



Marion County Wellfield Education Corporation

Summary Report Wellfield Protection Education Activities Calendar Year 2015

Marion County Wellfield Protection Areas



Wellfield Facts

- There are 7 Wellfield Protection Areas in Marion County
- 9.7 billion gallons of drinking water is pumped from 85 wells in the Wellfield Protection Areas each year
- There are 44 square miles of land in the Wellfield Protection Areas
- Land Use in the Wellfield Protection Areas includes: residential (47%), business & industry (14%), other (39%)
- Over 1.3 million people live, work, or travel through the Wellfield Protection Areas each day



Drafted by MUNDELL & ASSOCIATES, INC. on behalf of the Marion County Wellfield Education Corporation.

**Draft Summary Report
Marion County Wellfield Education Corporation (MCWEC)
Wellfield Protection Education Activities
Calendar Year 2015**

Introduction

The Marion County Wellfield Education Corporation (MCWEC) is a 501(3)c non-profit corporation established in 1997 by the Marion County Wellfield Protection Zoning Ordinance to support protection of groundwater and drinking water supplies in Indianapolis. Its mission is:

“To prevent contamination to the groundwater resource of Marion County through public awareness and education.”

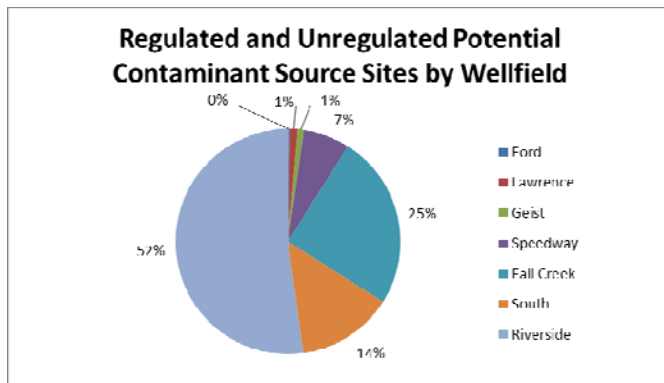
MCWEC was given the responsibility for carrying out the following activities:

- 1) Educating the public about ground water concerns and wellfield protection;
- 2) Educating and providing technical assistance to businesses in Wellfield Protection Districts as to the proper use and storage of materials, as well as general wellfield education;
- 3) Overseeing the registration of potential business/commercial contaminant sources located within the Marion County wellfields to assist the water utilities in fulfilling their reporting requirements for the state wellhead protection program with the Indiana Department of Environmental Management (IDEM); and
- 4) Evaluating the effectiveness of wellfield protection program components.

This report summarizes the wellfield status as of December 2015, and provides highlights of the various educational activities completed from January through December 2015.

Wellfield Business Summary

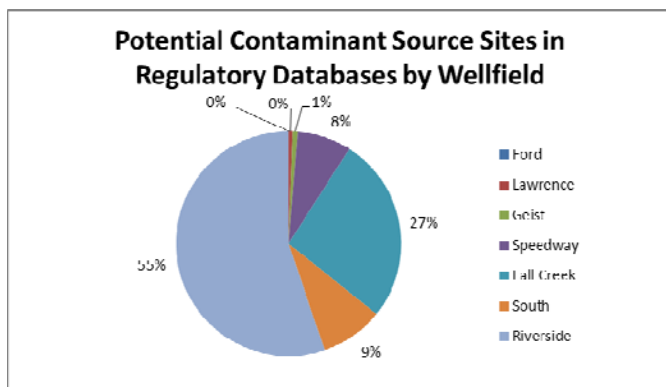
Within the seven Marion County wellfields as currently delineated (Riverside, Fall Creek, South, Speedway, Richardt/Lawrence, Ford Road and Geist), there are currently 2,645 identifiable active or vacant non-residential use sites. This total comprises: A) 696 sites with instances of records in regulatory databases of potential sources of contamination, B) 681 ostensibly unregulated sites with present or past operations which could be found to pose a potential source of contamination, and C) 1,268 additional non-residential use sites which likely pose low or no potential source of contamination.



The latter (C) category was included in light of recent city zoning code and county health ordinance changes that make each wellfield business relevant to the wellfield protection program. Through the continuation of ongoing site visits, we will continue to identify the nature and number of business operations within the wellfield.

The contaminant sources in categories (A) and (B) represent potential sources with current operations that present a potential to impact the drinking water supply in the event of a chemical release due to the site's current

operations. The Riverside and Fall Creek Wellfield Businesses account for approximately three-quarters of all sites listed as potential sources.



Corresponding to the 696 sites appearing in regulatory databases, there are 264 instances of sites with records in the Hazardous Waste Notifiers database, which records operations that actively generate or temporarily accumulate hazardous waste as part of their normal operations. Of these regulated facilities, there are 261 sites with registered underground storage tanks (USTs), and 121 sites with recorded incidents of leaking underground storage tanks (LUSTs). There is currently one United States Environmental Protection Agency (U.S. EPA) Superfund Site

(National Priority List) located within the wellfields. Please note that the permitting process that populates the associated regulatory databases does not always provide enough information to reliably determine an exact number of hazardous waste related facilities or number/status of USTs and LUSTs; these totals represent conservative estimates based on the limitations of the source data.

Summary of Calendar Year 2015 Education Program

To prevent or minimize future chemical leaks or spills from impacting the drinking water supply, the MCWEC educational program focuses on direct contact and technical support for the actively operating wellfield businesses identified as potential contaminant sources. This technical support involves reviewing facility chemical product and waste management procedures in order to recommend modifications that minimize the potential for releases within the wellfield that may contaminate groundwater supplies. Participation in the program is currently voluntary and requires that businesses allow Mundell & Associates, Inc. (MUNDELL) to conduct an on-site visit to provide free and confidential consulting support including Detailed On-Site Assessments offered by the MCWEC program.

Per request of the MCWEC board, MUNDELL conducted the following activities related to potential contaminant source tracking, wellfield protection education, wellfield protection program analysis, and technical support:

- 1) Updated and supplied a list of wellfield businesses contact information to the Marion County Health Department (MCHD) in support of the Department's outreach presentations regarding future adoption of a wellfield health ordinance.
- 2) Distributed general MCWEC materials to approximately 50 businesses in the weeks leading up to wellfield stakeholder meetings held by the MCHD as a means of promoting attendance.
- 3) Remained available to provide technical support to business owners regarding best practices and facility maintenance and to distribute MCWEC technical guidance documents on an 'as-requested' basis.
- 4) Conducted several detailed on-site assessments at previously assessed wellfield businesses in an effort to assess MCWEC program effectiveness. The goal of these re-assessments is to determine whether past educational support has affected wellfield business operations. Final conclusions are pending completion of additional re-assessments. However, initial observations suggest that businesses that had previously received free spill kits and secondary containment equipment were responsive and generally welcomed additional collaboration. Additionally, the re-assessments have highlighted the challenges that turnover in business operations and personnel pose to a cohesive wellfield protection program. The remainder of this review process will be conducted in the first half of 2016.



- 5) Updated and improved the Potential Source Inventory (PSI)/Education Database:
 - a. Queried and merged data from the following regulatory IDEM databases: 1) registered underground storage tanks (USTs); 2) reported leaking underground storage tanks (LUSTs); 3) Community Right to Know (CRTK – 2014); 4) hazardous waste generation and temporary accumulation (RCRA); solid waste facilities; hazardous waste notifiers (HWN), and the U.S. EPA (NPL).
 - b. Conducted thorough drive surveys of each wellfield to verify previously listed businesses in the PSI/Education database, as well as identify previously unrecorded wellfield sites. In light of future adoption of wellfield business codes, MUNDELL expanded the drive survey focus to all identifiable non-residential use wellfield businesses and organizations. To the extent possible, documenting all non-residential wellfield land uses will support future comprehensive wellfield education outreach and potential contaminant source identification.
 - c. MUNDELL continued development of detailed instructional guidelines for annual PSI/Education database updates and continued to improve on the database format and layout. These guidelines and improvements will increase efficiency of future database maintenance tasks and maximize the accuracy of these constantly changing data. Increased database efficiency will also allow for more time and focus towards other project goals, such as outreach and education.
- 6) Generated updated versions of maps using ArcGIS to display the locations of wellfield businesses registered in one or more of the IDEM databases listed above. These maps allow for more efficient site visits and drive surveys. The maps will also provide an effective visual representation of the registered potential wellhead contaminant sources. These locations are displayed by corresponding address in attachments. Additional versions of wellfield maps depicting non-regulated potential contaminant sources and the previously unrecorded sites, by category, are underway.
- 7) Updated and monitored the MCWEC website (www.INDYH2O.org) including the following activities:
 - a. Posted notices for wellfield stakeholder outreach meetings conducted by the MCHD.
 - b. Analyzed website visitor data: Traffic appears to have nearly doubled from 2014 to 2015. In 2015, approximately 850 pages were viewed and there were about 310 new users from Indiana. About 40% of users to the site were first time visitors from Indiana, 5% were returning visitors from Indiana, and 55% of users were not from Indiana. Visitors were directed to the site from links embedded in websites for Citizens Energy, City of Lawrence, Indianatrails.com, Town of Speedway, Groundwater.org, and the MUNDELL website.
 - c. Updated key pages and sections of text to account for future adoption of the wellfield business codes. These included the 'Businesses' and 'Am I in a Wellfield' pages. MUNDELL plans to continue website updates in 2016 to assist wellfield businesses in navigating new responsibilities associated with the revised wellfield code and new MCHD ordinance.
- 8) MUNDELL and other representatives of MCWEC provided technical input into a revised wellfield protection zoning ordinance through Indy Rezone activities during 2014 and 2015, and a revised MCHD ordinance. This included attending a series of stakeholder meetings with the Indy Rezone group and providing recommended enhancements and modifications based on actual experience in overseeing new wellfield development and providing business education.
- 9) Represented MCWEC at the 2015 National Groundwater Foundation Conference held in Lincoln, Nebraska, gaining perspective and contacts in comparable wellfield protection programs in the region.

Existing Tools for Promoting Wellhead Protection

The MCWEC business education program has developed a number of practical tools available to participating businesses for helping them understand when pollution prevention is needed, what are appropriate facility design and operational practices to improve existing facilities, and the available free



technical consulting for facility design modifications or waste handling practices. The following support documents are currently being used as part of the educational program:

- 1) *Business Self-Assessment Guidebook for Wellhead Protection*, Updated January 2012
 - describes MCWEC's voluntary self-assessment program including the use of an environmental screening questionnaire and on-site facility evaluations.
- 2) *Good Business Practices for Wellhead Protection*, Updated January 2012
 - provides general facility and operational improvements for handling chemical and waste product and transfer to reduce the risk of impacting the City's water supplies.
- 3) *Business Self-Assessment Questionnaire*, Updated January 2012
 - provides a detailed list of questions that facility managers can answer in order to determine whether pollution prevention activities should be implemented at the facility.
- 4) *MCWEC Program Brochure*, Updated March 2012
 - provides a general description of the MCWEC program and information regarding the importance of wellhead protection.
- 5) *Vehicle Maintenance Shop Guidance, Best Management Practice Summary, Marion County Wellhead Protection*, Updated October 2013 (English & Spanish)
 - provides a summary of specific pollution prevention practices for vehicle maintenance shops.
- 6) *Dry Cleaners Guidance, Best Management Practice Summary, Marion County Wellhead Protection*, Updated October 2013 (English & Spanish)
 - provides a summary of specific pollution prevention practices for dry cleaners.
- 7) *Facility Design and Operations Guidance for Wellfield Protection*, Updated January 2012
 - provides the kind of requirements specified in the design, construction and operation of new facilities in the wellfield areas as requested by the Technically Qualified Person (TQP) under Marion County's Wellfield Protection Ordinance.
- 8) *MCWEC Detailed On-site Assessment Brochure*, Updated April 2012
 - provides a summary of the voluntary assessment program with benefits of participation.
- 9) *MCWEC Website*, www.INDYH2O.org, Updated November 2015
 - provides internet information for existing and future businesses located in Marion County wellhead protection areas.

The ultimate purpose of these resources is simply to help existing businesses reduce the future risk of negatively impacting the City's water supplies by properly designing and operating their facilities to achieve this goal. These tools are available for download on www.IndyH2O.org and distributed by MUNDELL.

Overall Business Education Program Successes and Challenges

Since the initiation of the program in 2001, the education program has contacted many wellfield businesses and organizations to increase wellhead protection awareness and encourage use of best management practices. The program has conducted over 120 Detailed On-Site Assessments to business owners, providing free, confidential pollution prevention consulting and recommendations for improved waste management and spill prevention. In addition, when budgets have permitted, free spill prevention materials and secondary containment equipment have been provided to those facilities requesting support for controlling potential releases. In accordance with the wellfield ordinance, the educational approach has, thus far, been through a voluntary program with a non-threatening, non-regulatory means.

Thus far, the greatest challenge for the wellfield protection program has stemmed from the voluntary nature of the program, specifically voluntary adoption of best management practices. Historically, less than 10 percent of the identified potential chemical sources in the wellfields have requested Detailed On-Site Assessments. Adoption of the new city and county wellfield business ordinances will ideally address this challenge and promote broader wellfield protection.

Another on-going challenge to wellfield protection in Marion County is the rapid pace of constant and inevitable turnover in property ownership, leased space, business operations, and personnel, all of which result in loss of institutional awareness and knowledge of wellfield protection requirements and practices. Such turnover within Marion County's densely populated, urban wellfields necessitates rigorous data management and continuous wellfield business outreach to support a successful wellfield protection program.

2016 Future Activities

MUNDELL will continue to visit and support businesses located in Marion County's wellfields throughout the next year as the MCWEC contract scope of work allows. The 2016 contract emphasizes education and outreach in addition to information gathering to assess MCWEC program effectiveness.

As mentioned above, MUNDELL will continue detailed on-site assessments of previously assessed wellfield businesses to inform MCWEC program evaluation inquiries.

MUNDELL will continue to improve the accuracy and efficiency of the PSI/Education database and make it available to the water utilities to fulfill the utilities' reporting requirements for the state wellhead protection program under IDEM. Updated or new business operation information will be added to the database via site-visit observations and regulatory database merges. MUNDELL has also identified specific wellfield areas requiring additional clarification in the PSI/Education database including IUPUI and medical complexes in the Riverside wellfield.

MUNDELL will continue to leverage the MCWEC internet website (www.INDYH20.org) for broad distribution of free technical support, including updated answers to frequently asked questions (FAQs), design standards, and relevant links and guidance documents. MUNDELL will continue updates as city and county wellfield business codes go into effect. Reporting of website data including number of visitors and types of information requests will also be included in future reports.

MUNDELL plans to develop new educational materials consistent with new regulatory code and ordinance changes affecting non-residential businesses and organizations. MUNDELL and the MCHD also plan to develop and conduct educational workshops regarding the MCPHD ordinance, with the majority of the workshops targeting Citizens Energy wellfields and one workshop each for Lawrence and Speedway wellfields. This will allow businesses the opportunity to prepare in advance for any necessary modifications to their operations to ease the transition from voluntary to obligatory wellfield best management practices.

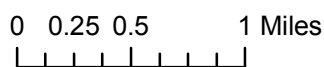
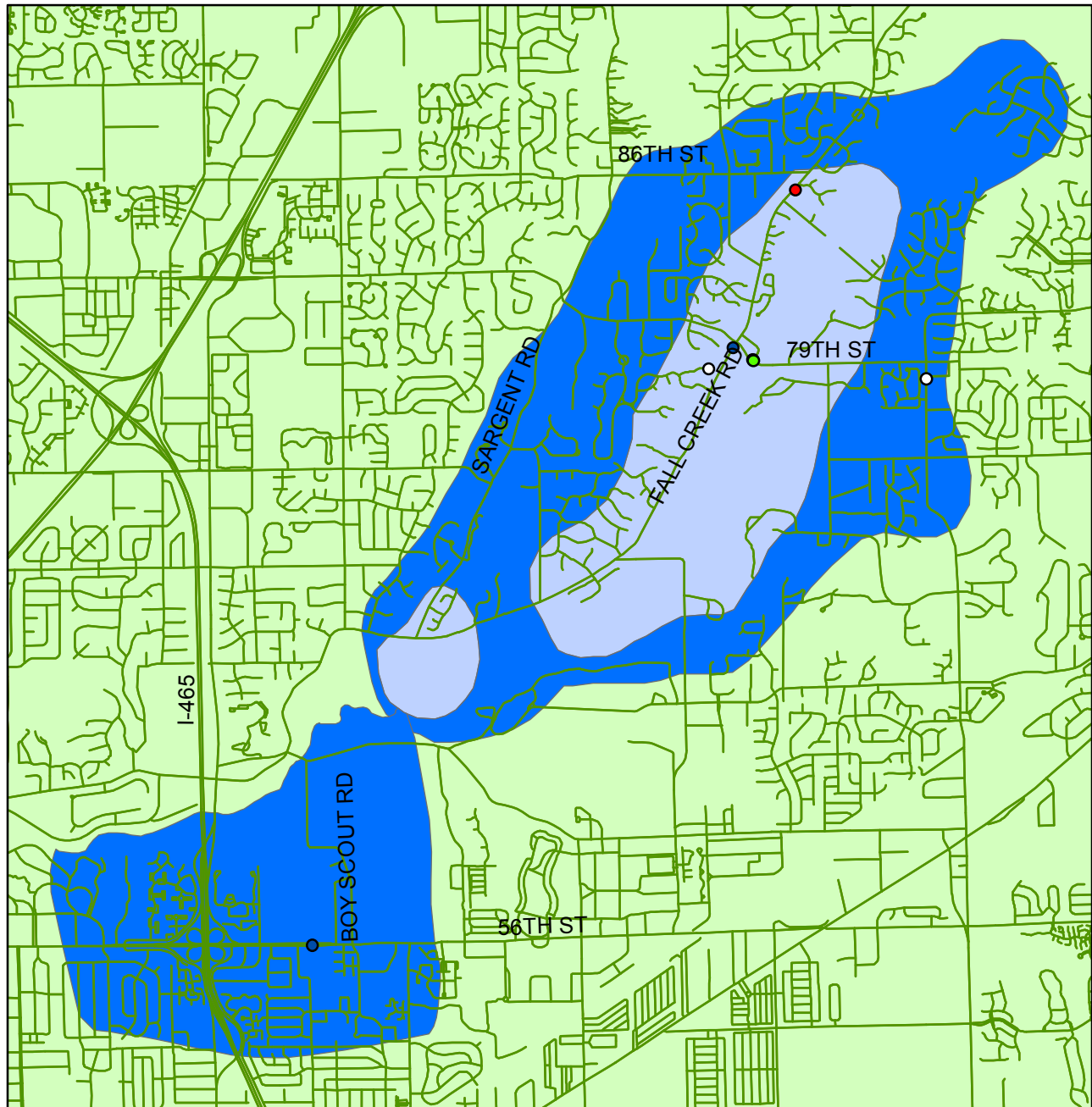


ATTACHMENTS

UPDATED GIS MAPS

**Regulated Hazardous Waste Sites- 2015
UST & LUST - 2015**

HAZARDOUS WASTE & HAZARDOUS MATERIALS ACTIVITY IN GEIST and RICHARDT WELLFIELD DISTRICT (2015)



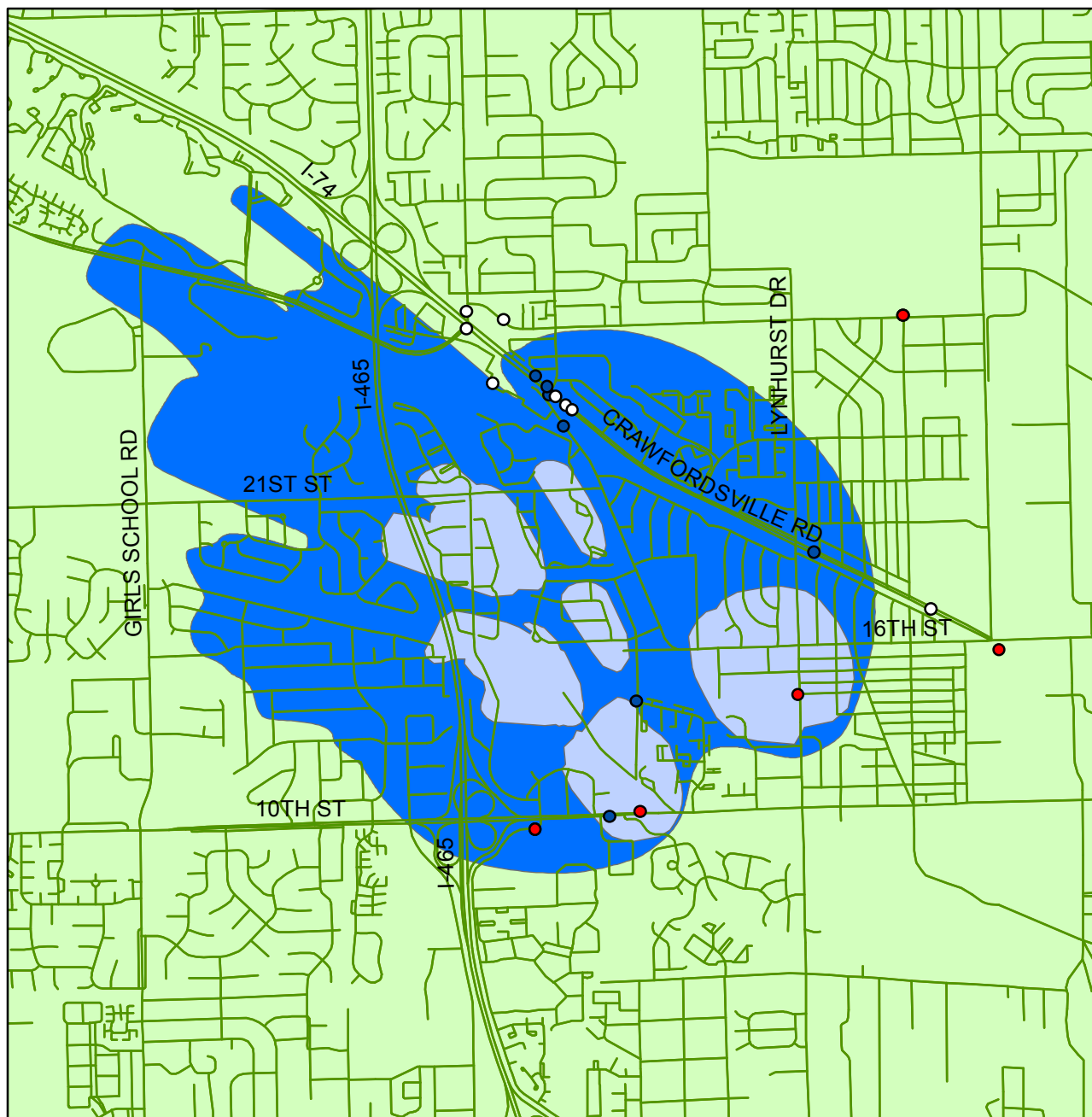
- Hazardous Materials Handler (CRTK)
- Hazardous Waste - Large Quantity Generator (RCRA)
- Hazardous Waste - Small Quantity Generator (RCRA)
- Hazardous Waste - Conditionally Exempt SQG (RCRA)
- Unspecified or No Longer Generates Hazardous Waste (RCRA)
- Solid Waste Facilities

■ Time of Travel - 1 Year

■ Time of Travel - 5 Years



HAZARDOUS WASTE & HAZARDOUS MATERIALS ACTIVITY IN SPEEDWAY WELLFIELD DISTRICT (2015)



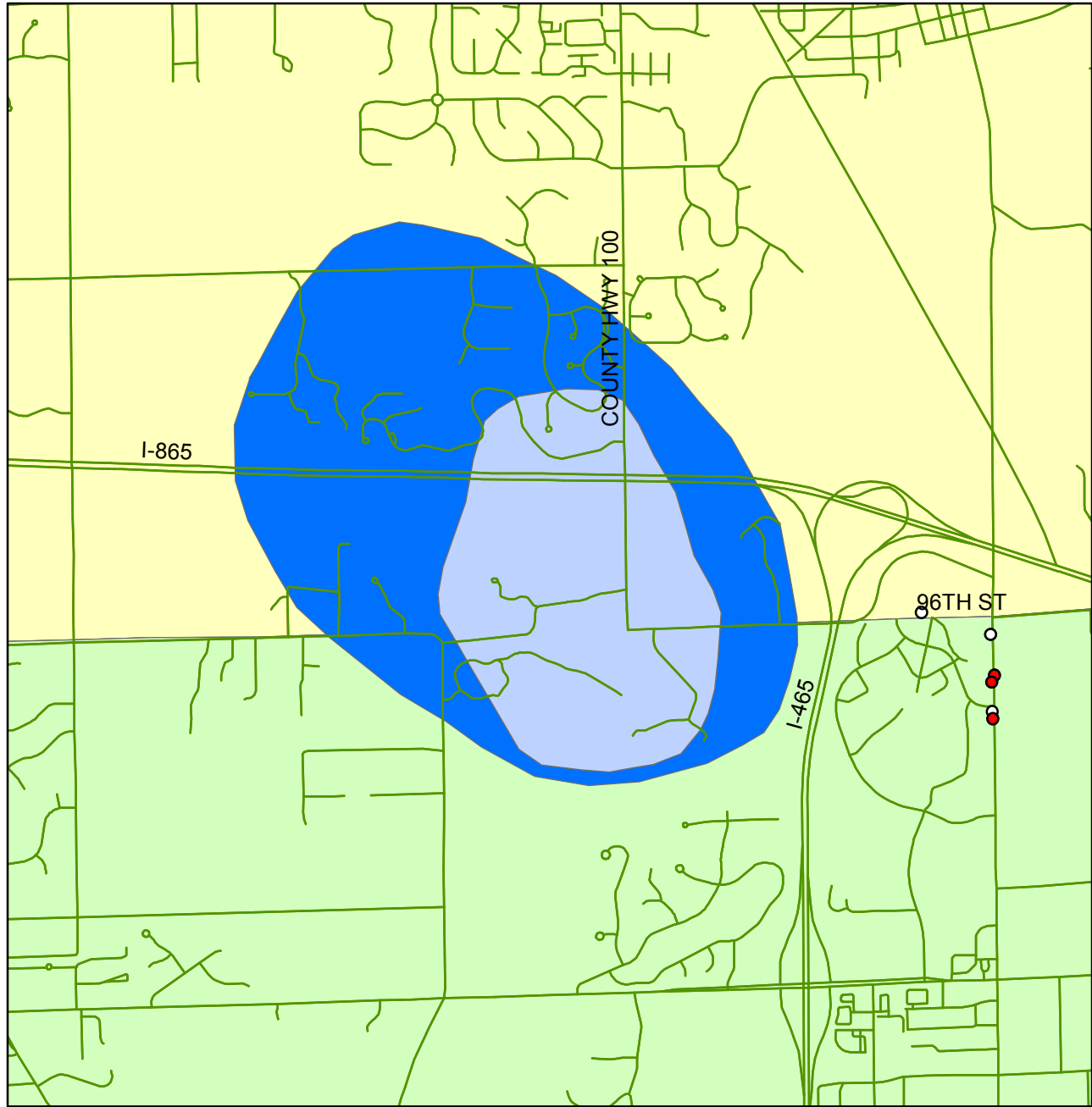
0 0.15 0.3 0.6 Miles

- Hazardous Materials Handler (CRTK)
- Hazardous Waste - Large Quantity Generator (RCRA)
- Hazardous Waste - Small Quantity Generator (RCRA)
- Hazardous Waste - Conditionally Exempt SQG (RCRA)
- Unspecified or No Longer Generates Hazardous Waste (RCRA)
- Solid Waste Facilities

- Time of Travel - 1 Year
- Time of Travel - 5 Years



HAZARDOUS WASTE & HAZARDOUS MATERIALS ACTIVITY IN FORD ROAD WELLFIELD DISTRICT (2015)



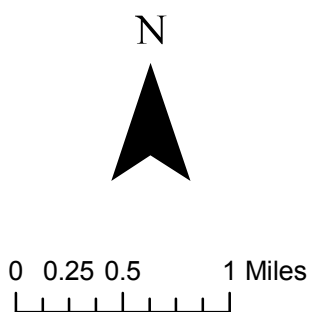
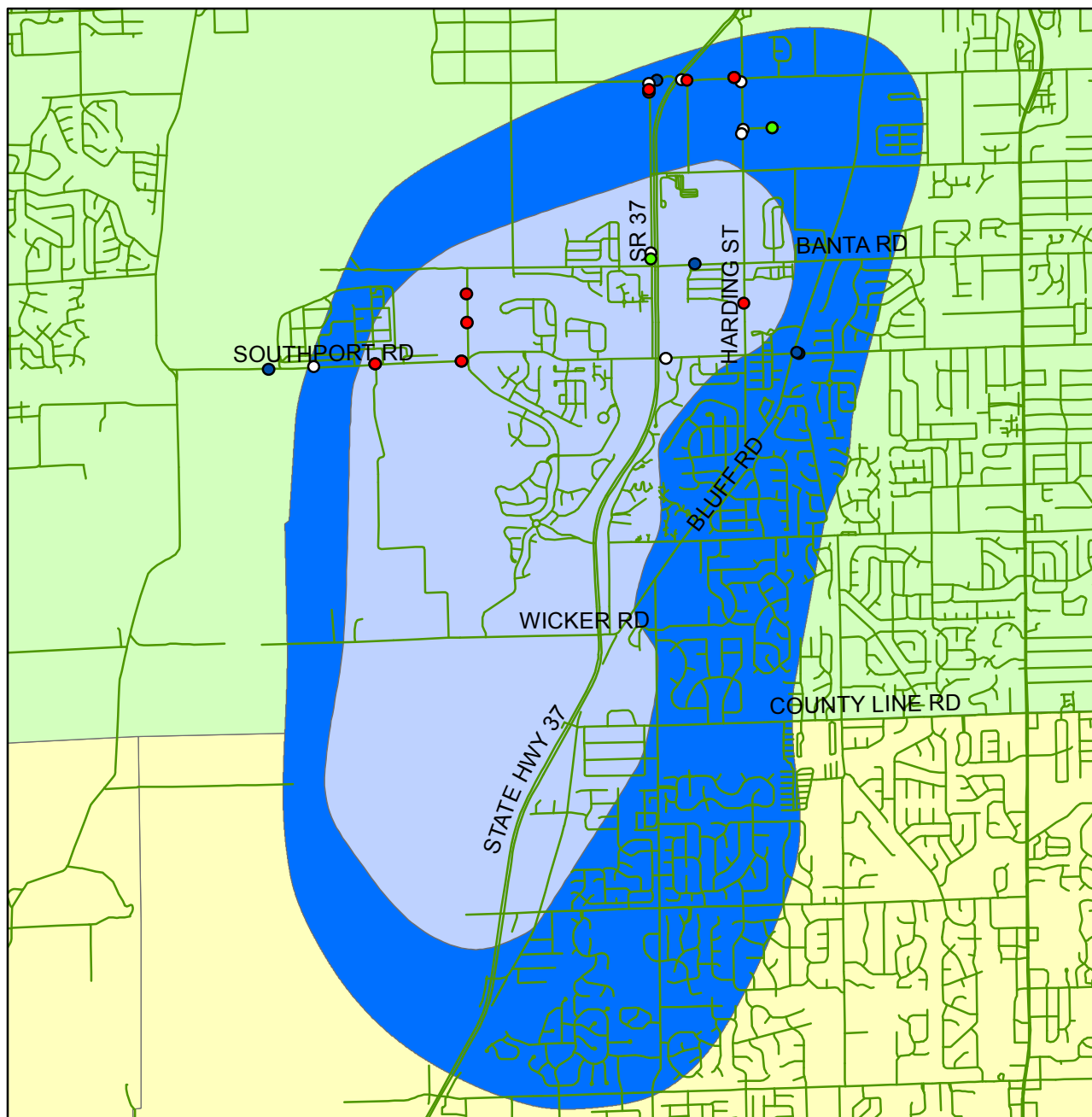
0 0.15 0.3 0.6 Miles

- Hazardous Materials Handler (CRTK)
- Hazardous Waste - Large Quantity Generator (RCRA)
- Hazardous Waste - Small Quantity Generator (RCRA)
- Hazardous Waste - Conditionally Exempt SQG (RCRA)
- Unspecified or No Longer Generates Hazardous Waste (RCRA)
- Solid Waste Facilities

- Time of Travel - 1 Year
- Time of Travel - 5 Years



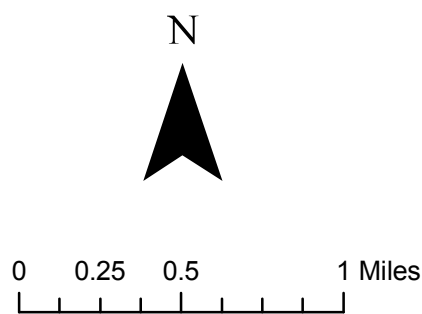
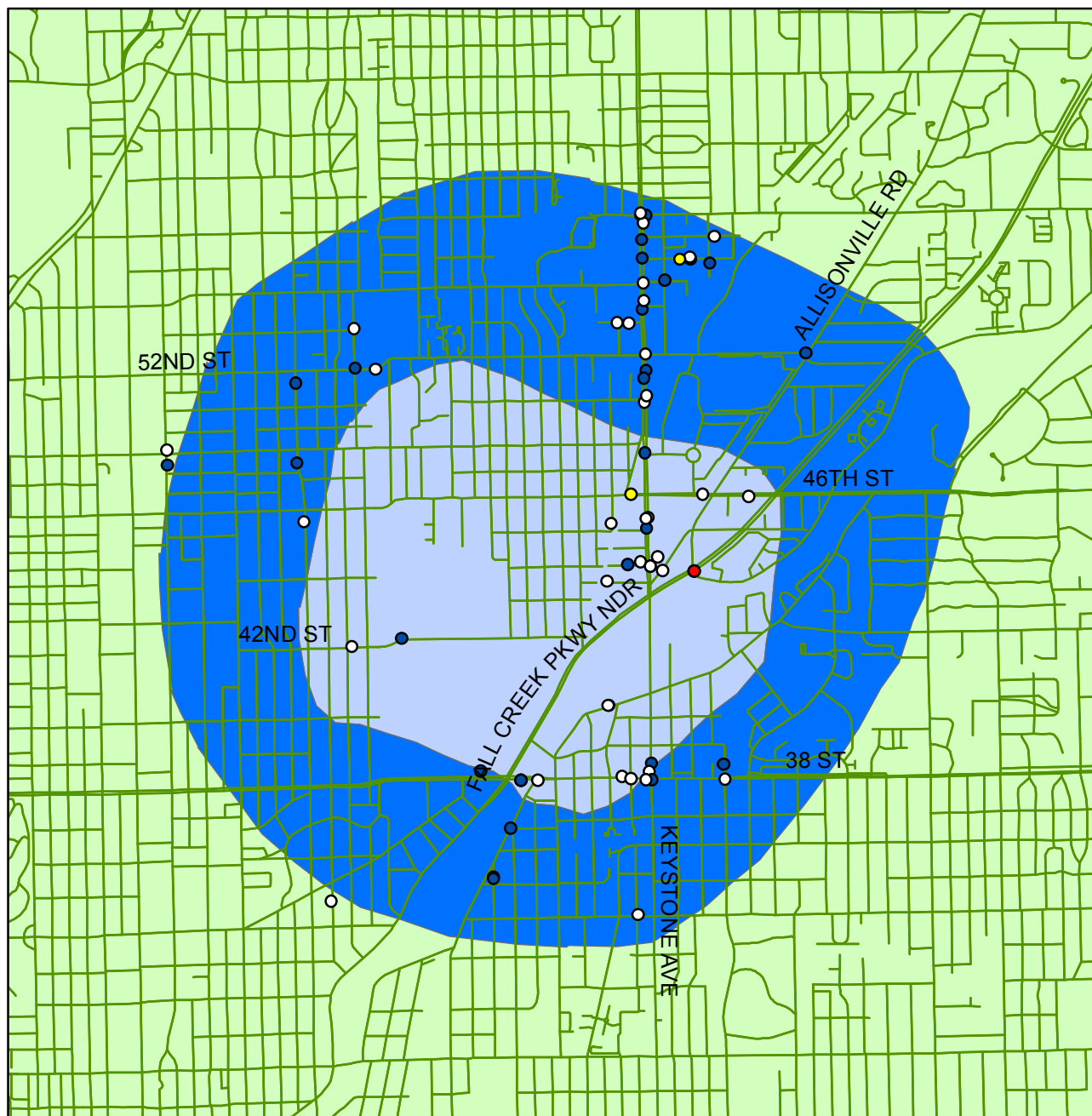
HAZARDOUS WASTE & HAZARDOUS MATERIALS ACTIVITY IN SOUTH WELLFIELD DISTRICT (2015)



- Hazardous Materials Handler (CRTK)
 - Hazardous Waste - Large Quantity Generator (RCRA)
 - Hazardous Waste - Small Quantity Generator (RCRA)
 - Hazardous Waste - Conditionally Exempt SQG (RCRA)
 - Unspecified or No Longer Generates Hazardous Waste (RCRA)
 - Solid Waste Facilities
-
- Time of Travel - 1 Year
 - Time of Travel - 5 Years



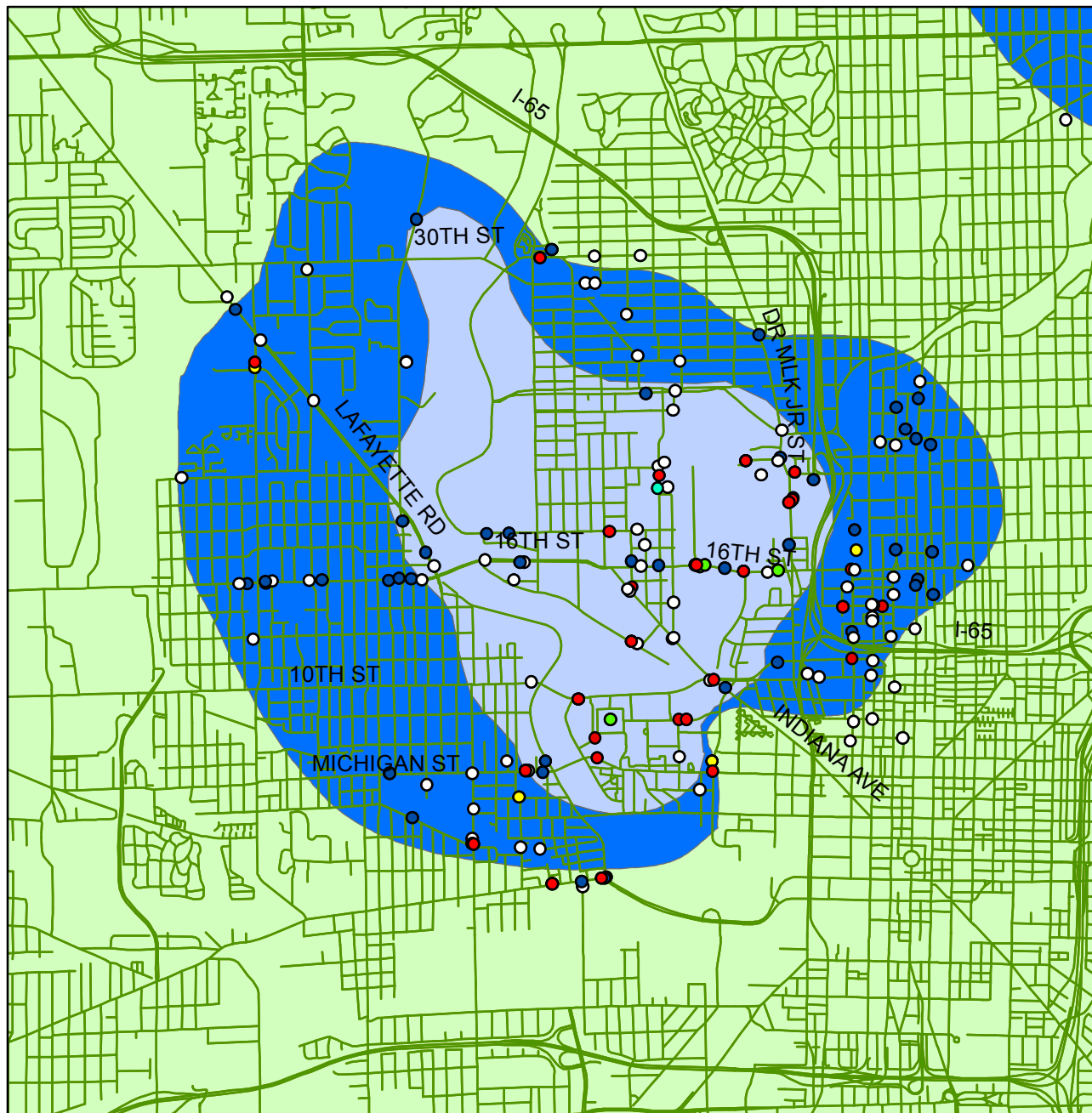
HAZARDOUS WASTE & HAZARDOUS MATERIALS ACTIVITY IN FALL CREEK WELLFIELD DISTRICT (2015)



- Hazardous Materials Handler (CRTK)
 - Hazardous Waste - Large Quantity Generator (RCRA)
 - Hazardous Waste - Small Quantity Generator (RCRA)
 - Hazardous Waste - Conditionally Exempt SQG (RCRA)
 - Unspecified or No Longer Generates Hazardous Waste (RCRA)
 - Solid Waste Facilities
-
- Time of Travel - 1 Year
 - Time of Travel - 5 Years



HAZARDOUS WASTE & HAZARDOUS MATERIALS ACTIVITY IN RIVERSIDE WELLFIELD DISTRICT (2015)



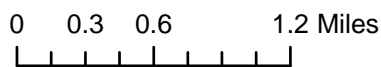
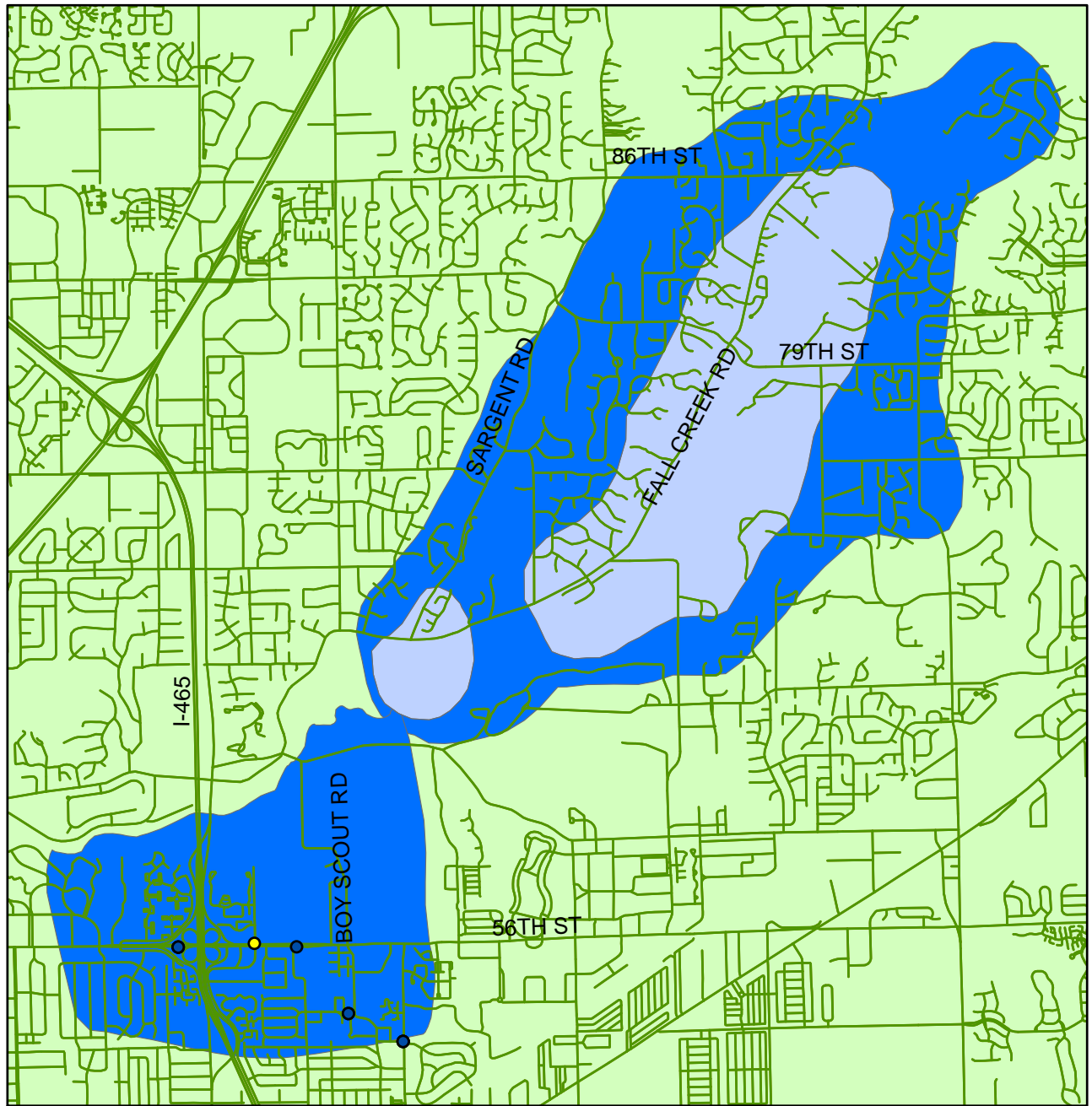
0 0.25 0.5 1 Miles

- Hazardous Materials Handler (CRTK)
- Hazardous Waste - Large Quantity Generator (RCRA)
- Hazardous Waste - Small Quantity Generator (RCRA)
- Hazardous Waste - Conditionally Exempt SQG (RCRA)
- Unspecified or No Longer Generates Hazardous Waste (RCRA)
- Solid Waste Facilities

- Time of Travel - 1 Year
- Time of Travel - 5 Years



UNDERGROUND STORAGE TANKS IN GEIST & RICHARDT WELLFIELD DISTRICT (2015)

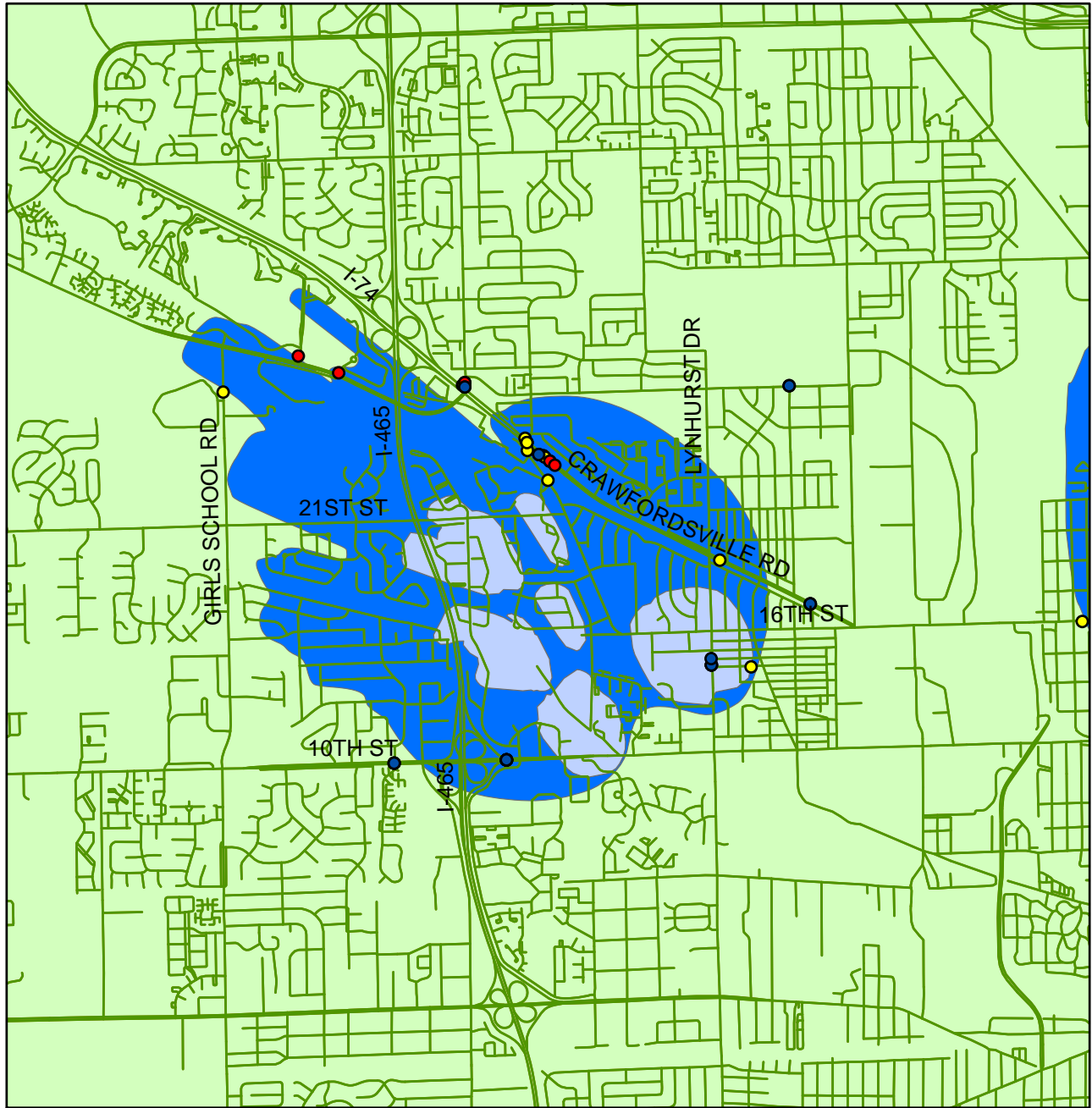


- Underground Storage Tank (Currently In Use)
- Underground Storage Tank (Not Currently In Use)
- Underground Storage Tank (Under Investigation)
- Underground Storage Tank (Unregistered/Unregulated)
- Leaking Underground Storage Tank (Open)
- Leaking Underground Storage Tank (Closed)
- Leaking Underground Storage Tank (Deactivated)

- Time of Travel - 1 Year
- Time of Travel - 5 Years



UNDERGROUNDS STORAGE TANKS IN SPEEDWAY WELLFIELD DISTRICT (2015)



0 0.150.3 0.6 Miles

- Underground Storage Tank (Currently In Use)
- Underground Storage Tank (Not Currently In Use)
- Underground Storage Tank (Under Investigation)
- Underground Storage Tank (Unregistered/Unregulated)
- Leaking Underground Storage Tank (Open)
- Leaking Underground Storage Tank (Closed)
- Leaking Underground Storage Tank (Deactivated)

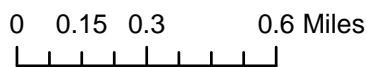
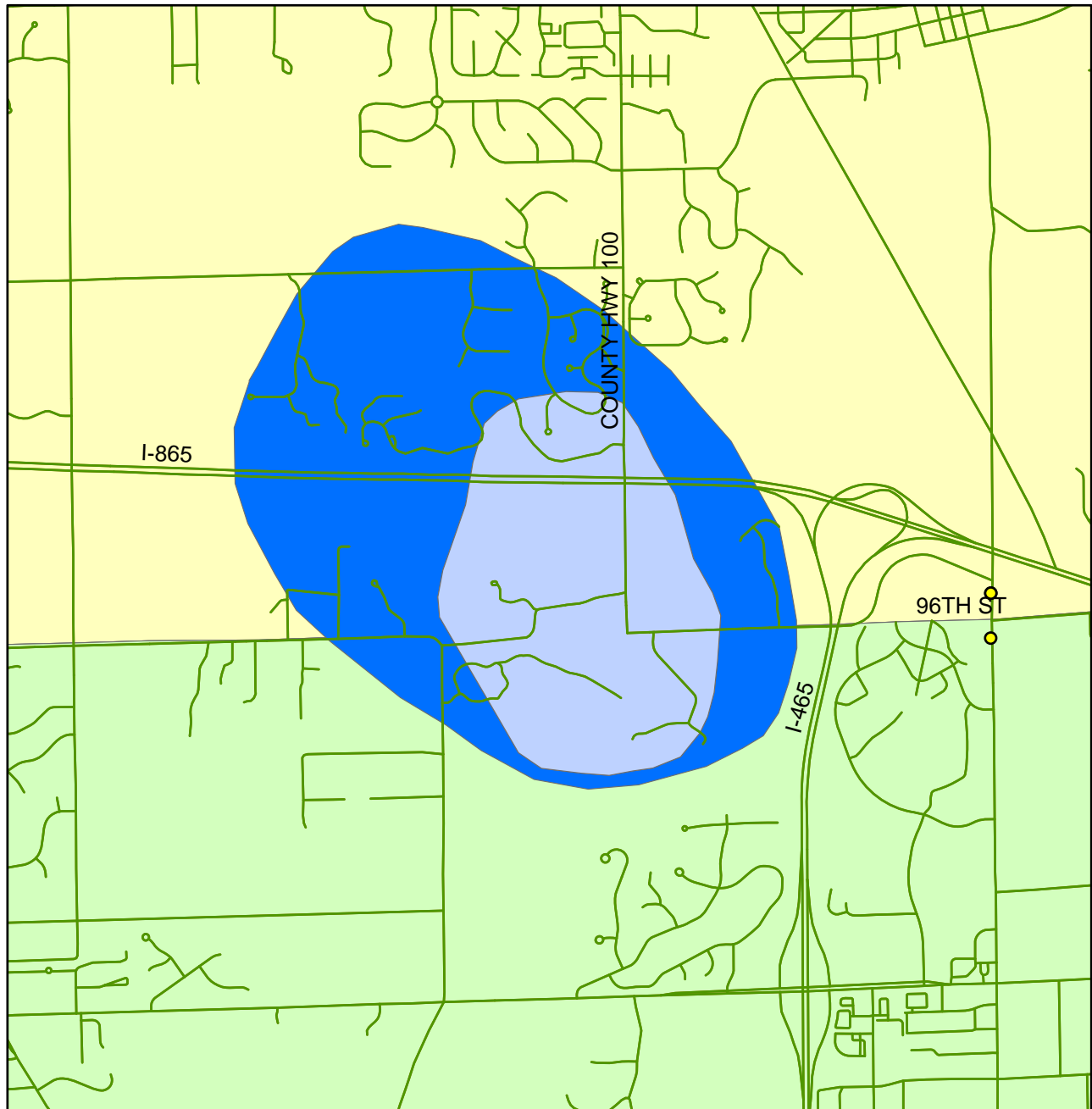


Time of Travel - 1 Year

Time of Travel - 5 Years



UNDERGROUND STORAGE TANKS IN FORD ROAD WELLFIELD DISTRICT (2015)

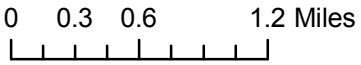
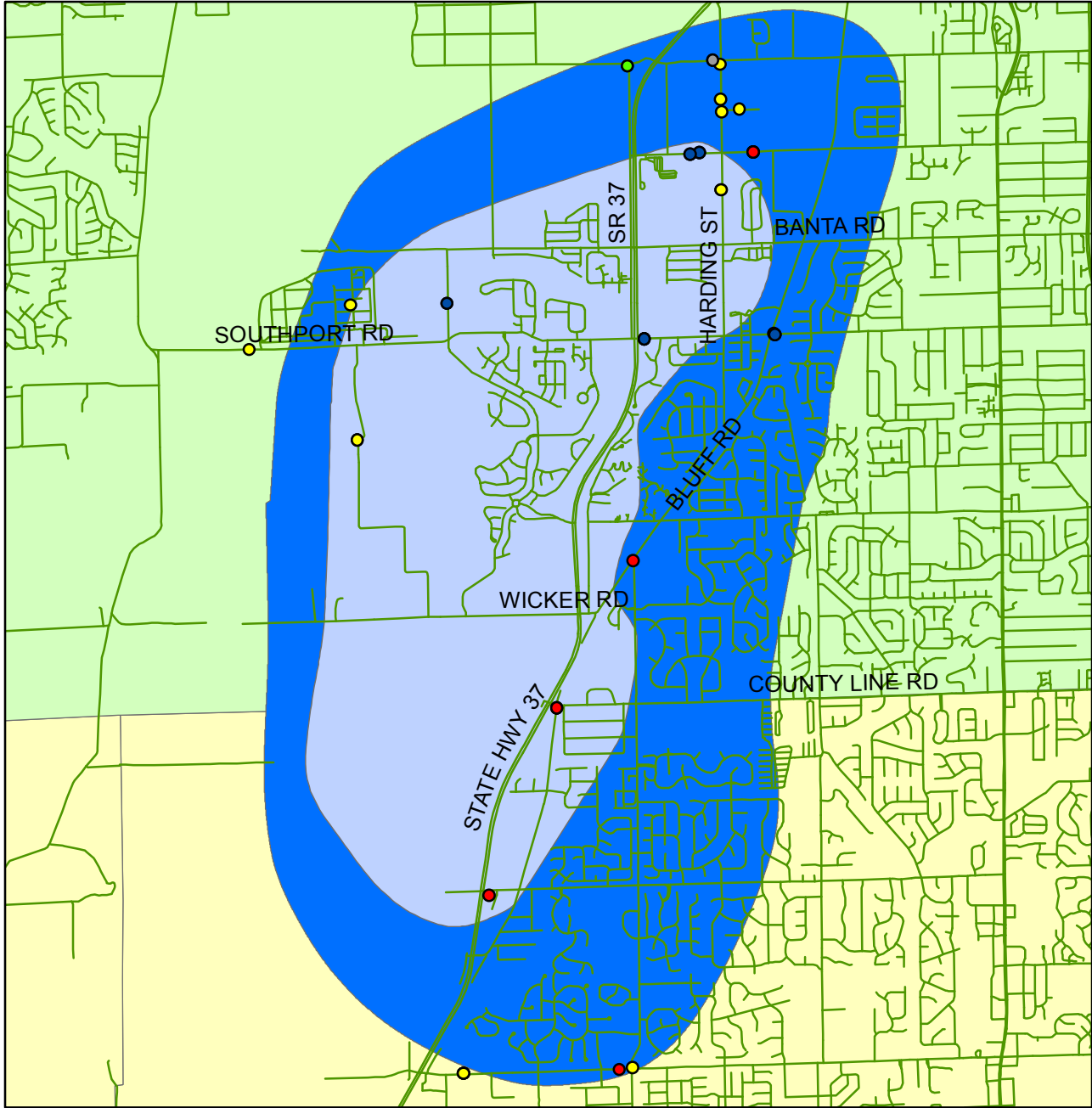


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- Underground Storage Tank (Under Investigation)
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- Leaking Underground Storage Tank (Open)
- Leaking Underground Storage Tank (Closed)
- Leaking Underground Storage Tank (Deactivated)

- Time of Travel - 1 Year
- Time of Travel - 5 Years



UNDERGROUND STORAGE TANKS IN SOUTH WELLFIELD DISTRICT (2015)



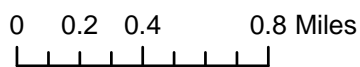
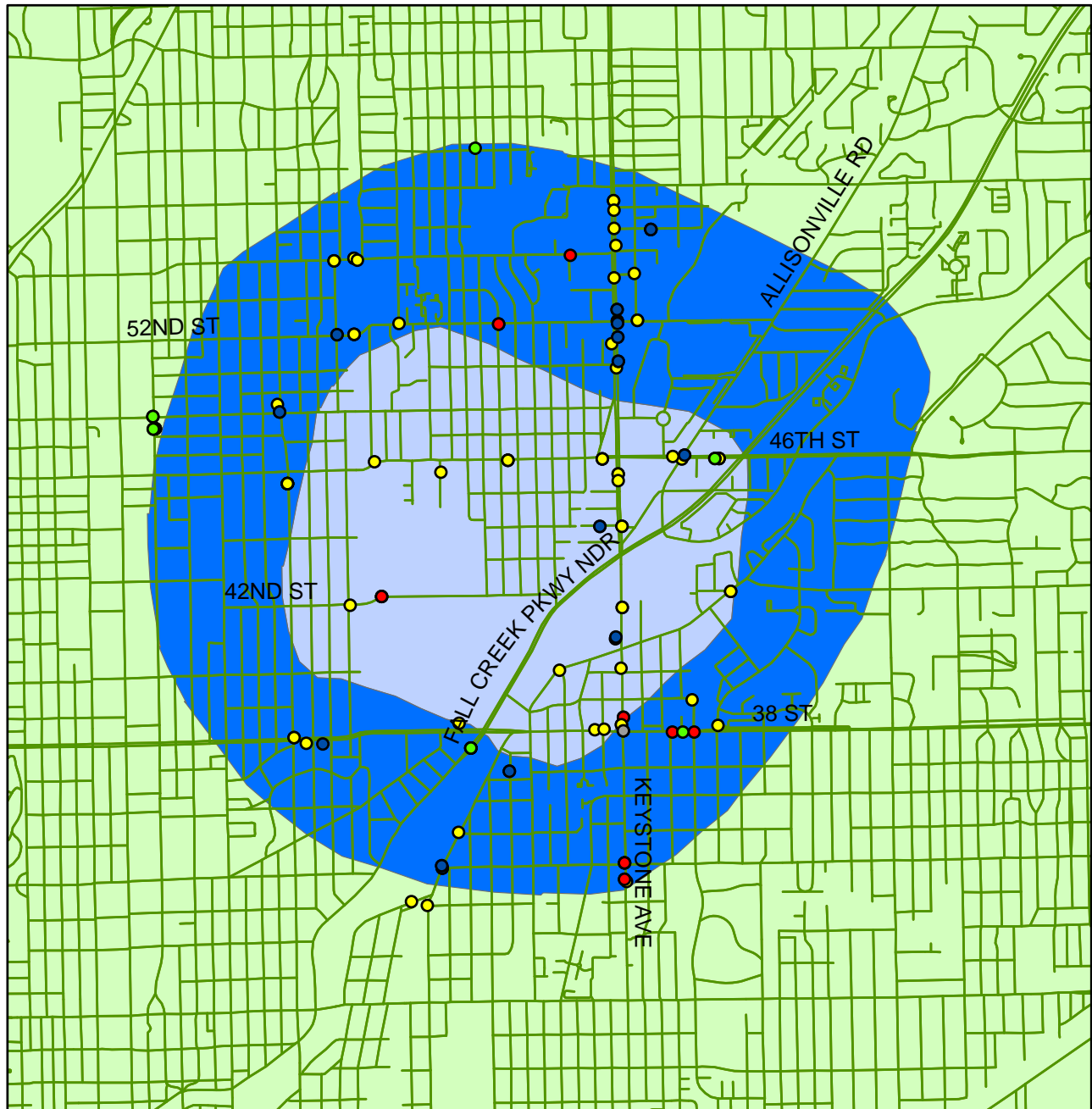
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- Leaking Underground Storage Tank (Open)
- Leaking Underground Storage Tank (Closed)
- Leaking Underground Storage Tank (Deactivated)

- Time of Travel - 1 Year
- Time of Travel - 5 Years



Data are compiled from IDEM's online databases and supplemented with wellfield driving surveys conducted by MUNDELL.

UNDERGROUND STORAGE TANKS IN FALL CREEK WELLFIELD DISTRICT (2015)

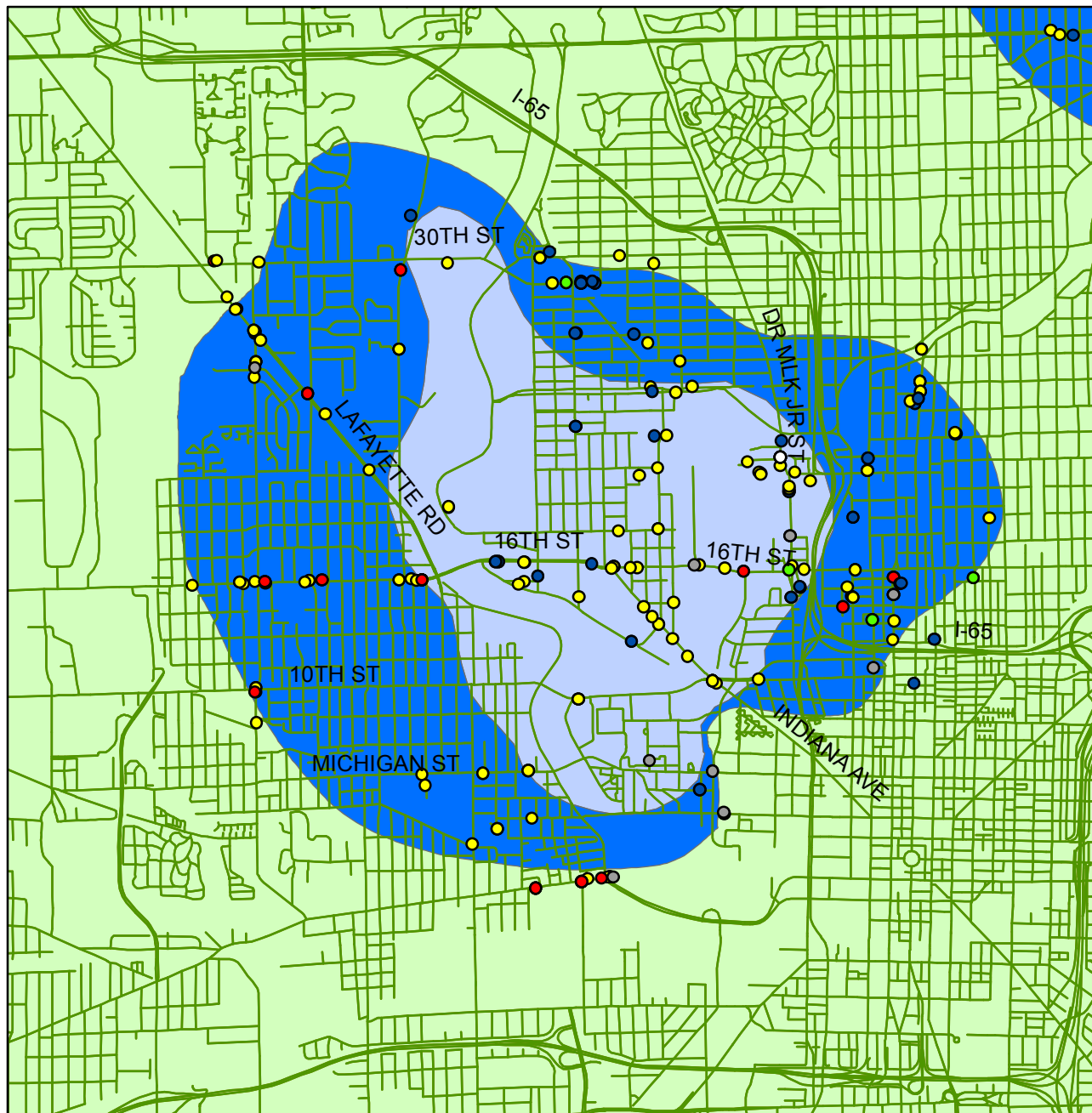


- Underground Storage Tank (Currently In Use)
- Underground Storage Tank (Not Currently In Use)
- Underground Storage Tank (Under Investigation)
- Underground Storage Tank (Unregistered/Unregulated)
- Leaking Underground Storage Tank (Open)
- Leaking Underground Storage Tank (Closed)
- Leaking Underground Storage Tank (Deactivated)

- Time of Travel - 1 Year
- Time of Travel - 5 Years



UNDERGROUND STORAGE TANKS IN RIVERSIDE WELLFIELD DISTRICT (2015)



0 0.2 0.4 0.8 Miles

- Underground Storage Tank (Currently In Use)
- Underground Storage Tank (Not Currently In Use)
- Underground Storage Tank (Under Investigation)
- Underground Storage Tank (Unregistered/Unregulated)
- Leaking Underground Storage Tank (Open)
- Leaking Underground Storage Tank (Closed)
- Leaking Underground Storage Tank (Deactivated)

Time of Travel - 1 Year

Time of Travel - 5 Years

