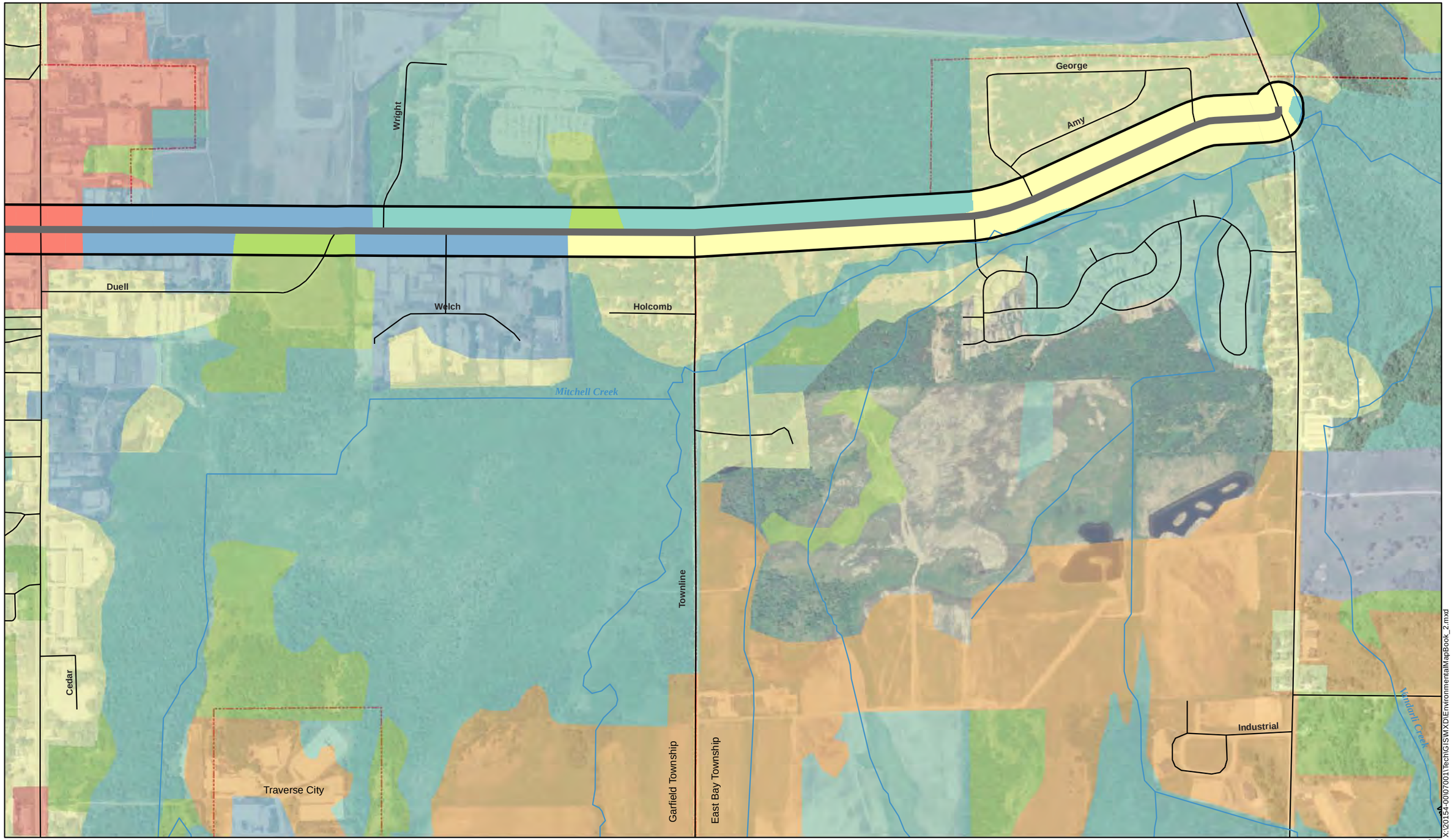
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 2 - South Airport Road

MEAD & HUNT



Sheet 3 of 3

Data Sources:
Land Cover - MDNR, Forest, Mineral and Fire Management Division
Land Use - Grand Traverse County
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Water Bodies
- Rivers/Streams
- Railroad
- Roads

LAND USE

- Mixed Residential
- Mixed Agricultural
- Mixed Commercial
- Mixed Industrial
- Open Land
- Forested Land
- Public/Semi-Public

N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 2 - South Airport Road

MEAD & HUNT

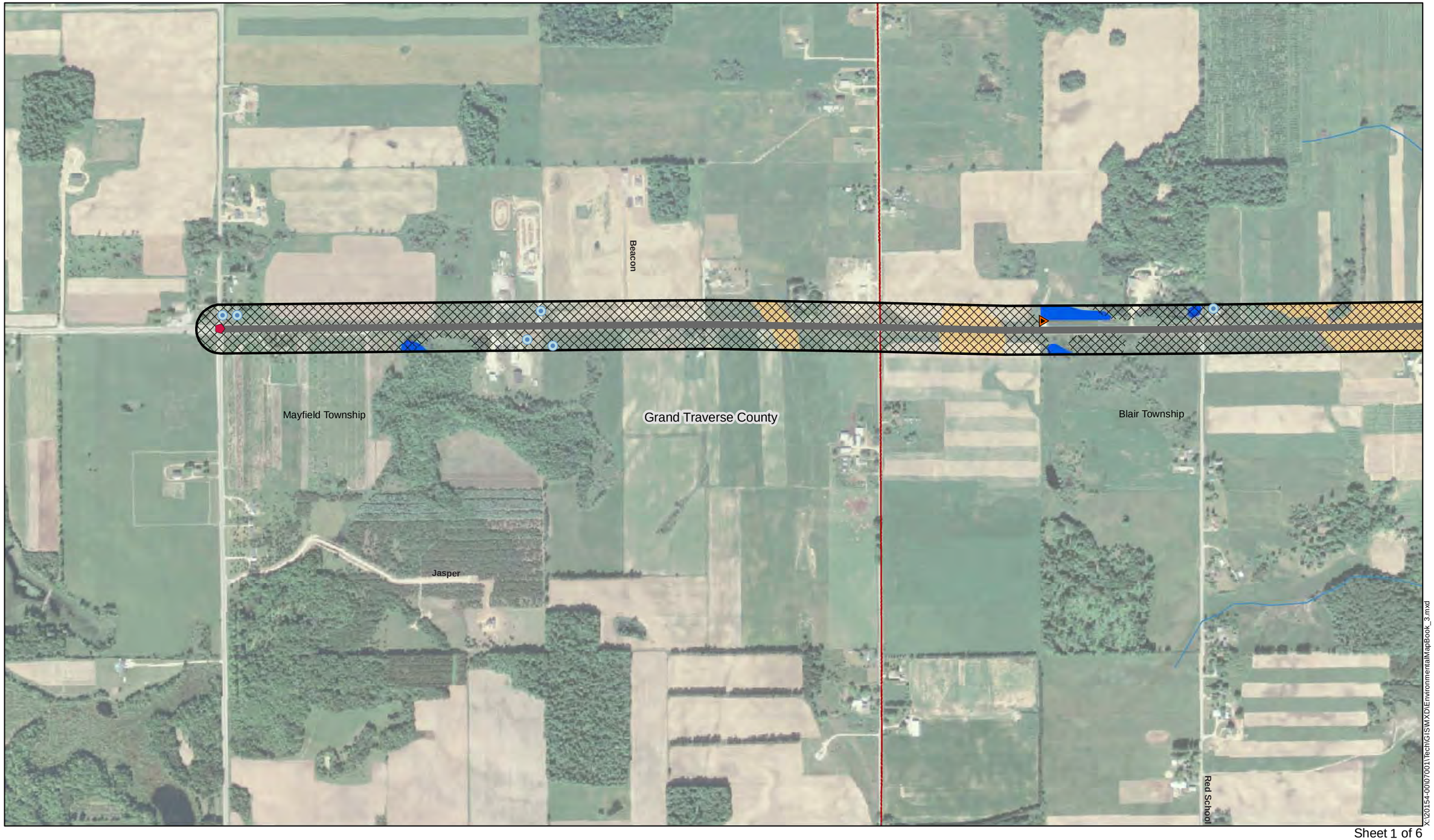
Corridor 3 – M-37

The M-37 corridor is located in Grand Traverse County in the townships of Garfield and Blair and in the city of Traverse City. The corridor is approximately 13.0 miles long; it begins at M-113 on the south and terminates at Grandview Parkway on the north. Portions of its route are shared with US-31. It ranges from two to five lanes with posted speeds of 35 miles per hour to 55 miles per hour. Major intersections include Vance Road, Beitner Road, South Airport Road, Marketplace Circle, Meijer, 14th Street, Front Street, Grandview Parkway. The roadway surface is asphalt and the intersection of US-31, M-37 and Beitner Road (Chums Corners) is concrete. The existing functional class is Principal Arterial. It has an average daily traffic (ADT) count of 24,181 cars per day, though this count varies along the length of the corridor. The total land area within the buffer is approximately 632 acres.

The table below summarizes the presence of the environmental resources in the M-37 corridor buffer area. Specific geographic information is shown on the maps on the following pages.

Table 3.3 M-37 Physical Environmental Resource Inventory Summary

Resource Category	**Resource Summary**
Commercial / navigational rivers or streams	Lake Michigan
Landmarks	yes, ten identified
Threatened or endangered species	yes
Wetlands	yes, 31.41 acres identified
Flood prone areas	yes, 81.58 acres identified
Coastal resources	yes, one area identified
Wild and scenic rivers / natural rivers	no
Prime and unique farmland soils	yes, about 335.57 acres identified
Hazardous materials	yes, 20 locations identified



Sheet 1 of 6

Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

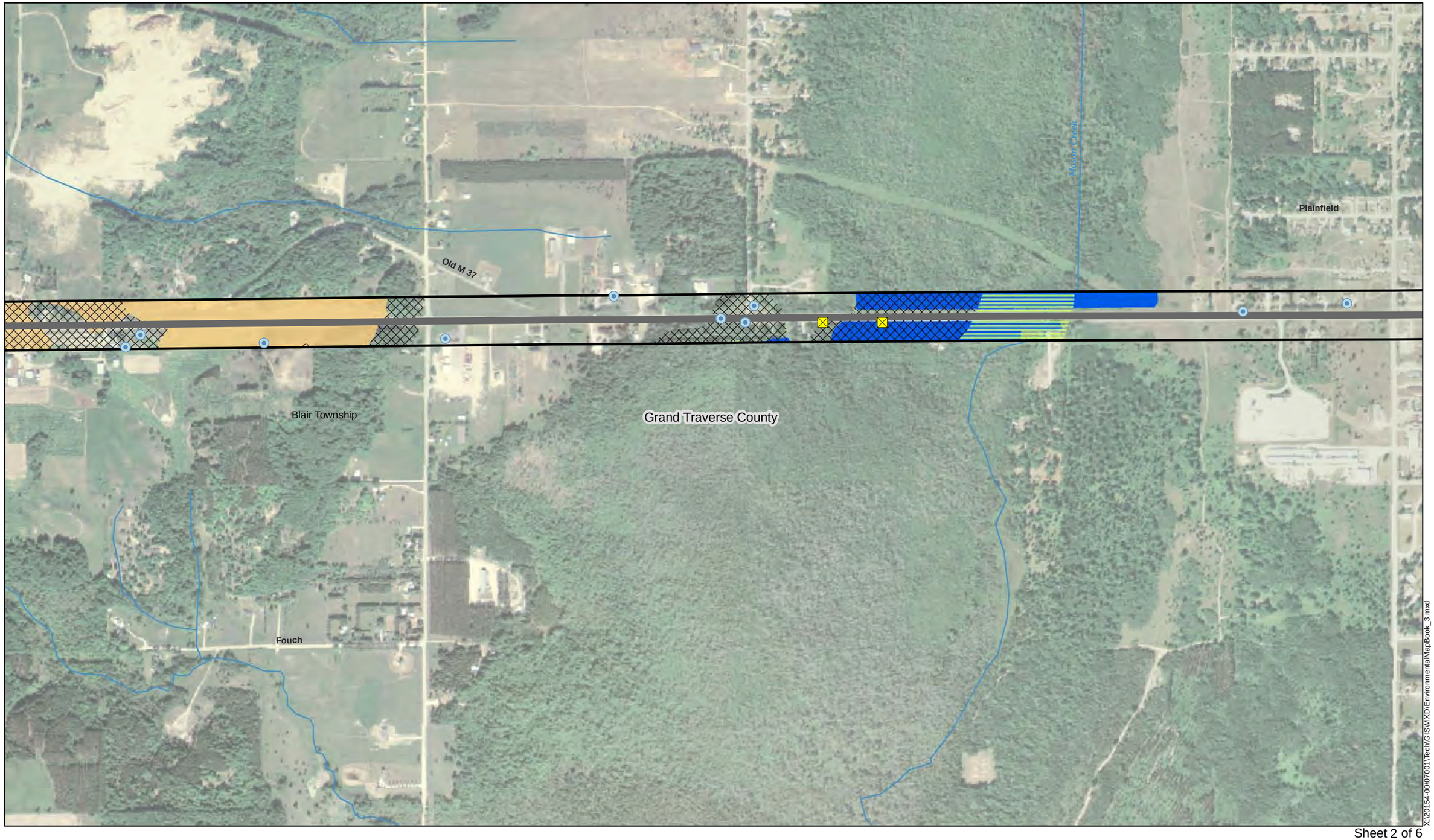
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 3 - Division Street

MEAD & HUNT



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Sheet 2 of 6

Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

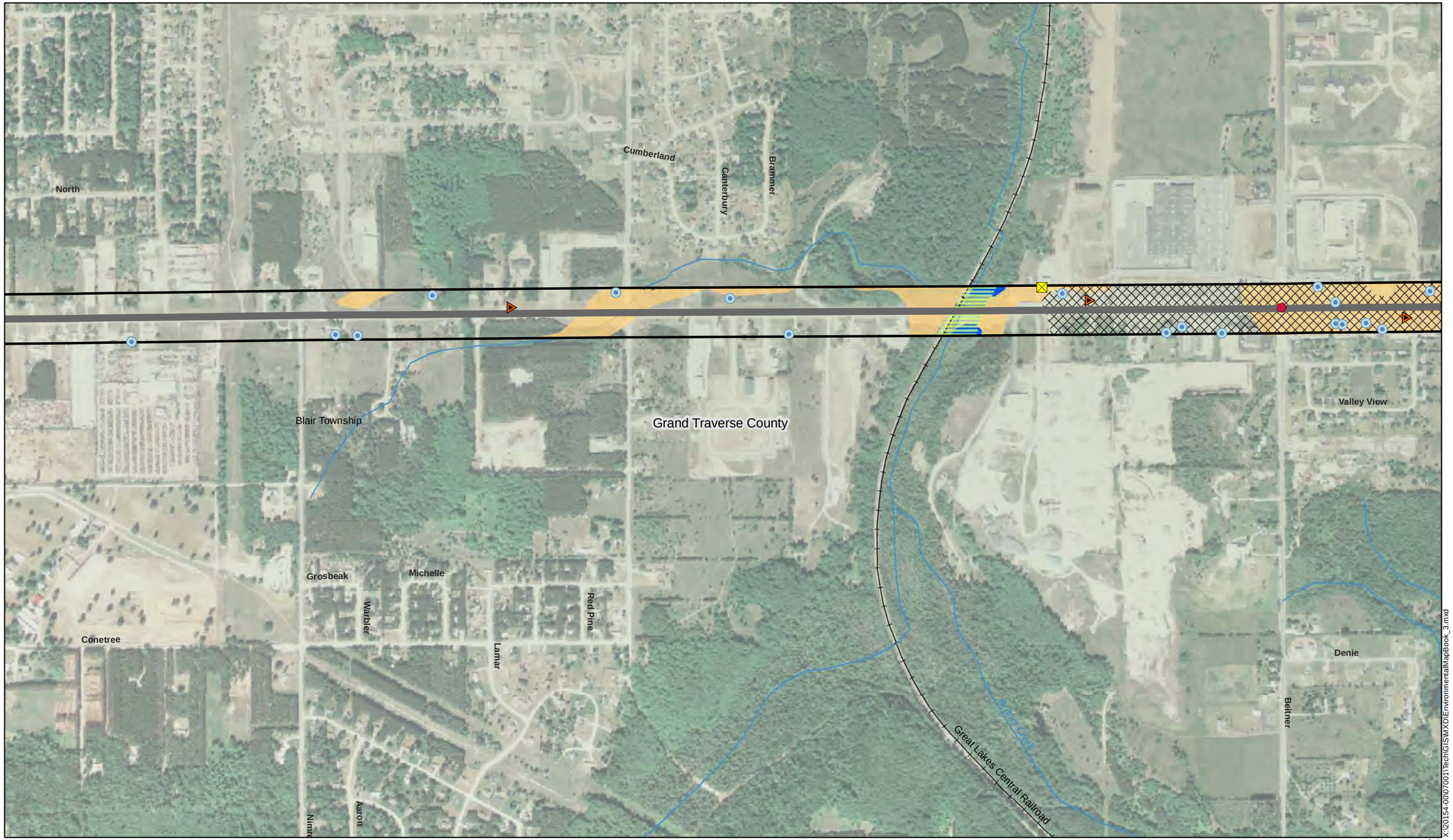
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 3 - Division Street

MEAD & HUNT



Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

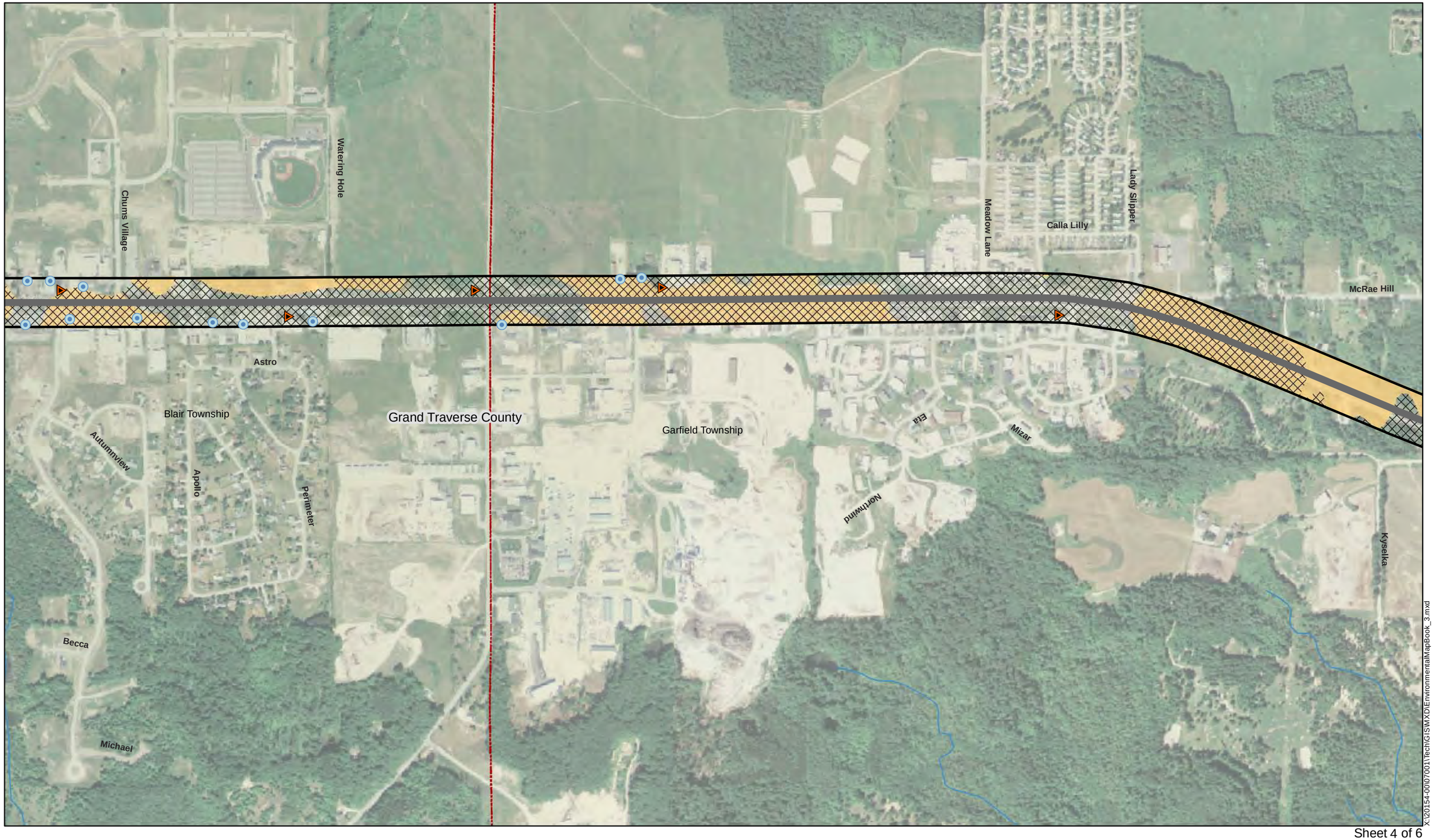
CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

N

0 375 750 1,500

Feet



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Sheet 4 of 6

Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

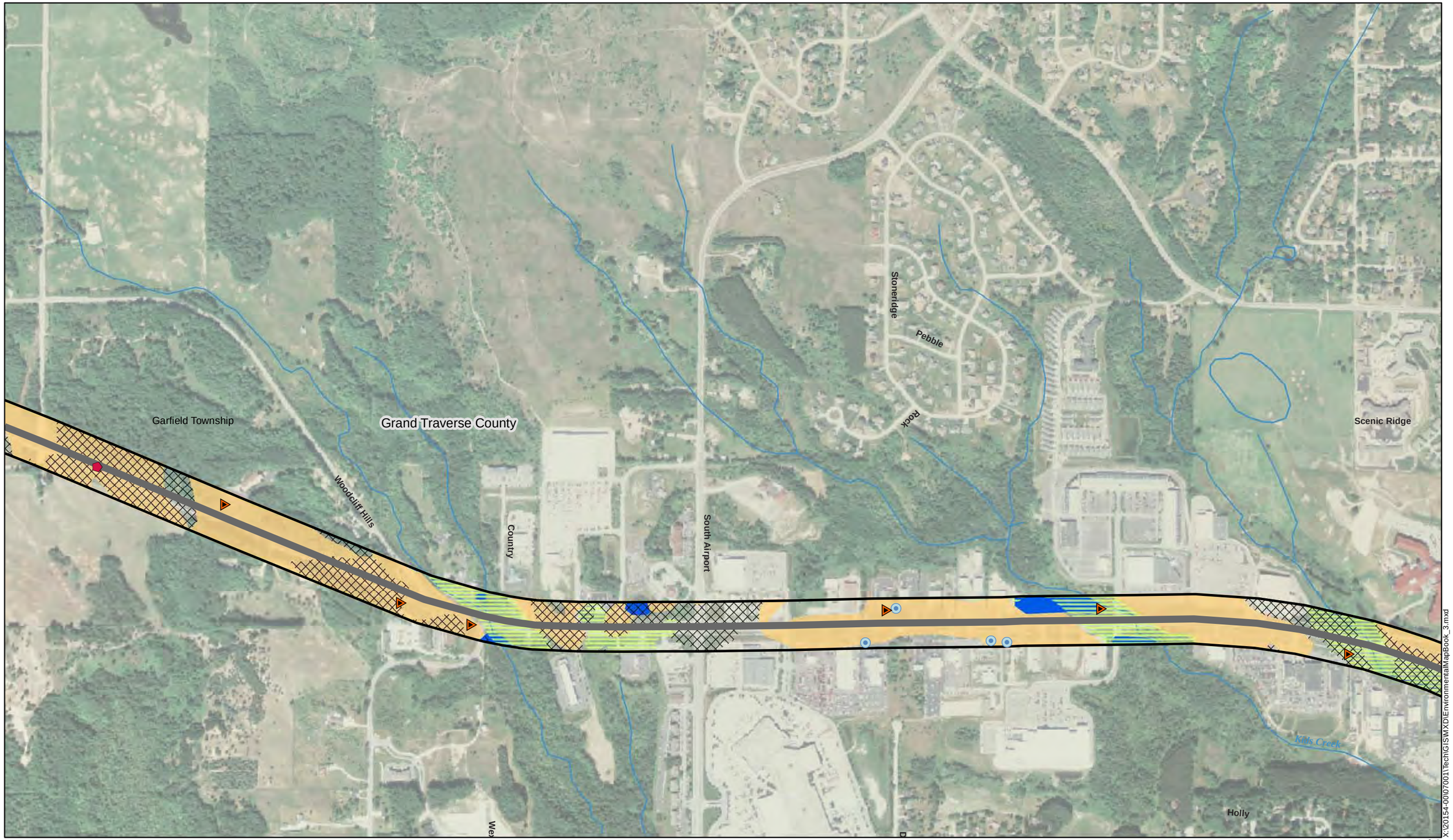
N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports
Corridor 3 - Division Street

MEAD & HUNT



Sheet 5 of 6

Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

N

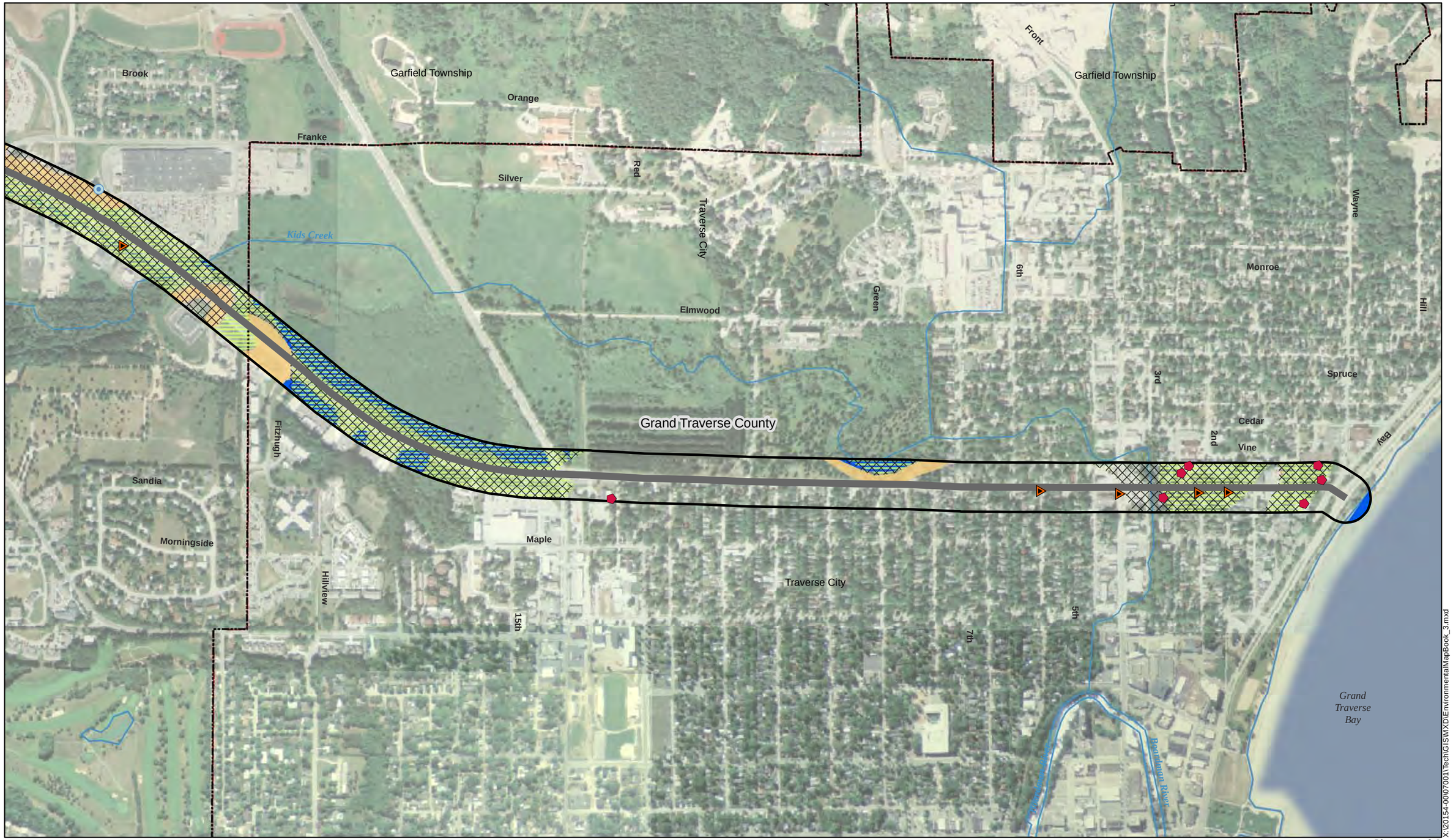
0 375 750 1,500

Feet

Corridors of Significance Environment Reports

Corridor 3 - Division Street

MEAD & HUNT



Sheet 6 of 6

Data Sources:
Basemap - Michigan Geographic Data Library
Farmland and Slope - SSURGO, from Michigan Geographic Data Library
Wetlands - National Wetland Inventory, from Michigan Geographic Data Library
Flood Prone Areas - Northwest MI Council of Governments
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Railroad
- Drinking Water Wells
- HazMat
- Landmarks
- Oil & Gas

CONSTRAINTS

- Prime and Unique Farmland Soils
- Flood Prone Areas
- Wetlands
- Steep > 6%

N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports

Corridor 3 - Division Street

MEAD & HUNT

Beacon

Mayfield Township

Grand Traverse County

Blair Township

Jasper

Red School

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Sheet 1 of 6

Data Sources:
Land Cover - MDNR, Forest, Mineral and Fire Management Division
Land Use - Grand Traverse County
Orthophotography - FSA NAIP, 2006, 1m from ArcIMS Server _http://gdw.apfo.usda.gov

LEGEND

- Corridor
- Corridor Buffer
- Municipal Boundary
- Water Bodies
- Rivers/Streams
- Railroad
- Roads

LAND USE

- Mixed Residential
- Mixed Agricultural
- Mixed Commercial
- Mixed Industrial
- Open Land
- Forested Land
- Public/Semi-Public

N

0 375 750 1,500

Feet

Corridors of Significance Environment Reports

Corridor 3 - Division Street

MEAD & HUNT