WISCONSIN
ECONOMIC DEVELOPMENT

Wisconsin Certified Sites Program

2024 Program Materials

Map Guide

WISCONSIN
CERTIFIED SITE

CONTENTS

Purpose &
General Best Practices

Overview of Best Practice Guide

Purpose:
This guide has been developed to assist practitioners in Wisconsin who are participating in the WEDC Certified Sites Program in their effort to meet program requirements. This document is an addendum to the annual WEDC Certified Sites Program Materials document. This document is developed to provide clarity regarding mapping standards which are required for the WEDC Certified Sites Program as well as additional “best practices”.

Adhering to mapping best practices enhances clarity and effectiveness, going beyond the minimum requirements of the Wisconsin Certified Sites Program. While certification requirements ensure base level uniformity of available site information, best practices can be used to provide even more informative, clear, and visually engaging maps that help prospects quickly assess key site details.

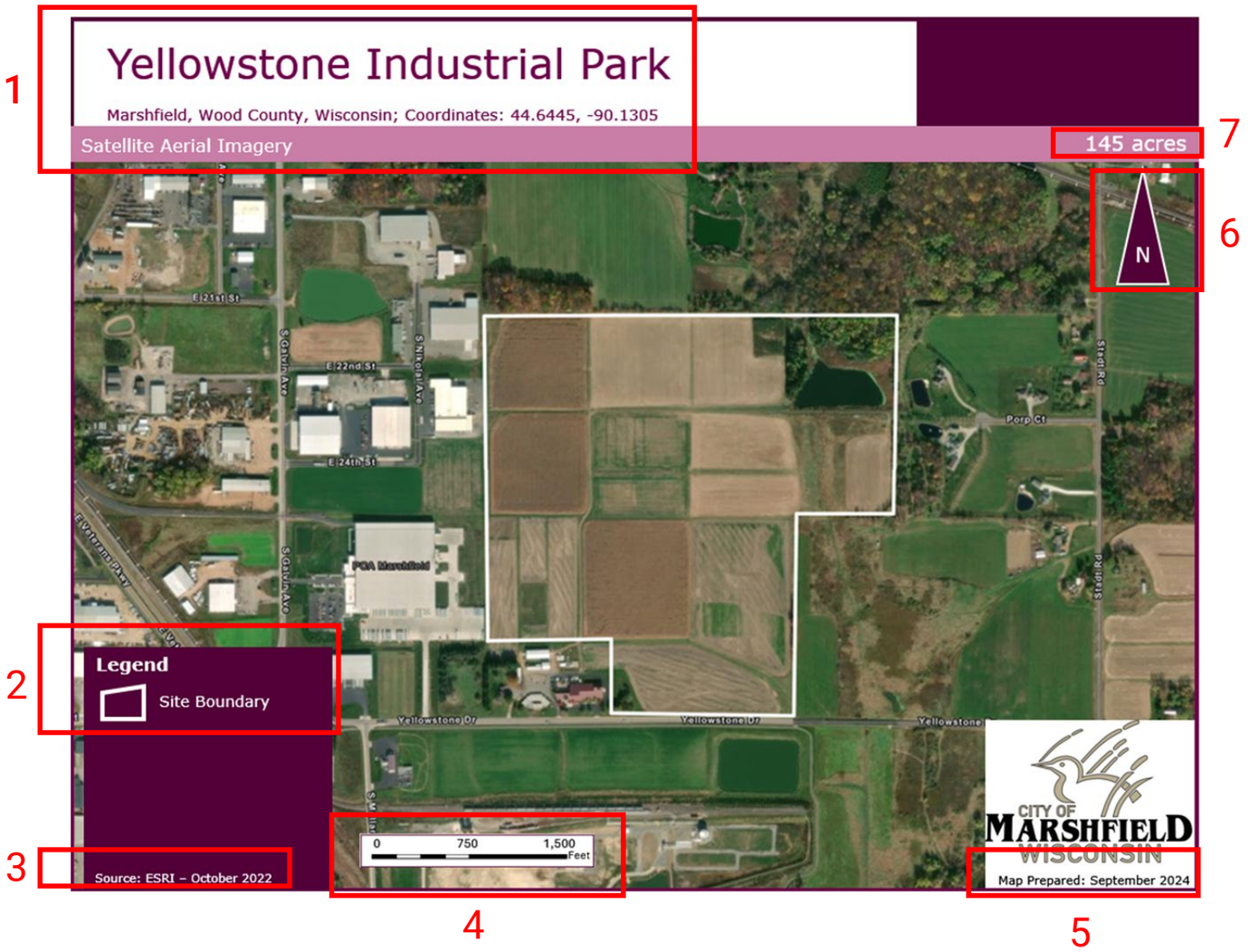
An editable companion document is also provided. This document includes a copy of each map in full scale which can be fully edited and used in future WEDC Certified Sites submissions.

Requirements

&

Best Practice

General Best Practices

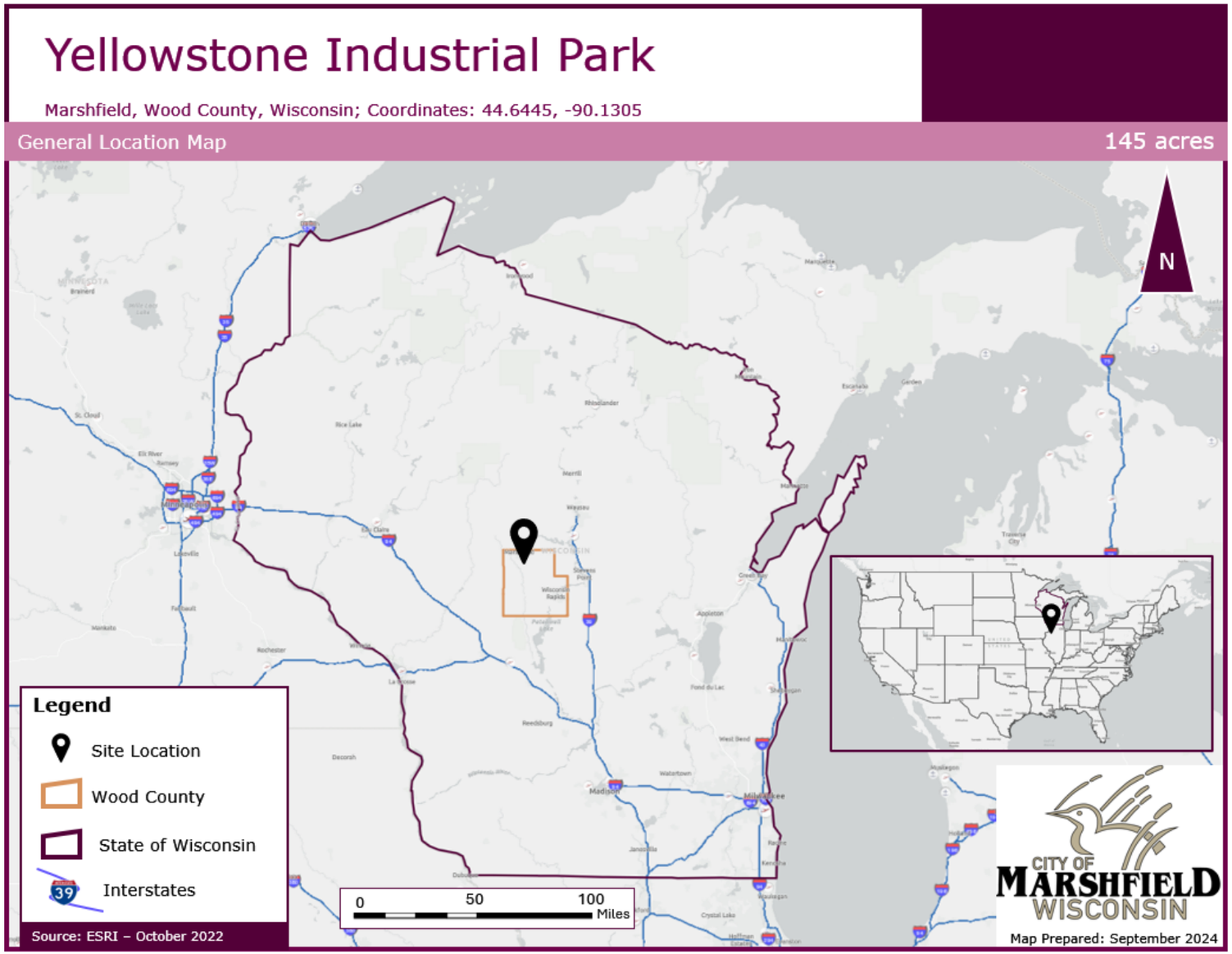


Best Practices for Creating Any Site Map:

1. **Map Title:** Clearly state the map's purpose and site location.
2. **Legend:** Use clear symbols and labels to identify key site features.
3. **Source:** Ensure data origin is cited for credibility.
4. **Scale:** Provide accurate distance/context for dimensions.
5. **Map Prepared Date**: Include preparation date to show data relevance.
6. **North Arrow:** Indicate orientation.
7. **Acreage:** Provide the total acreage of the site on each map.
8. **Boundaries:** Clearly define property lines with colors and patterns distinct from the basemap.
9. **Consistent Formatting:** Use consistent color schemes and line patterns for ease of interpretation.
10. **Minimal Clutter:** Keep the map clean and easy to read, avoiding unnecessary details.

Requirements & Best Practices

General Location Map



Requirements:

- Site location must be clearly identifiable.

Best Practices:

- Clearly demonstrate the site's location within the region, state, and country to provide context for unfamiliar prospects, especially foreign investors.
- Include relevant major transportation routes, such as highways, interstates, airports, and ports, on the map.
- Ensure the map includes clear labels, symbols, and a legend to effectively communicate the site's location and surrounding features.
- Consider partnering with a municipal GIS representative or a third-party mapping specialist to create a detailed and accurate map.

Aerial Map

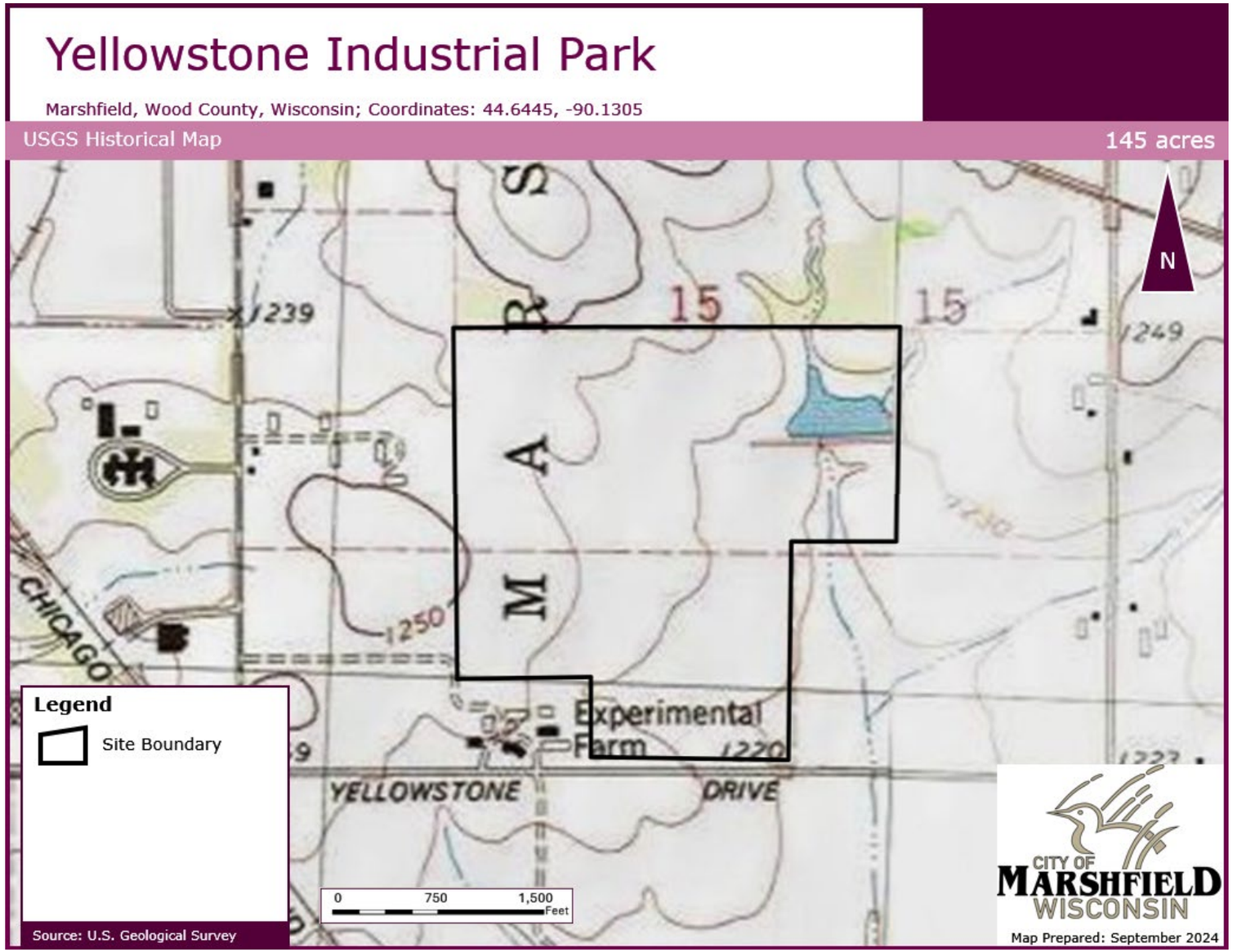
Requirements:

- Property boundary must be clearly identified.

Best Practices:

- Ensure the satellite imagery is as clear as possible.
- Note the date of the satellite imagery.
- If satellite imagery does not depict existing conditions at the site (e.g., site has been cleared), include inset image or supplemental map of drone photography that depicts existing conditions.

USGS Historical Map



Requirements:

- Property boundary must be clearly identified.

Best Practices:

- Consider partnering with a municipal GIS representative or a third-party mapping specialist to create a detailed and accurate map.
- If USGS Historical Map depicts a former impediment like a cemetery or pipeline that has been relocated, add a clear note to the map indicating the change. This helps potential investors understand the site's current conditions and avoid any unnecessary risk perception.

Nearby Businesses Map

Requirements:

- Property boundary must be clearly identified.
- Nearby businesses must be identified (where applicable).

Best Practices:

- Clearly identify specific industrial uses within the area, adding labels if necessary.
- Indicate the presence of residential, commercial, civic, and recreational areas. This allows the map to be submitted for projects as a “surrounding land use map” attachment.
- Attach an overview of key manufacturing and distribution businesses in the vicinity, including industry type, products, operations, and employee count.
- Google maps can be a quick solution for this map. Ensure you add labels for key businesses as needed. Ensure any labels from Google are legible.

Topographic Map

Requirements:

- Property boundary must be clearly identified.
- Map must have clearly defined contour intervals of two (2) feet or less. The downloadable layer of 2-foot contours are available on the Wisconsin open data website, GeoData@Wisconsin.

Best Practices:

- Consider partnering with a municipal GIS representative or a third-party mapping specialist to create a detailed and accurate map.
- Alternatively, download the relevant layer from the Wisconsin open data website and upload it to ArcGIS Online. Follow the same export process as you would for an aerial map.
- Consider the creation of 5- and 10-foot interval maps to bolster marketing materials.

Tax Parcel Map

Requirements:

- Property boundary must be clearly identified.
- Tax parcel numbers and lines must be included for the site and for surrounding properties.

Best Practices:

- Clearly display tax parcel boundaries and parcel numbers, especially for adjacent lots or those relevant to future road or utility development.
- Ensure that all labels on the map are legible and easily associated with the correct parcel. Consider adjusting font type, size, or shadows to enhance readability. Add Text box labels if necessary
- If possible, without compromising clarity, include high-level information about adjacent parcels, such as acreage or owner names. However, given the number of smaller parcels, this may not be feasible for all properties.

FEMA Flood Hazard Map

Requirements:

- Property boundary must be clearly identified.
- FEMA Panel Number must be indicated on the map.

Best Practices:

- Consider partnering with a municipal GIS representative or a third-party mapping specialist to create a detailed and accurate map.
- If the site was previously located in a floodplain but has been removed due to a levee or site work, clearly indicate this on the map. This information can help mitigate potential concerns related to flooding.

National Wetlands Inventory (NWI) Map

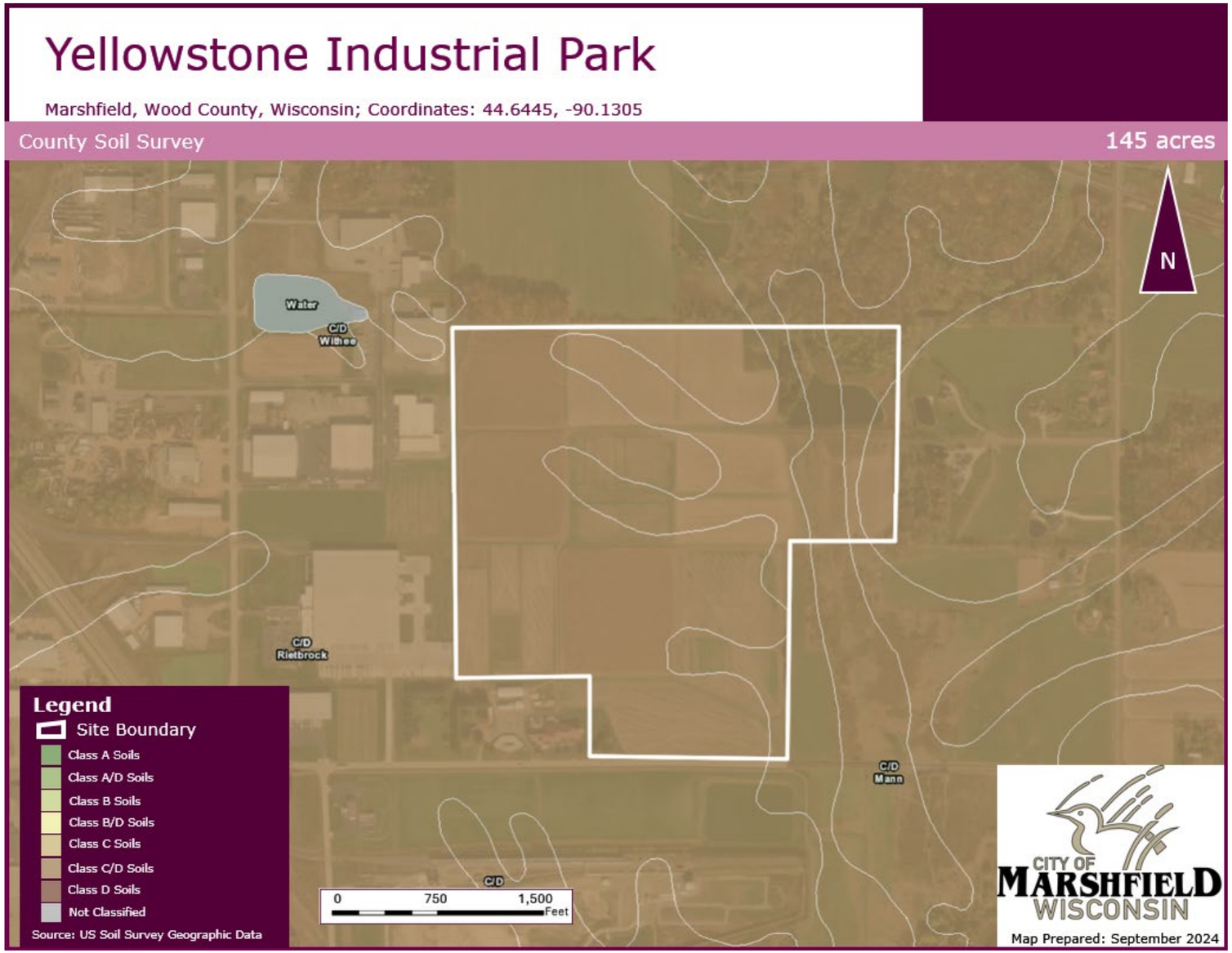
Requirements:

- Property boundary must be clearly identified.

Best Practices:

- Consider partnering with a municipal GIS representative or a third-party mapping specialist to create a detailed and accurate map.
- If a recent wetland delineation (within 5 years) exists, use the map from that report instead of the National Wetlands Inventory (NWI) map to ensure accuracy and avoid potential discrepancies
- If using a third-party contractor or municipal GIS partner, request the inclusion of National Hydrography Dataset (NHI) flow lines to differentiate and label permanent streams of water.
- Clearly label man-made ponds or other water bodies that are not suspected to be jurisdictional wetlands.

County Soil Survey Map



Requirements:

- Property boundary must be clearly identified.

Best Practices:

- Consider partnering with a municipal GIS representative or a third-party mapping specialist to create a detailed and accurate map.
- Visit websoilsurvey.sc.egov.usda.gov to access the USDA Soil Survey to develop a soil survey on your own.

Transportation Map

Requirements:

- Site location must be clearly identified.
- Route to the closest interstate must be provided.
- Include all major roads, rail lines, commercial service airports, and ports within a 45-mile radius of the site.

Best Practices:

- Consider partnering with a municipal GIS representative or a third-party mapping specialist to create a detailed and accurate map.
- Create 20- and 45-mile radius from the site that overlays the map to visually demonstrate the distance to features in relation to the site.
- Clearly label the exact distances to relevant transportation infrastructure, such as airports, ports, and major highways.
- Combine as many transportation elements as possible onto a single map while maintaining clarity and readability. Avoid overcrowding the map with excessive information.

Notes:

- This map should fulfill the requirements of both “General Transportation Map” and the “route to interstate requirement for the “Transportation Map.” This map could also be a separate map.

Road Access Map

Requirements:

- Property boundary must be clearly identified.
- Current and/or potential road access onto the site must be shown.

Best Practices:

- Consider partnering with a municipal GIS representative or contracting with a third party to create this map.
- Ideally, this map would be provided by a site engineer.
- Consider adding labels to identify key features as needed.
- Consider including information about turn lanes, shoulders, medians, and signalization both internal to the site and at the site/park's entrances.

Notes:

- This map should fulfill the requirement of demonstrating road access for the "Transportation Map" but is called "Road Access Map" since the other requirements are fulfilled by the Transportation Map above.

Rail Infrastructure Map

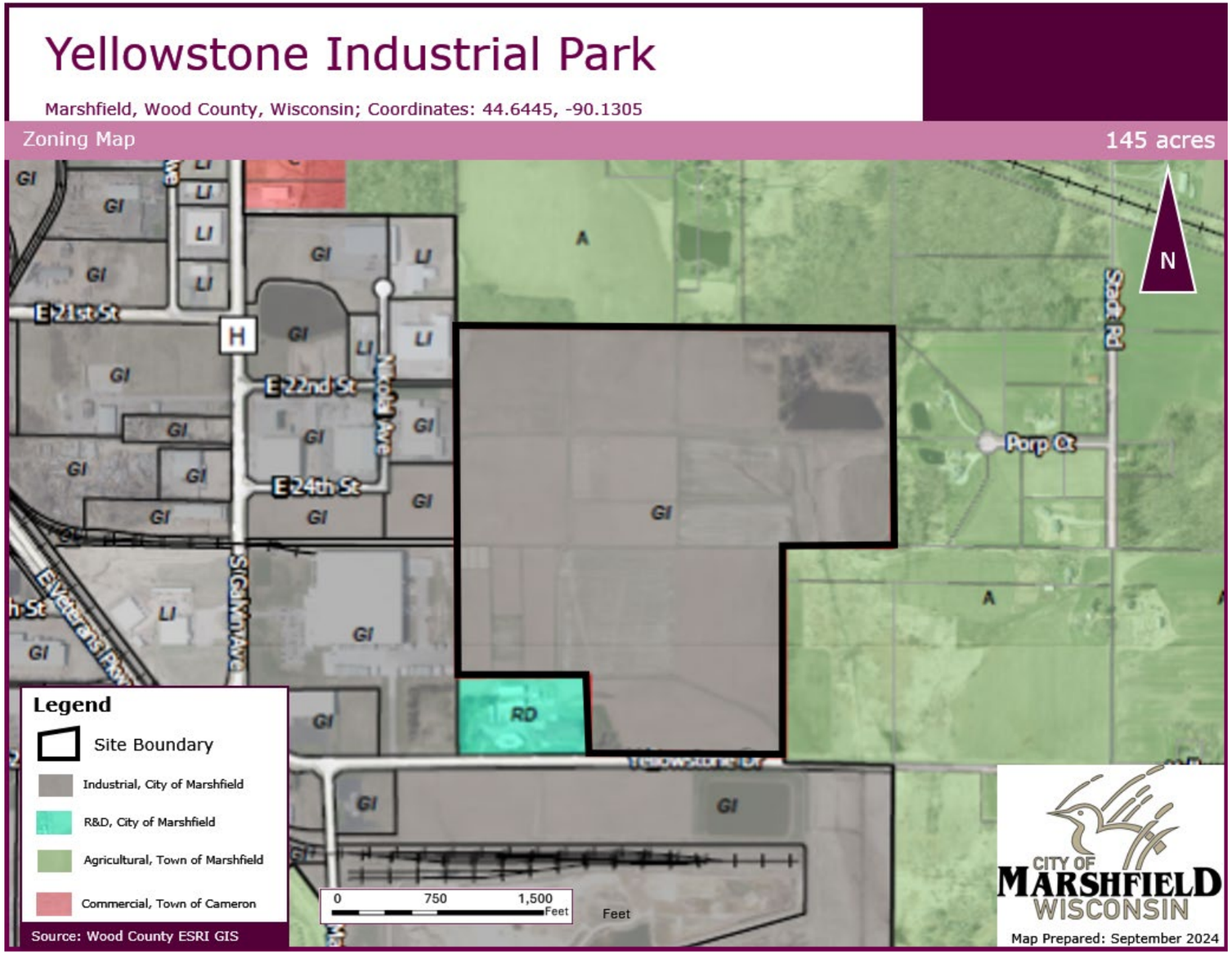
Requirements:

- Property boundary must be clearly identified.
- Existing rail infrastructure (where applicable) must be shown.
- Letter of support from the rail provider is required for the site to be considered “rail-served” by Wisconsin Certified Sites. The route identified by this map should be endorsed by the rail provider in this letter.

Best Practices:

- Ideally, a rail provider will provide this map.
- Multiple scenarios may be submitted on separate maps demonstrating possible routes of the rail spur, siding, or loop that might serve different layout or use types.
- If extension is required for access, consider adding any additional context about right-of-way acquisition as it might be helpful consultants trying to understand the viability of getting rail access to the site.
- Where multiple lines exist, label on the map rather than in the legend which rail provider serves which line. Also, consider adding any additional context regarding dual-track rights, where applicable.

Zoning Map



Requirements:

- Property boundary must be clearly identified.
- If the site in in a jurisdiction with zoning:
  - Map must demonstrate current zoning for the site and the surrounding area.
- If the property is in a jurisdiction with no zoning:
  - The map must demonstrate the comprehensive or long-range plan for the site and the surrounding area.

Best Practices:

- Consider partnering with a municipal GIS representative or contracting with a third party to create this map.
- Ensure the map is the representative of the most current zoning map that has been adopted by ordinance.

Master Utility Infrastructure Map

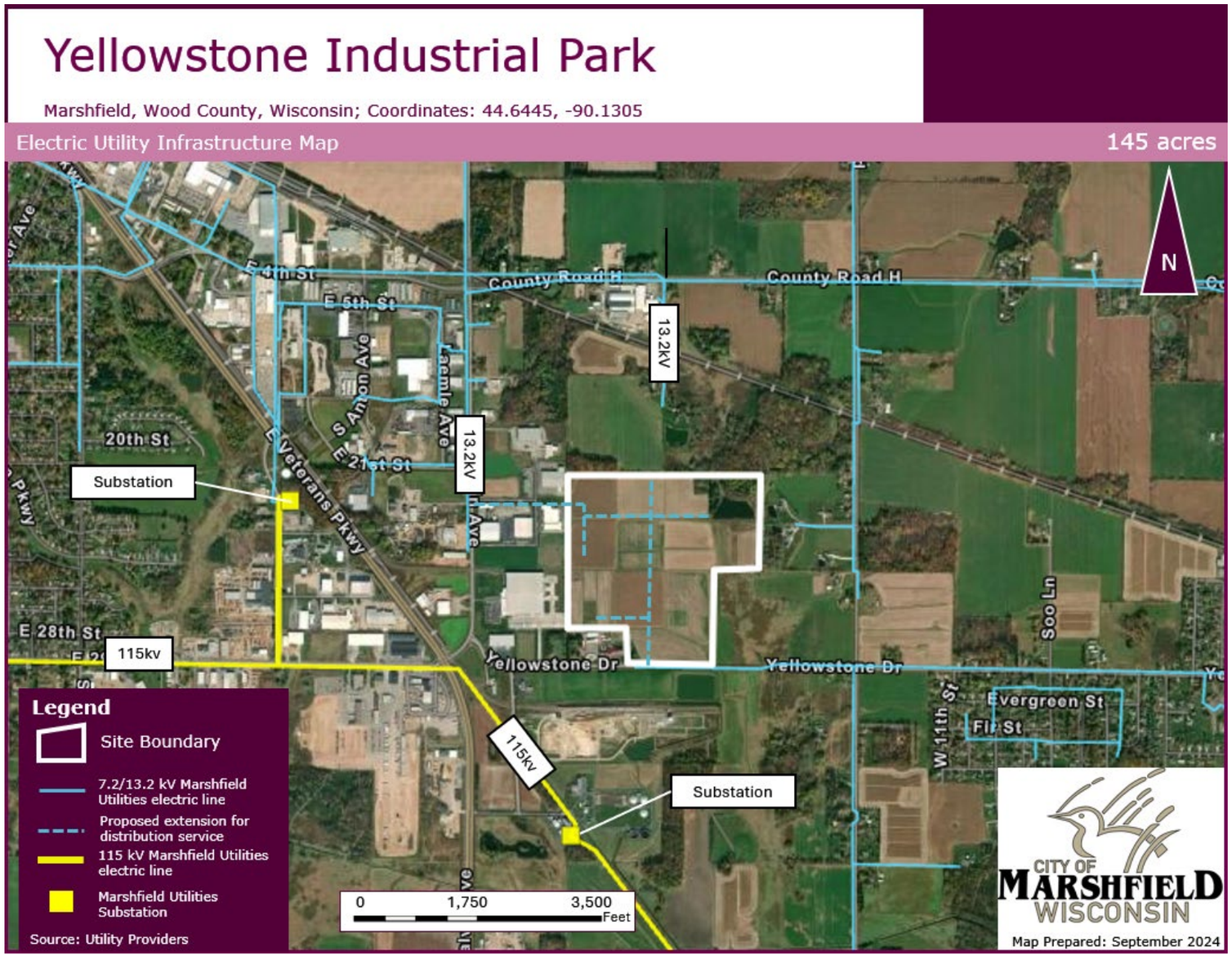
Requirements:

- Property boundary must be clearly identified.
- Infrastructure map(s) with property boundaries are required. The line size or voltage of each line must be labeled clearly.
- While a master utility infrastructure map is not mandatory, it can fulfill the requirement for all utility maps, provided it is clearly labeled and legible.

Best Practices:

- Consider partnering with a municipal GIS representative or contracting with a third party to create this map.
- To accommodate color-blindness and colorless printing, consider creating this map using different line patterns, labels, and line widths as appropriate.
- Because utility lines are often located in the same easements or rights-of-way, a single map can be helpful for orientation to location but difficult to read any specifics. If is for this reason, that individual maps are highly suggested for each utility. Additionally, individual maps are easier to label and may better showcase various size or voltages for different lines.

Electric Utility Infrastructure Map



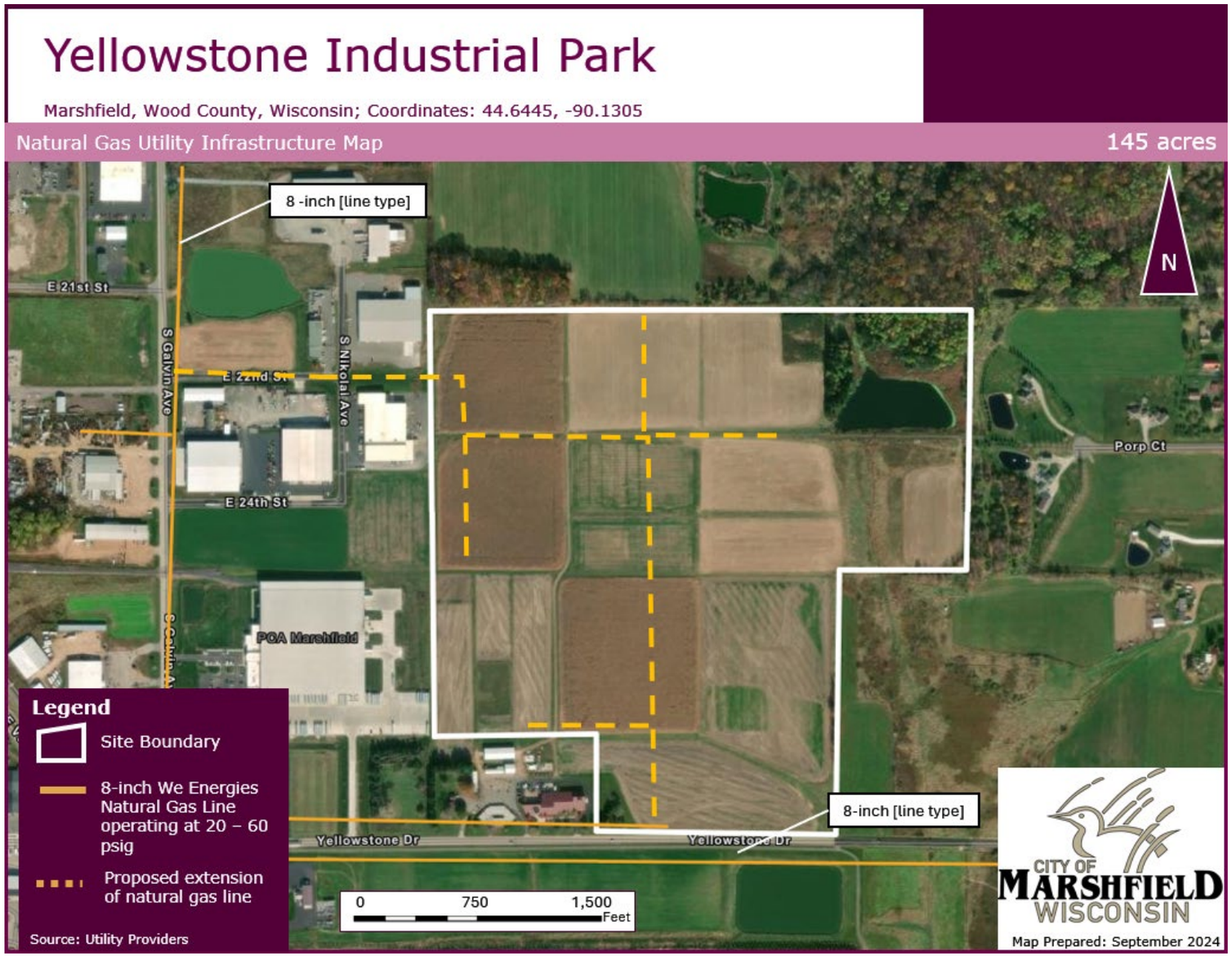
Requirements:

- Property boundary must be clearly identified.
- Location and voltage of the nearest electric infrastructure is required.

Best Practices:

- It is ideal to obtain this map directly from the service provider or through a site design engineer.
- Consider including a utility map that is “zoomed out” some. Zooming out on infrastructure maps can help identify other system attributes such as larger voltage lines and substations.
- Label voltages of lines and substations in addition to adding them to the legend. Use the assigned name of the substation when able, so that any discussion of the electric infrastructure can be concise and avoid any misconceptions. A variety of projects with differing electric requirements can be accommodated with the context they need from this one map. Ensure all maps are legible.
- Show possible or planned extensions of electric lines to and within the site boundary to give prospects a vision for how development is planned at the site. Differentiate current lines and future extensions visually and/or by the use of labels.

Natural Gas Utility Infrastructure Map



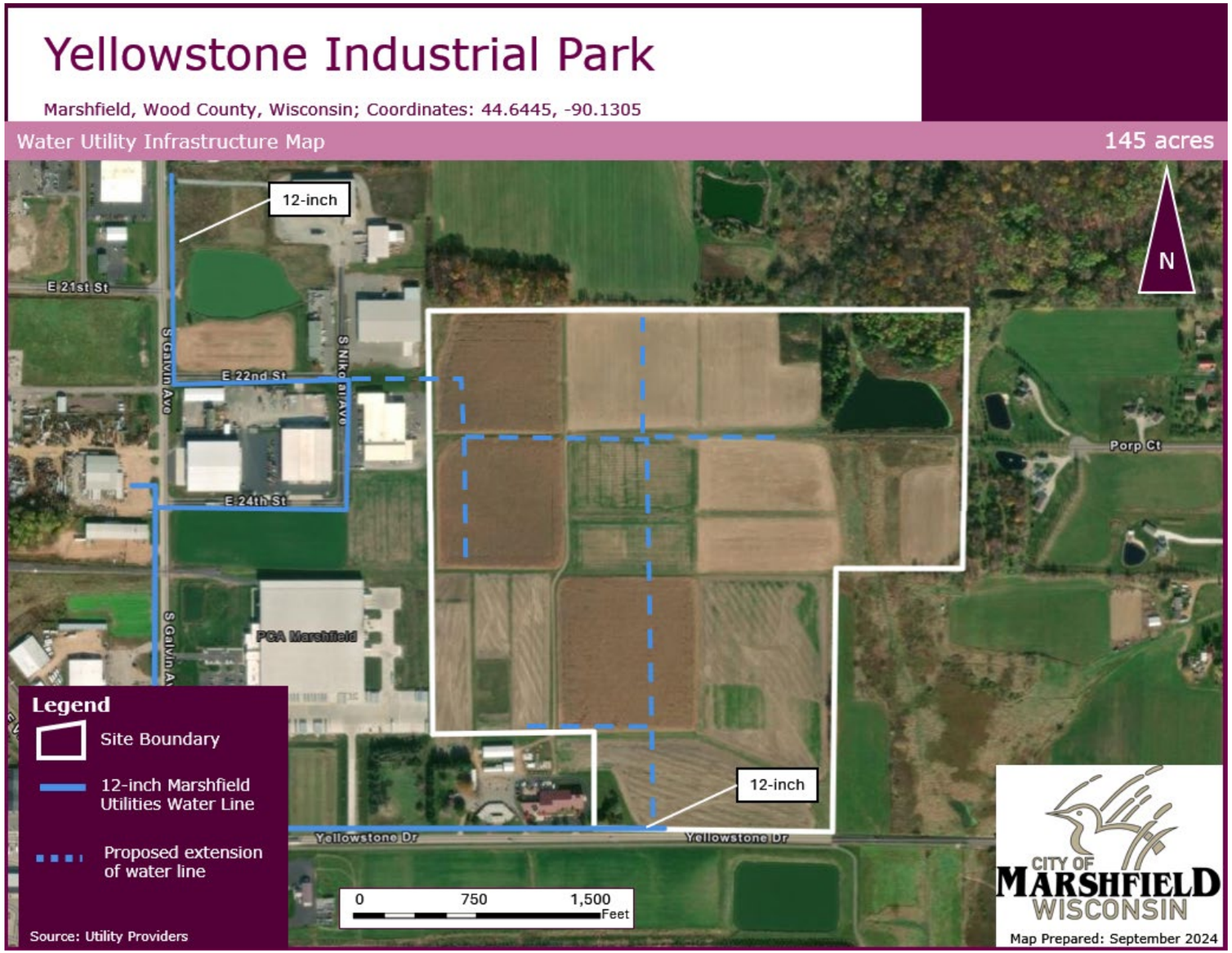
Requirements:

- Property boundary must be clearly identified.
- Location and size of the nearest natural gas infrastructure is required.

Best Practices:

- It is ideal to obtain this map directly from the service provider or through a site design engineer.
- Label the diameter of lines as well as the material (plastic, high pressure steel, etc.) in addition to adding them to the legend. This helps further clarify different line sizes where texture and line width can be hard to determine.
- Consider including a utility map that is “zoomed out” some. Zooming out on infrastructure maps can help identify other system attributes such as transmission lines or regulator stations.
- Label the sizes of all nearby lines, not just the nearest line. A variety of projects with differing natural gas requirements can be accommodated with the context they need from this one map. Ensure all maps are legible.
- Show possible or planned extensions of natural gas lines to and within the site boundary to give prospects a vision for how development is planned at the site. Differentiate current lines and future extensions visually and/or by the use of labels.

Water Utility Infrastructure Map



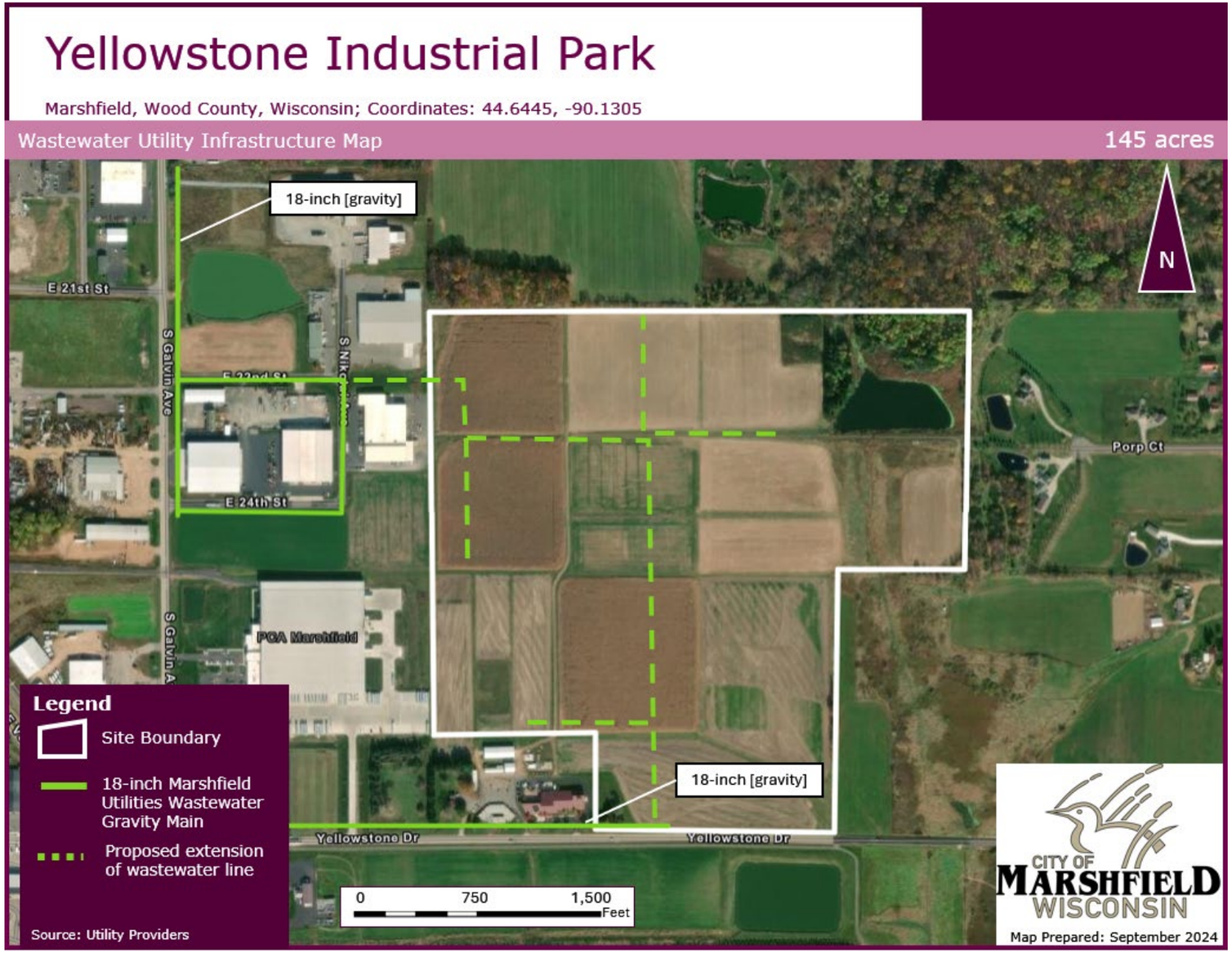
Requirements:

- Property boundary must be clearly identified.
- Location and size of the nearest water infrastructure is required.

Best Practices:

- It is ideal to obtain this map directly from the service provider or through a site design engineer.
- Label the diameter of lines in addition to adding them to the legend. This helps further clarify different line sizes where texture and line width can be hard to determine.
- Consider including a utility map that is “zoomed out” some. Zooming out on infrastructure maps can help identify other system attributes such as pump stations, water towers, and the treatment facilities.
- Label the sizes of all nearby water lines, not just the nearest line. A variety of projects with differing water requirements can be accommodated with the context they need from this one map. Ensure all maps are legible.
- Show possible or planned extensions of water lines to and within the site boundary to give prospects a vision for how development is planned at the site. Differentiate current lines and future extensions visually and/or by the use of labels.

Wastewater Utility Infrastructure Map



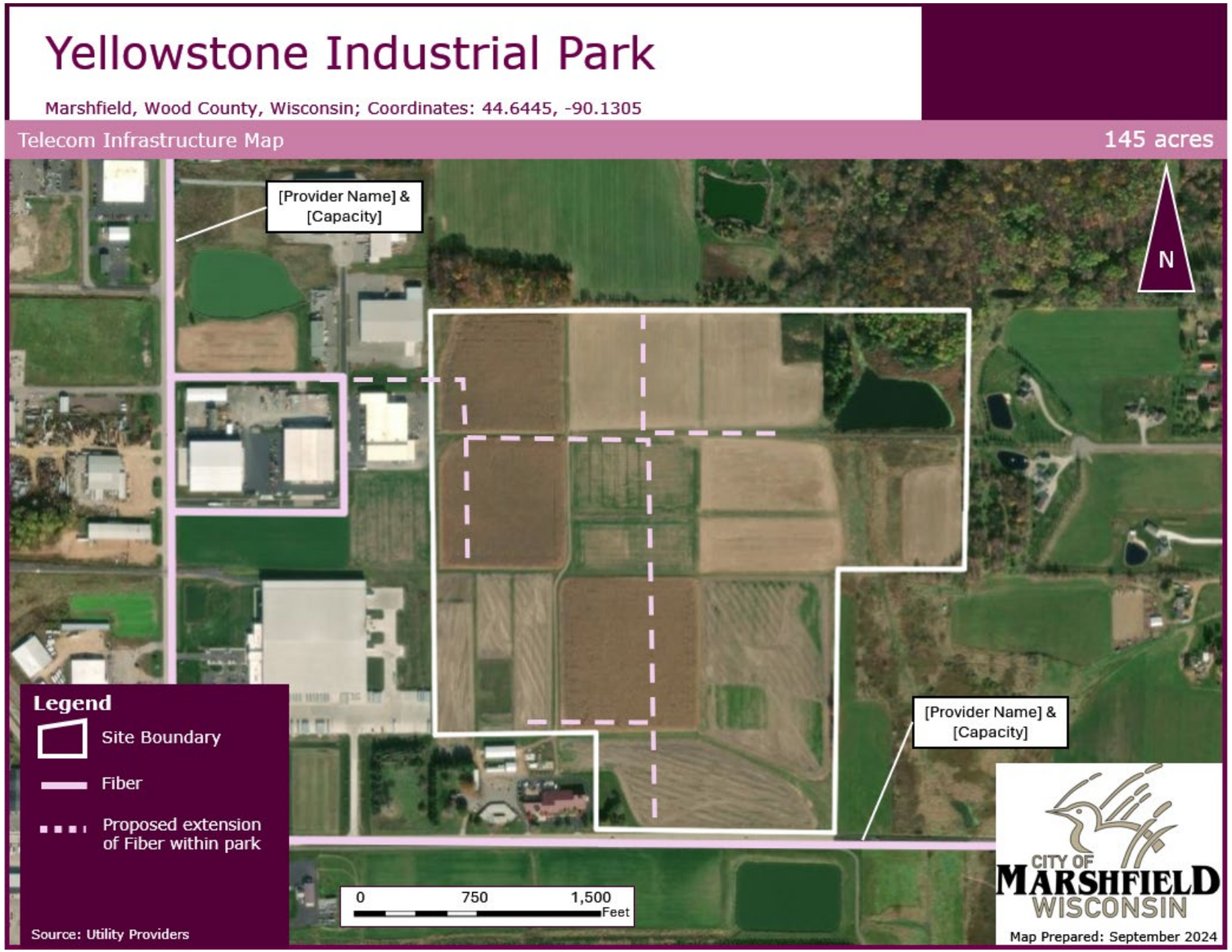
Requirements:

- Property boundary must be clearly identified.
- Location and size of the nearest wastewater infrastructure is required.

Best Practices:

- It is ideal to obtain this map directly from the service provider or through a site design engineer.
- Label the diameter of lines in addition to adding them to the legend. This helps further clarify different line sizes where texture and line width can be hard to determine. Include whether the line is gravity or a force-fed line.
- Consider including a utility map that is “zoomed out” some. Zooming out on infrastructure maps can help identify other system attributes such as lift stations and treatment facilities.
- Label the sizes of all nearby water lines, not just the nearest line. A variety of projects with differing wastewater requirements can be accommodated with the context they need from this one map. Ensure all maps are legible.
- Show possible or planned extensions of wastewater lines to and within the site boundary to give prospects a vision for how development is planned at the site. Differentiate current lines and future extensions visually and/or by the use of labels.

Telecom Utility Infrastructure Map



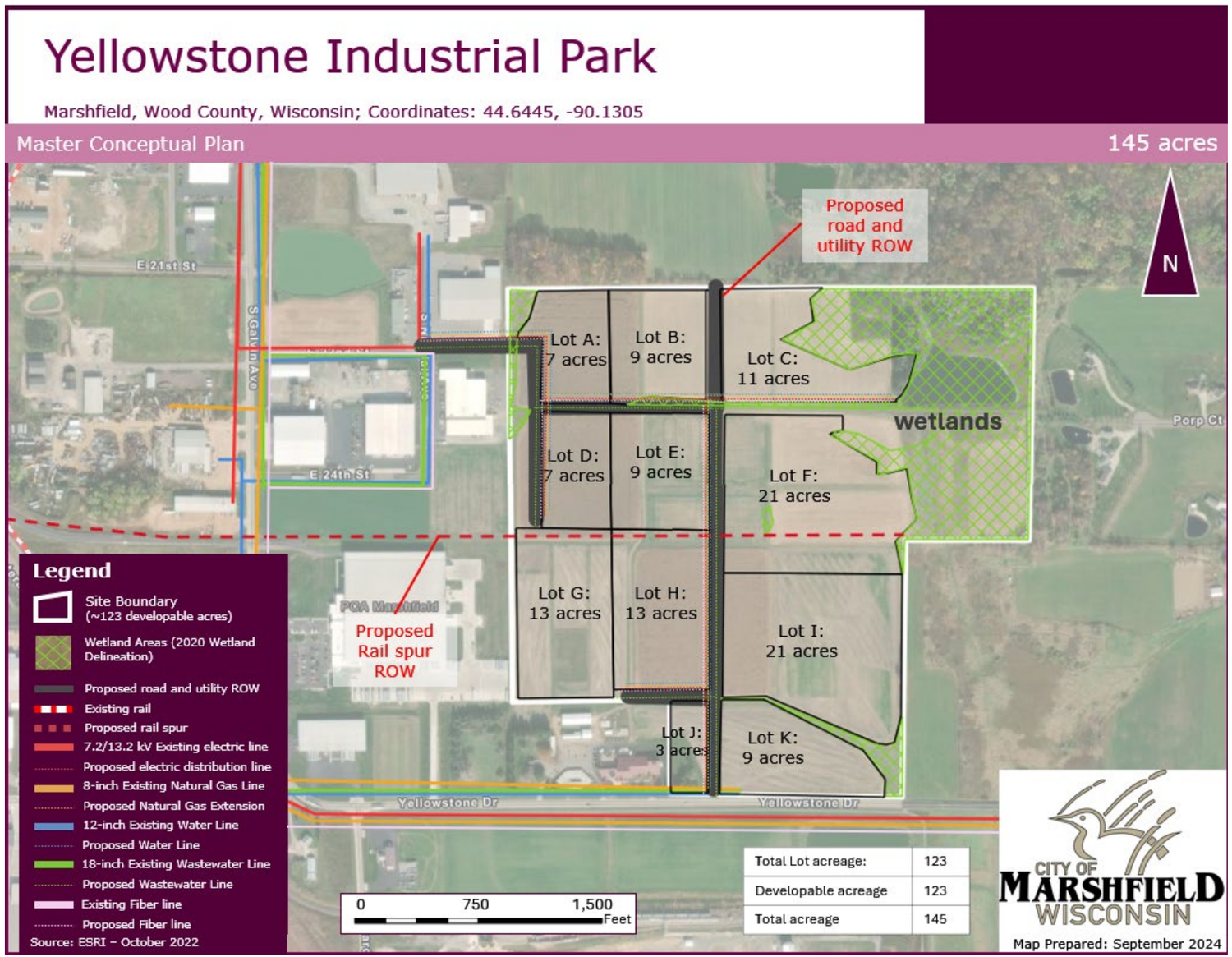
Requirements:

- Property boundary must be clearly identified.
- Location of the telecommunication infrastructure serving the property is required.

Best Practices:

- It is ideal to obtain this map directly from the service provider or through a site design engineer.
- If multiple provider lines are located in the map area, it is a best practice to label each line with their provider and possible capacity.
- Consider including a utility map that is "zoomed out" some. Zooming out on infrastructure maps can help identify other system attributes such as dark fiber lines and cell towers. A variety of projects with differing telecom requirements can be accommodated with the context they need from this one map.
- Show possible or planned extensions of telecommunication lines to and within the site boundary to give prospects a vision for how development is planned at the site. Differentiate current lines and future extensions visually and/or by the use of labels. Ensure all maps are legible.

Master Conceptual Plan



Requirements:

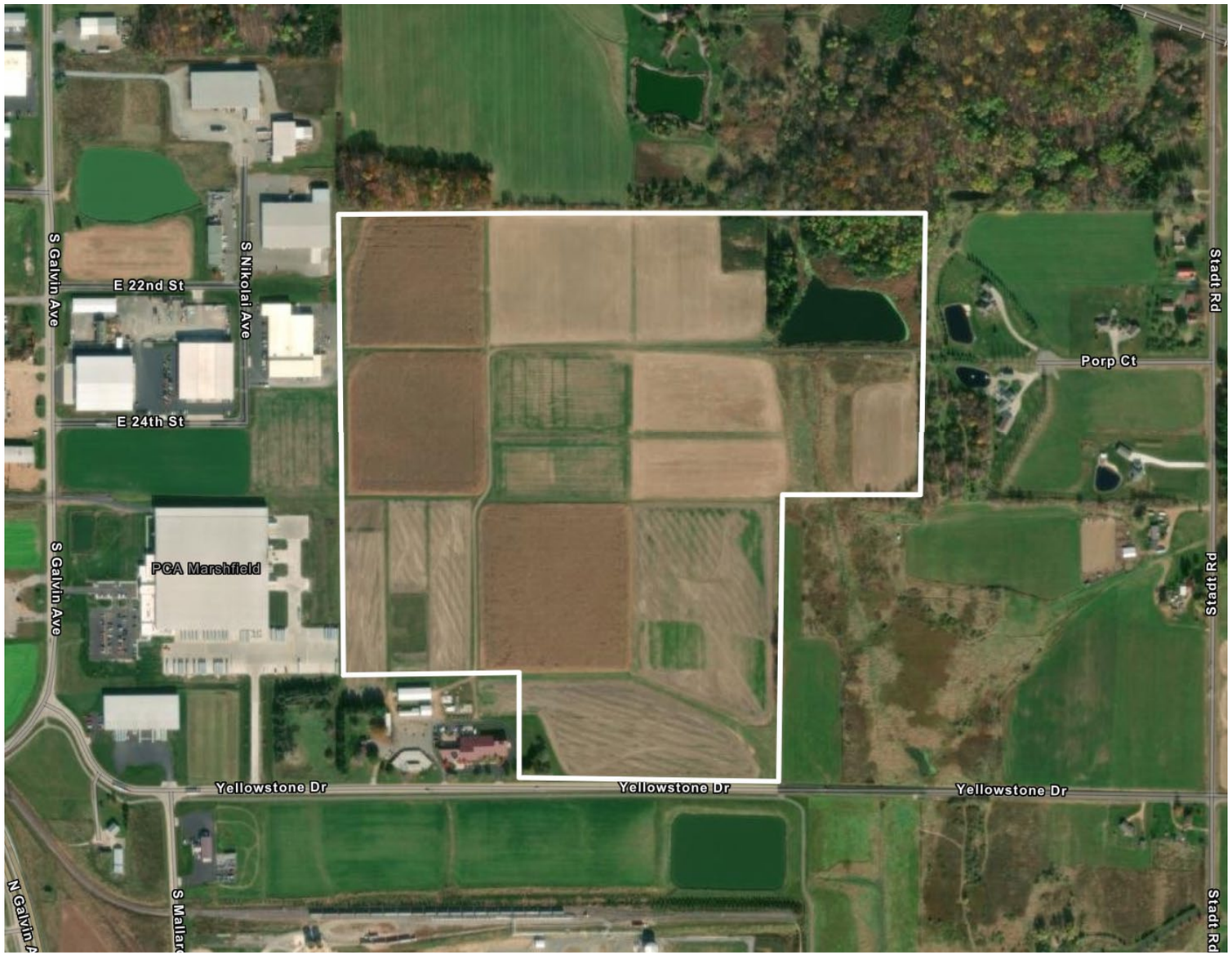
- Property boundary must be clearly identified.
- Map must illustrate location of:
  - Access roads
  - Rail
  - Easements
  - Utilities (existing and proposed)
  - Proposed Lot Boundaries
- Map must show the size of the lots.
- Document must include total and developable acreage of the site and demonstrate any development limitations such as wetlands, floodplain, permanent easements, etc.

Best Practices:

- Consider partnering with a municipal GIS representative or a third-party mapping specialist to create a detailed and accurate map.
- Include the total acreage of the planned lots, as well as the overall total acreage and developable acreage.
- To ensure accessibility for individuals with color blindness, consider using alternating patterns, labels, and line widths to differentiate between land parcels. This will also assist with ease of understanding when printing in black and white.

Appendix

KML/KMZ of Property Boundary



Requirements:

- Boundary file must be provided in KML/KMZ file format.
- Boundary must accurately depict the property to be certified. Therefore, the boundary must be consistent across any map resources and covered entirely by due diligence documentation.

Best Practices:

- Why provide a kml or kmz file? This file format is compatible with most GIS software that companies and site selectors use to represent the site boundary.
- A how-to guide and video have been provided on how to create a KMZ. However, if an exact property boundary can be provided by a municipal GIS provider or third-party contractor, prefer that boundary.
- Avoid using “polylines” for the property boundary files, as these files do not allow for automated analysis of the land in GIS software that consultants often use to evaluate sites.
- A KMZ boundary should use an easily visible color and width that is relatively consistent across all mapping documents. Some basemaps will require shifting the color of the property boundary, but two colors should generally suffice for a map deck.
- If possible, keep the property boundary to one KMZ file. Where there are multiple polygons, combine the geometries to a multi-geometry.
- Remove any hyperlinks located within the geometry’s “Description” section for a clean look unless the descriptions specifically add some value concerning the site boundary.

How to Create a Property Boundary KMZ File in Google Earth

Step 1: Install Google Earth – If you don't already have Google Earth installed, follow these steps:

1. Download Google Earth Pro (Desktop version):
    1. Visit the Google Earth website.
    2. Download Google Earth Pro and install it on your computer.

Step 2: Open Google Earth Pro

1. Launch Google Earth Pro on your desktop.
2. Familiarize yourself with the basic controls, including the search bar, navigation tools, and sidebar.

Step 3: Locate the Property

1. Search for the property by entering its address or coordinates in the search bar (top left corner).
2. Zoom in to focus on the area of interest. Use the zoom and pan tools to adjust the view until the property is clearly visible.

Step 4: Draw the Property Boundary

1. In the toolbar, click on the Polygon tool (looks like a shape with connected points).
    1. A window titled "New Polygon" will pop up.
2. In the New Polygon window, do the following:
    1. Name: Give your property boundary a meaningful name.
    2. Style, Color: Choose the color and thickness for the boundary line by selecting the "Style, Color" tab.
3. Click on the map to create the property boundary by adding points around the perimeter of the property.
    1. Each click will place a point, and the boundary will automatically connect these points.
    2. Continue clicking until the entire boundary is outlined.
4. Once finished, click OK in the "New Polygon" window to save the polygon.

How to Create a Property Boundary KMZ File in Google Earth

Step 5: Edit or Adjust the Boundary (if necessary) – If you need to adjust the boundary:

- Right-click on the polygon name in the Places panel (left sidebar).
- Select Properties.
- You can move the points of the polygon by dragging them to the correct location, and you can add or delete points as needed.

Step 6: Save the Boundary as a KMZ File

1. In the Places panel, right-click on the name of your polygon (or any other elements you want to include in the file).
2. Select Save Place As.
3. In the Save file dialog, select the following:
    1. File type: Choose KMZ.
    2. File name: Give your file a descriptive name.
4. Choose the destination folder and click Save.

Step 7: Share or Use the KMZ File – Now that you have the KMZ file, you can:

- Share it with others by emailing or uploading it.
- Use it in other GIS (Geographic Information System) software for further analysis or project planning.
- Upload it to mapping services or project management tools that accept KMZ files.

Links and References

- ArcGIS Online: GIS Mapping System
  - https://www.arcgis.com/index.html
- Wisconsin Open Data GIS Resource: 2-foot Contour Intervals
  - https://geodata.wisc.edu/?search_field=all_fields&q=2-foot+Contours
- National FEMA Flood Hazard GIS System
  - https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd
- National Wetlands Inventory GIS System
  - https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/
- How to create property boundary KMZ file video
  - https://youtu.be/cALy0J13gQo
- Map template guide video
  - https://youtu.be/tb8PyIhHBkU

Tip:

- Users with proficiency with GIS platforms may be able to utilize ArcGIS online to create the General Location Map, Topographic Map, USGS map (“USGS Topo Maps basemap”), the FEMA Flood Hazard Map, the National Wetland Inventory Map, and some other required maps by using publicly available layers.