

# Madison County RUD — Monroe Township

Wastewater Utility Preliminary Engineering Report

March 2025



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CEI Project #C22171

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## **APPENDICES**

- Appendix A1 Madison County IDEM Violation Notice
- Appendix A2 Madison County Compliance Plan Guidance
- Appendix B Detailed Construction Cost Estimates
- Appendix C OMB Circular No. A-94

## ES.1 Executive Summary

Commonwealth Engineers, Inc. (Commonwealth) has prepared this Preliminary Engineering Report to evaluate the present conditions and future needs of Madison County with respect to its wastewater infrastructure including but not limited to new sewer collection systems with the County's desire to form a Regional Utility District (RUD). While a number of incorporated communities within Madison County are currently serviced by centralized wastewater treatment facilities, the *2035 Forward Madison County Comprehensive Plan* anticipates rapid growth and development throughout several unincorporated locations over the course of the next 20 years. Residents in these areas primarily rely on localized onsite effluent disposal systems (septic tank systems). These systems pose a hazard to public health as they can leak significant concentrations of biological contaminants into ground and surface waters. To mitigate this risk, the Madison County Health Department requested that more residents be serviced by the current wastewater treatment facilities. This study evaluates Alternatives for addressing the wastewater treatment needs of the citizens within the unincorporated areas of Madison County.

### A. Project Planning

The Planning Area for this study comprises Monroe Township excluding the incorporated portion that is the City of Alexandria. Specifically, this study evaluates the need for sanitary sewer infrastructure within the unincorporated residential areas of Scotts Addition, Phillips Gas and Land Addition, Innisdale, and Plate Glass Addition

Upon creation of the Madison County RUD, the District intends to pursue a Phase 1 project to construct a wastewater collection system for the unincorporated areas of Scotts Addition and Phillips Land and Gas Addition with interest in utilizing Alexandria's Wastewater Treatment Plant (WWTP) to treat their flows.

### B. Proposed Flows

Based on estimated current and future flows for both Scotts Addition and Phillips Addition, it is proposed that the average daily flow into Alexandria's WWTP will increase by approximately 7,750 gpd over the 20-year planning period. Estimated flows for both Scotts Addition and Phillips Addition consider existing conditions and projected flows over a 20-year planning period. A summary of these estimated flows is presented in the following **Table ES-1**.

**Table ES-1  
Estimated Flows Summary**

|                                             | Flow Rate<br>(GPD) |
|---------------------------------------------|--------------------|
| Existing Flows                              |                    |
| Scotts Addition Average Daily Flow          | 32,860             |
| Phillips Addition Average Daily Flow        | 39,060             |
| Future Flows                                |                    |
| Scotts Addition Average Daily Flow          | 3,720              |
| Phillips Addition Average Daily Flow        | 4,340              |
| <b>Total Flows</b>                          |                    |
| <b>Scotts Addition Average Daily Flow</b>   | <b>36,580</b>      |
| <b>Phillips Addition Average Daily Flow</b> | <b>43,400</b>      |

The following **Table ES-2** provides a summary of the proposed collection system components associated with construction of new wastewater collection facilities in Alexandria.

**Table ES-2  
Proposed Wastewater Collection System Components**

| Item Description                    | Unit | Quantity |
|-------------------------------------|------|----------|
| 8" Gravity Sanitary Sewer Main      | LF   | 23,700   |
| Sanitary Sewer Manhole              | EA   | 86       |
| 6" Gravity Sanitary Service Lateral | LF   | 5,200    |
| Duplex Submersible Lift Station     | EA   | 2        |
| 6" Force Main, HDD (to Alexandria)  | LF   | 3,000    |
| 4" Force Main, HDD                  | LF   | 200      |
| 12" Casing Pipe, Jack and Bore      | LF   | 420      |
| HMA Asphalt, Type B                 | TON  | 1,328    |

## **ES.2 Description of Project Components**

### **A. New Collection System**

#### **1. New Gravity Sewer for Both Scotts and Phillips Addition**

It is proposed that a new gravity sewer collection system be built to provide reliable service to the residents in Scotts Addition and Phillips Addition under the proposed Phase 1 Project.

This alternative proposes a new gravity sewer collection system inclusive of mainline gravity sewers, 6" laterals extending to existing rights-of-way, manhole structures, and (2) duplex submersible lift stations to be built to provide reliable service to the residents throughout Scotts Addition and Phillips Land and Gas Addition. These flows would be collected and pumped via a 6" force main to a receiving manhole within Alexandria's collection system and ultimately discharged to Alexandria WWTP for treatment and disposal.

## **ES.3 Feasibility Analysis**

### **A. Constructability**

Since the project will serve residents and properties that are currently on septic systems, the proposed construction will not interfere with any existing infrastructure. Therefore, constructability will not be an issue. The new system will be completely constructed and then tested according to the specifications detailed in the contract documents. Once it has been tested, connections to the system will commence.

*The County acknowledges that provisions exist within the Indiana Code affording residents within the proposed project areas(s) the opportunity to apply for exemptions for up to 20 years that could delay connection to the proposed sanitary sewer system.*

### **B. Environmental Impacts**

All construction is expected to take place in previously disturbed land and rights-of-way. All impacted areas will be restored to pre-construction conditions. Temporary construction impacts include the potential for noise, dust, and erosion control requirements, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Standard erosion control measures will be implemented and maintained throughout the duration of all construction activities. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

The following environmental investigations have been made.

#### **1. Disturbed/Undisturbed Land**

It is expected the proposed improvements will be constructed on previously disturbed land and within existing rights-of-way. Construction is not expected to have any detrimental, long-term impact on soils. Short-term impacts associated with material and equipment transport and installation are expected and will be mitigated with appropriate techniques. Projects proposed as part of this report will not impact established land use plans, policy, or regulations of any agency with jurisdiction over the project.



## **2. Historic/Architectural Resources**

The Department of Natural Resources' (DNR) State Historic Architectural and Archaeological Research Database (SHAARD) has been consulted. Many historic resources are noted within the Planning Area; however, none are anticipated to be adversely affected with respect to the anticipated work. The appropriate erosion control measures will be put in place to ensure no short-term or long-term detriments to any historic farmlands.

## **3. Wetlands**

The U.S. Fish and Wildlife National Wetlands Inventory was reviewed. Horizontal directional drilling and the proper erosion control methods will be utilized to ensure there are no adverse effects on wetlands.

## **4. Surface Waters**

The major surface waters in the area are Pipe Creek, Lilly Creek, Mud Creek, and Alexandria Creek. None of these surface waters within the Planning Area are listed on Indiana's Natural, Scenic and Recreational Rivers and Streams [312 IAC 7-2], on Indiana's Outstanding Rivers List, or designated Salmonid Stream [327 IAC 2-1.5-5(A)(3)]. No streams within the Planning Area are designated as Waters of High Quality [327 IAC 2-1-2(3)] or Exceptional Use Streams [327 IAC 2-1-11(B)]. No stream crossings are anticipated for the project. As such, the project will not require crossing or boring under Outstanding Rivers, Natural, Scenic, and Recreational Rivers, Exceptional Use Streams, Waters of High Quality, or Salmonid Streams.

## **5. Groundwater**

The depth of the water table in the Planning Area varies from 0 to >200 cm, but is most often 0 to 30 cm. A geotechnical investigation should be performed during design to determine the effects of groundwater on any new structures proposed. Construction activities are not anticipated to cause long-term detriment to the groundwater table of local wells. No sole source aquifers will be affected by the proposed project.

## **6. 100-Year Floodplain, 500-Year Floodplain**

The FIRM (Flood Insurance Rate Maps) for the Planning Area were obtained from the IndianaMap website. Madison County is aware of the hazards of locating structures in areas subject to base flood. Location of the proposed project outside the 100-year floodplain is not deemed to be a feasible or reasonable alternative because the project involves only the construction of an underground low-pressure sewer or gravity sewer leading to a lift station, which will not impact the floodplain. Madison County, through local building codes, the authority of its council or planning commission, or other means, will ensure that the SRF-funded facilities will be protected from the 500-year flood to two feet above the base flood elevation for non-critical infrastructure, or to three feet above the base flood elevation for

critical infrastructure, in accordance with Executive Order 14030. The use of horizontal directional drilling and other design considerations will comply with FFRMS requirements as required.

## **7. Plants and Animals**

The Indiana Department of Natural Resources, Division of Nature Preserves website, contains lists of endangered, threatened, and rare species by county. A detailed report for Madison County was reviewed. It is expected that all proposed construction activities will take place in previously disturbed land and within existing rights-of-way. Rare and endangered species will likely be undisturbed by construction due to the location of their living environments relative to anticipated projects sites.

## **8. Soils**

USDA-NRCS resources were reviewed. Proposed construction activities are not anticipated to have long term, detrimental effects on the soils. Short-term effects can be mitigated through the use of appropriate techniques for erosion control and surface restoration during the following construction activities.

## **9. Prime Farmland Impacts**

Construction for this project will be completed within existing rights-of-way, and will not impact prime farmland. The majority of proposed improvements will be located on land classified as “prime farmland if drained”; however, most improvements will take place on previously developed land and will consist of underground utility installation, and as such, will not impact farmland. Short-term impacts will be mitigated with the appropriate erosion control techniques.

## **10. Air Quality**

Air Quality impacts from proposed projects will be evaluated for conformance with applicable Rules under Title 326 Articles 1, 2, 6, 7, and 8 of the Federal 1990 Clean Air Act Amendments. There are no IDEM nonattainment areas within the Planning Area.

### **a) Construction Activity**

To minimize non-conformance with 326 IAC 6-4, “Fugitive Dust Emissions”, reasonable and proper construction techniques and clean up practices will be provided. In addition, surface wetting practices will be utilized to control dust emissions where required. Please note that 326 IAC 6-4-6(3) provides for an exemption to the rule “from construction or demolition activity where every reasonable precaution has been taken in minimizing fugitive dust emissions”. Exhausts of construction equipment will be required to have mufflers for noise and air pollution abatement.

### **b) Clean Air Act Title III – Hazardous Air Pollutants**

Title III calls for a program to prevent the accidental releases of hazardous air pollutants from facilities. We do not anticipate use of chemicals in the project that may release hazardous air pollutants as defined by EPA's Hazardous Air Pollutant Listing. If potential hazardous air pollutants are used on the project, we will require monitoring, record keeping, reporting, and vapor recovery, secondary containment, design, equipment, work practices and operation according to Federal Standards.

#### **11. Mitigating Measures to Avoid Negative Impacts**

The majority of the environmental impacts will occur during construction of the proposed improvements. These issues are classified as temporary, since no significant, permanent impacts to environmental, historical, or other regulated resources are involved. These temporary construction impacts include the potential for noise, dust, and construction site erosion. Provisions will be included in the construction specifications to limit such problems and to provide erosion control in accordance with current state standards. The work is expected to be completed during normal working hours, restricting any work-related nuisances to those hours. All construction equipment will be required to have mufflers to reduce noise pollution. Additionally, reasonable and proper construction techniques and clean up practices will be required by the contractor to reduce dust emissions. Proper surface wetting practices will be required.

### **ES.4 Proposed Method of Construction & Construction Contracts**

#### **A. Proposed Method of Construction**

Construction procurement for the proposed project will be done by competitive bid.

#### **B. Construction Contracts**

The proposed work is the first phase of projects meant to connect more citizens of Madison County to wastewater treatment facilities. This Phase 1 project will be bid as one (1) division under a single construction contract.

### **ES.5 Constructions Costs, Permits, & Schedule**

#### **A. Detailed Construction Cost Estimate**

**Table ES-3** provides a breakdown of estimated construction costs by component for the proposed Phase 1 Project Area.

A construction contingency of 10% is included in the total estimate. This assumption is consistent with industry standard practices. A BABA (Build America, Buy America)

Allowance of 10% is also included in the total estimate. It is prudent to incorporate contingency into the budget to prepare for fluctuations in bid prices or unexpected site conditions that may arise during construction.

**Table ES-3**  
**Estimate of Recommended Alternative Gravity Sewer Construction Costs**

| Item                             | Cost                    |
|----------------------------------|-------------------------|
| Scotts Addition Gravity Sewer    | \$ 4,831,000.00         |
| Phillip's Addition Gravity Sewer | \$ 9,316,000.00         |
| <b>TOTAL CONSTRUCTION COST</b>   | <b>\$ 14,147,000.00</b> |
| Non-Construction Costs (25%)     | \$ 3,536,750.00         |
| <b>TOTAL PROJECT COST</b>        | <b>\$ 17,683,750.00</b> |

**Table ES-4 and ES-5** summarizes the total project costs for the proposed Phase 1 project area.

**Table ES-4**  
**Summary of Total Estimated Project Costs**

| Item                                                                                         | Cost                |
|----------------------------------------------------------------------------------------------|---------------------|
| <b>Construction Costs</b>                                                                    |                     |
| Scotts Addition & Phillips – Gravity Sewer (includes lift station and force main) - SUBTOTAL | \$11,788,500        |
| Contingency (10%)                                                                            | \$1,179,000         |
| BABA Allowance (10%)                                                                         | \$1,179,000         |
| <b>Est. Total Construction Costs</b>                                                         | <b>\$14,146,500</b> |
| <b>Non-Construction Costs</b>                                                                |                     |
| Preliminary Design                                                                           | \$385,000           |
| Final Design                                                                                 | \$243,000           |
| Bidding / Negotiating                                                                        | \$50,000            |
| Construction Engineering                                                                     | \$225,000           |
| Construction Inspection <sup>1</sup>                                                         | \$787,500           |
| Field Investigation & Survey (Traditional Topographic Survey)                                | \$179,410           |
| Route Survey (along state highway only)                                                      | \$30,000            |
| Geotechnical Evaluation/Soil Borings                                                         | \$74,175            |
| Traffic Control Allowance (for soil borings)                                                 | \$13,800            |
| Construction Stormwater General Permit (CSGP/SWPPP)                                          | \$7,500             |
| Regulatory Assistance                                                                        | \$14,500            |
| Permitting                                                                                   | \$36,500            |
| Permit Application Fees (Railroad, IDNR, County Highway)                                     | \$20,000            |
| Easement Assistance – Descriptions and Exhibits                                              | \$2,000             |
| American Iron & Steel/BABA Compliance                                                        | \$30,000            |
| Post-Bid Document Assembly                                                                   | \$12,000            |
| Start-up Assistance                                                                          | \$15,000            |
| O&M Manuals                                                                                  | \$10,000            |

| Item                                                   | Cost                |
|--------------------------------------------------------|---------------------|
| CAD Record Drawings                                    | \$10,000            |
| Rate Consultant                                        | \$80,000            |
| Local Attorney                                         | \$50,000            |
| Bond Counsel                                           | \$60,000            |
| BAN Fee (design paid with ARPA funds)                  | \$0                 |
| Interest During Design (design paid with ARPA funds)   | \$0                 |
| Post-Construction                                      | \$20,000            |
| Asset Management Plan, Technical and Managerial        | \$30,000            |
| Asset Management Plan, Financial                       | \$20,000            |
| Labor Standards                                        | \$50,000            |
| Right-of-Way Services – Appraisals/Negotiations/Buying | \$10,000            |
| <b>Est. Total Non-Construction Costs</b>               | <b>\$2,466,000</b>  |
| <b>Est. Total Costs</b>                                | <b>\$16,612,500</b> |

<sup>1</sup> Assumes average of 1.5 RPRs used during construction.

**Table ES-5**  
**Summary of Estimated System Annual O&M&R Costs**

| Manpower                                      | Amount   | Units | per   | Annual Amount |          |
|-----------------------------------------------|----------|-------|-------|---------------|----------|
| Scotts Addition                               |          |       |       |               |          |
| Maintenance                                   | 0.25     | hours | Week  | 13 hours      | \$650    |
| Electrical                                    | 268.5    | KW    | Daily | 97,985        | \$2,000  |
| Phillips Addition                             |          |       |       |               |          |
| Maintenance                                   | 0.25     | hours | Week  | 13 hours      | \$650    |
| Electrical                                    | 134.4    | KW    | Daily | 49,056        | \$1,000  |
| Total Estimated O&M                           |          |       |       |               | \$4,300  |
| Short Lived Assets/Equipment Replacement Cost |          |       |       |               |          |
| Scotts Addition                               |          |       |       |               |          |
| Lift Station Pumps                            | \$80,000 | Every | 15    | Years         | \$5,333  |
| Lift Station Pump Motors                      | \$25,000 | Every | 15    | Years         | \$1,666  |
| Lift Station Control Panel                    | \$40,500 | Every | 15    | Years         | \$2,666  |
| Lift Station Flow Meter                       | \$15,000 | Every | 15    | Years         | \$1,000  |
| Phillips Addition                             |          |       |       |               |          |
| Lift Station Pumps                            | \$70,000 | Every | 15    | Years         | \$4,666  |
| Lift Station Pump Motors                      | \$20,000 | Every | 15    | Years         | \$1,333  |
| Lift Station Control Panel                    | \$35,000 | Every | 15    | Years         | \$2,333  |
| Lift Station Flow Meter                       | \$12,500 | Every | 15    | Years         | \$833    |
| Lift Station Pumps                            | \$70,000 | Every | 15    | Years         | \$4,666  |
| Total Estimated O&M&R                         |          |       |       |               | \$24,496 |

## **B. Real Property Acquisition**

If required, permanent land acquisition or easements will be obtained prior to advertising for construction bids.

## **C. Permits Required**

It is anticipated that the following permits will be required for construction of this project:

- **IDNR Construction in a Floodway Permit (Non-Modeling)**

A construction in a floodway permit will be obtained prior to advertising for construction bids.

- **IDEM Rule 5**

A Notice of Intent (NOI) will be submitted to IDEM to fulfill Rule 5 requirements. It will be submitted prior to advertising for bids, which will fulfill the requirement of submitting a minimum of 48 hours prior to initiation of land disturbing activities.

- **IDEM Construction Permit**

The IDEM Construction Permit will be obtained prior to advertising for construction bids.

- **INDOT ROW Permit**

A construction in ROW permit will be obtained prior to advertising for construction bids.

- **Madison County ROW Permit**

A construction in ROW permit will be obtained prior to advertising for construction bids.

- **Railroad Crossing Permit**

A Railroad Crossing permit will be obtained prior to bid advertisement.

#### D. Project Schedule

The project is currently following the schedule presented in **Table ES-6**.

**Table ES-6**  
**Phase 1 Preliminary Project Schedule**

| Item                                                            | Date to be Completed |
|-----------------------------------------------------------------|----------------------|
| Madison County Formally Approves Preliminary Engineering Report | March 2025           |
| Madison County Authorizes Design                                | March 2025           |
| Preliminary Engineering Report Submitted to Funding Agency      | March 2025           |
| Madison County Authorizes Submission of Permits                 | September 2025       |
| Finalize District Funding Package                               | September 2025       |
| Permits Obtained                                                | December 2025        |
| Design Completed                                                | February 2026        |
| Madison County Regional Utility District Approved by IDEM       | February 2026        |
| District Authorizes Bid Proposals                               | March 2026           |
| District Receives Bid Proposals                                 | April 2026           |
| District Awards Contract/Issues Notice to Proceed               | June 2026            |
| Construction Substantially Complete                             | August 2026          |
| Final Inspection – Project Completion                           | September 2026       |

#### E. Rate Impacts and Debt Repayments

The RUS guidance documents for Preliminary Engineering Reports directs that the report be based on loans, not grants from RUS. RUS will then evaluate the proposed project for possible RUS grant funding.

Estimated monthly user rates for the proposed system improvements project will be calculated for different funding scenarios. These rates are preliminary in nature and are presented only to provide the County with an estimated user rate following the completion of the proposed project. Additional rate studies will be completed to determine a more accurate monthly user rate.

## Section 1 – Project Planning

This section defines the project planning area, the planning period, and the current characteristics of the planning area. This information is important to the engineering analyses and the decision-making processes discussed in subsequent sections. The planning period for this study is 20 years.

### 1.1 Location

The proposed Madison County Regional Utility District (RUD) will consider all existing unincorporated areas of Monroe Township, in Madison County, Indiana. Monroe Township is located approximately at latitude 40° 24' N and longitude 85° 67' W which is forty miles northeast of Indianapolis, Indiana, with more specific location details described in **Table 1-1**.

**Table 1-1**  
**Planning Area Location**

| County  | U.S.G.S. Quadrangle Map | Township | Range    | Sections                                                      |
|---------|-------------------------|----------|----------|---------------------------------------------------------------|
| Madison | Muncie                  | 21 N     | 7 E, 8 E | 21N 7E: 1-4, 9-16, 22-27, 34-36<br>21N 8E: 2-11, 14-23, 26-35 |

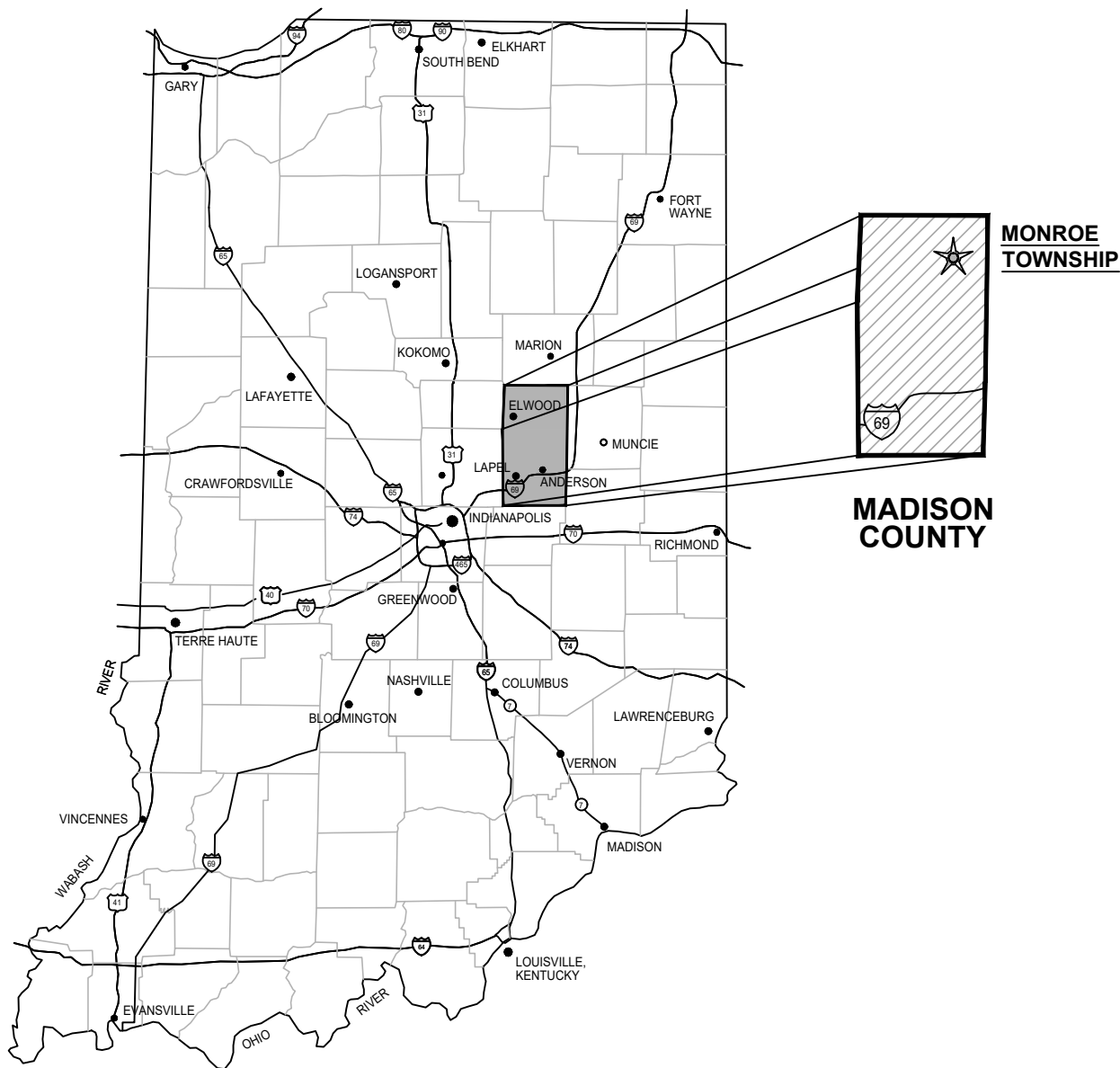
### 1.2 Project Planning

The planning area encompasses unincorporated and unsewered areas identified within the limits of Monroe Township, as described in **Table 1-2**. A general location map and topographic map for the planning area are depicted in **Figure 1-1** and **Figure 1-2**, respectively.

**Table 1-2**  
**Unsewered Areas of Concern**

| Priority | Area                           |
|----------|--------------------------------|
| 1        | Scotts Addition                |
| 2        | Phillips Land and Gas Addition |
| 3        | Innisdale                      |
| 4        | Plate Glass Addition           |





**GENERAL LOCATION MAP**

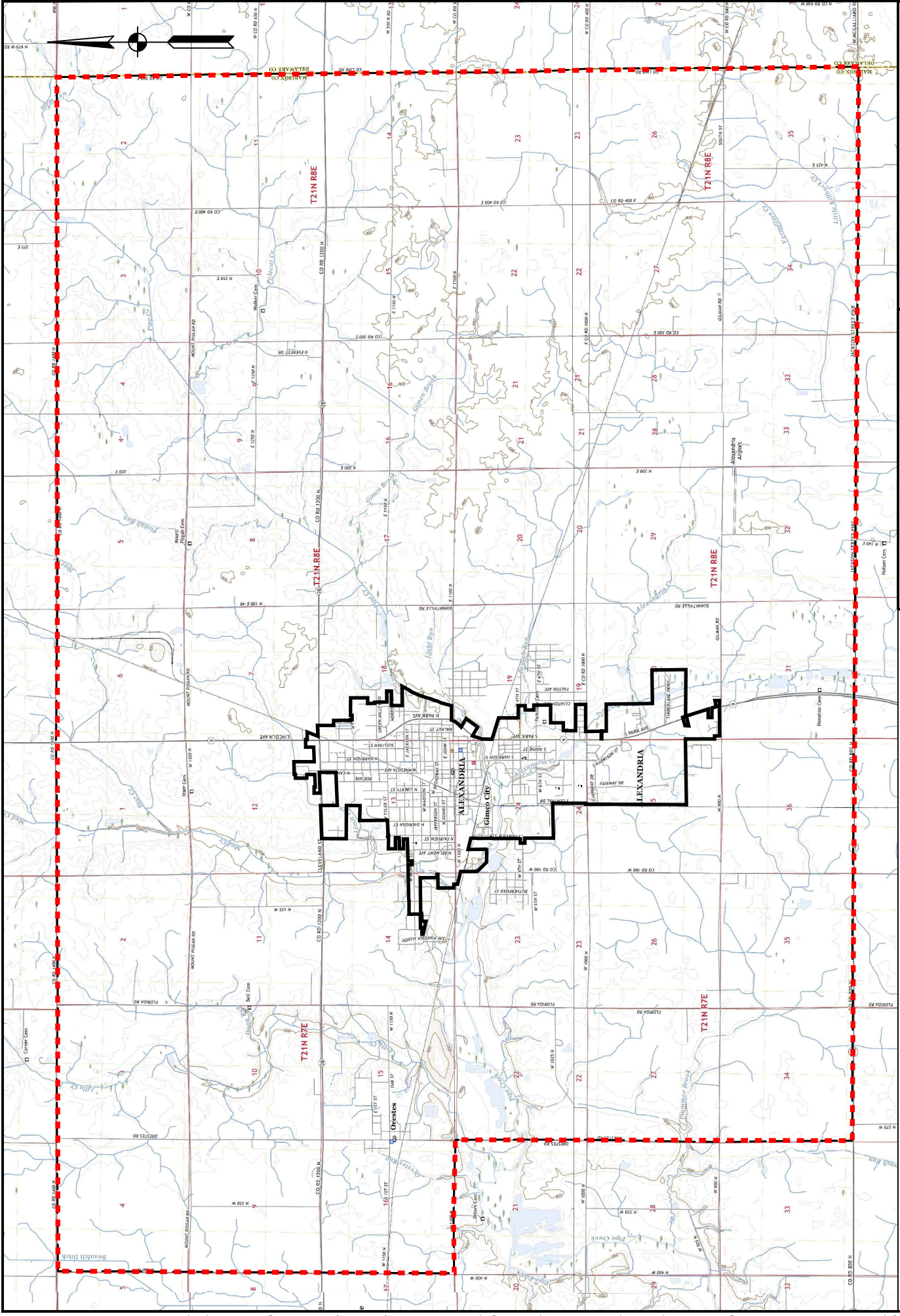
NO SCALE



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GENERAL LOCATION MAP  
FIGURE 1-1



MONROE TOWNSHIP  
MADISON COUNTY, INDIANA

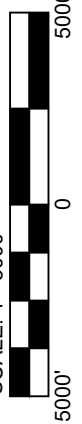
PRELIMINARY ENGINEERING REPORT

TOPOGRAPHIC MAP  
FIGURE 1-2



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SCALE: 1"=5000'



5000'  
0  
5000'

MONROE TOWNSHIP BOUNDARY



ALEXANDRIA CORPORATION LIMITS



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### 1.3 Environmental Resources Present

This section summarizes the environmental resources present within the planning area. Though the proposed improvements are touched upon within this section of the report, the overall planning area and corresponding environmental impacts are the focus of this section.

#### A. Disturbed/Undisturbed Land

As shown in **Figure 1-3**, the land use throughout the Planning Area is varied, but is predominantly cultivated crops and low, medium, and high intensity developed areas, deciduous forest, and hay and pasture. The land surrounding the planning area is predominantly cultivated crops. The recommended improvements are located on property which is developed land within utility rights-of-way, or in existing easements.

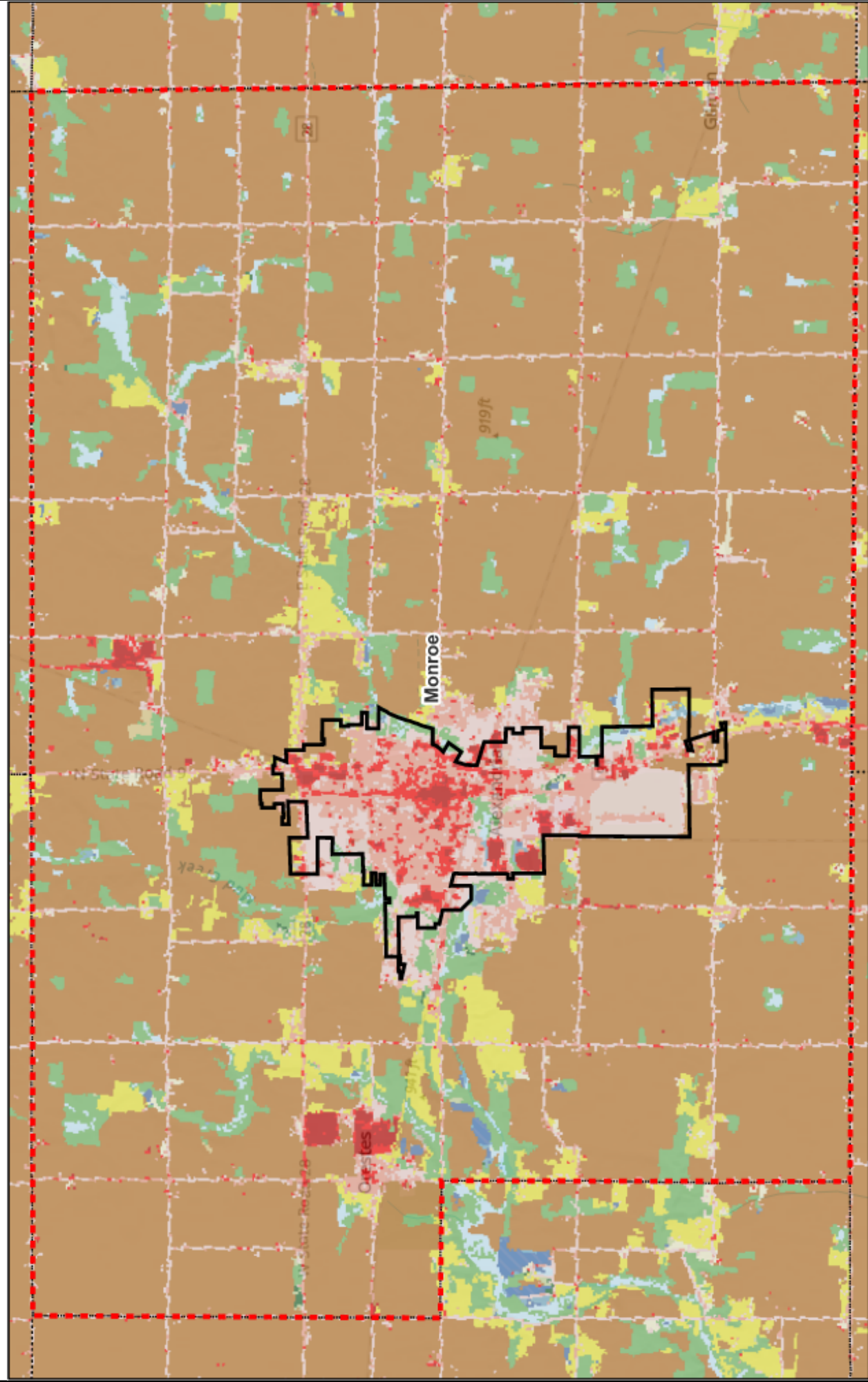
The recommended improvements are expected to take place on previously disturbed ground. Construction projects are not expected to have any detrimental, long-term impacts on the soil. Short-term impacts associated with material and equipment transport and installation are expected and will be mitigated through appropriate techniques. Projects proposed as part of this report will not impact established land use plans, policy, or regulations of any agency with jurisdiction over the project. Six active brownfields were identified within the Planning Area using IndianaMap. **Table 1-3** identifies the brownfield site name, identification number, and potential contaminants of concern for each one.

**Table 1-3**  
**Monroe Township Brownfield Sites**

| Site Name                     | Brownfield ID Number | Potential Contaminate                                 |
|-------------------------------|----------------------|-------------------------------------------------------|
| Ricker-Swifty Service Station | 4180806              | Not listed                                            |
| Patterson Property            | 4220801              | VOCs in groundwater                                   |
| Former Aladdin Glass Factory  | 4111102              | SVOCs in soil; VOCs, SVOCs, and metals in groundwater |
| Copper 66                     | 4181102              | Not listed                                            |
| Hoadley Restaurant            | 4130214              | VOCs in groundwater                                   |
| Silvey Oil                    | 4190407              | Not listed                                            |

Construction or installation is not anticipated to impact any brownfields. If construction or installation must occur near known brownfield sites, samples will be taken prior to construction to ensure the project will not encounter contaminated soil. If previously unidentified environmental contaminants are encountered during construction, the location will be shifted to avoid impacting contaminated soils. Short-term impact associated with material and equipment transport and installation is expected and will be mitigated through appropriate techniques.





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MONROE TOWNSHIP BOUNDARY

WOODY WETLANDS

EMERGENT HERBACEOUS WETLANDS

WORLD HILLSHADE

MIXED FOREST

SHRUB/SCRUB

HERBACEOUS

HAY/PASTURE

CULTIVATED CROPS

DEVELOPED, MEDIUM INTENSITY

DEVELOPED, HIGH INTENSITY

BARREN LAND

DECIDUOUS FOREST

EVERGREEN FOREST

OPEN WATER

DEVELOPED, OPEN SPACE

DEVELOPED, LOW INTENSITY

CIVIL TOWNSHIP BOUNDARIES 2021

NLCD LAND COVER 2021

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PRELIMINARY ENGINEERING REPORT

PROPOSED MADISON COUNTY RUD

LAND USE MAP

FIGURE 1-3

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## B. Historical/Archaeological Resources

The Indiana Department of Natural Resources (DNR) State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries (IHBBC) database were reviewed for archaeological and historical sites located within the Planning Area, the results of which can be found in **Figure 1-4**. Many historic resources are noted within the Planning Area; however, none are anticipated to be adversely affected with respect to the anticipated work. There are fourteen (14) cemeteries located in the Planning Area, however, these are unlikely to be impacted. The State and National Registers were reviewed for archaeological and historical sites located within the Planning Area and did not note any additional sites to those listed in the SHAARD. No information related to Native American archaeology was noted in the State and National Registers or the SHAARD.

## C. Wetlands

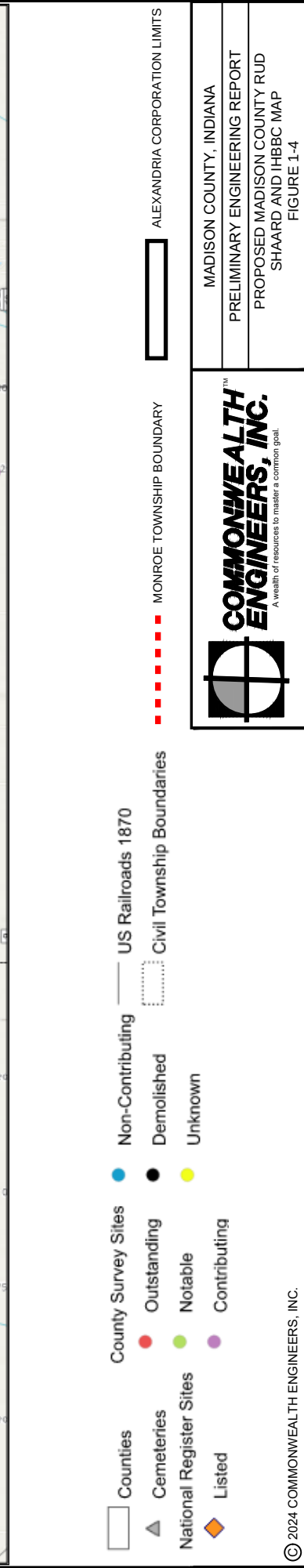
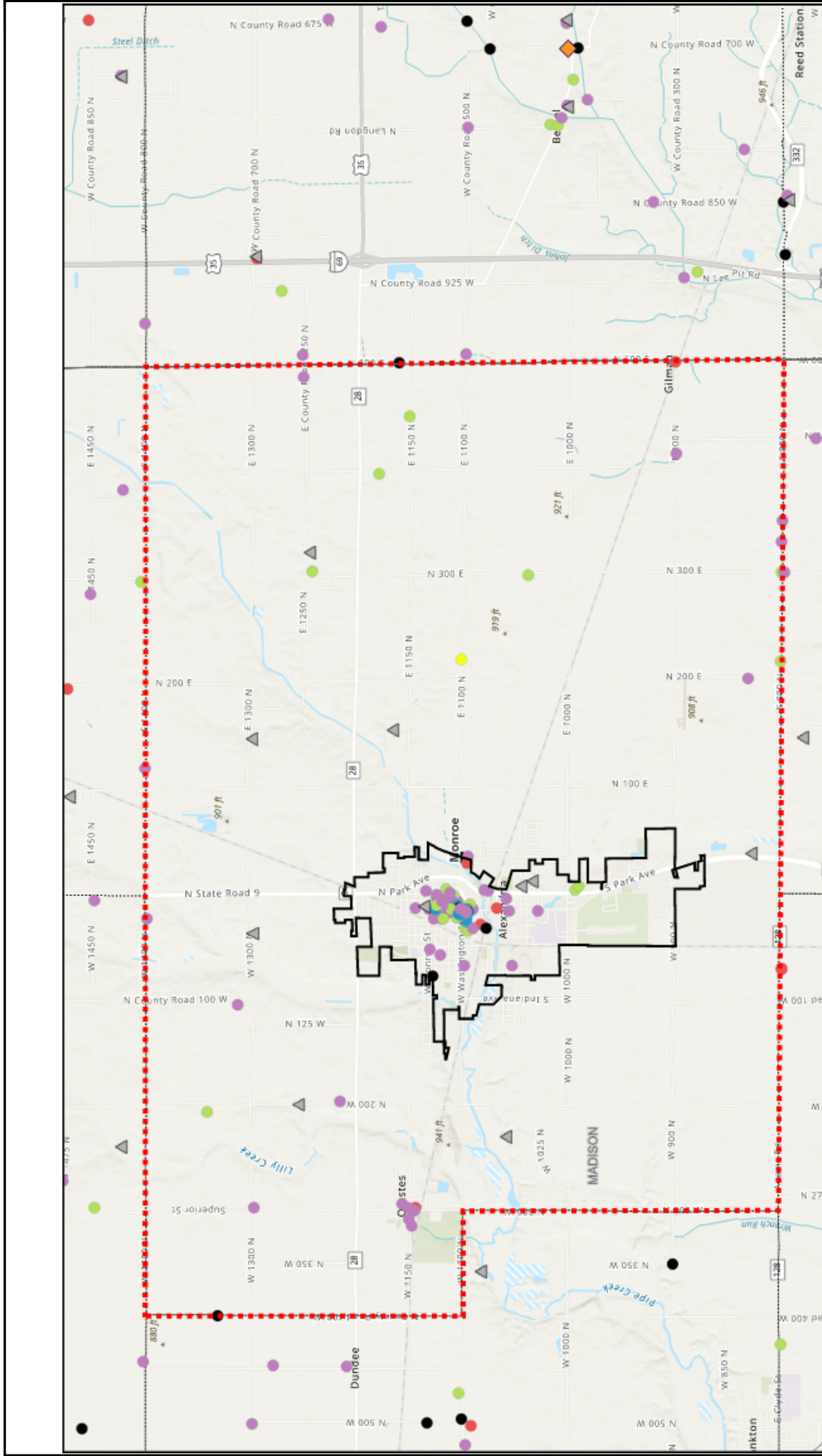
The Federal government defines wetlands as areas:

1. With hydric soil (soil formed in the presence of water), and
2. Water at or near the ground surface long enough in the growing season to support hydrophytic vegetation.

The U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (USEPA) define wetlands as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” This definition suggests that a particular piece of land does not have to actually be a wetland at the moment, but to have the potential of being a wetland to be considered a wetland.

Wetland areas are particularly important due to their ability to sustain a vast array of plant and animal life that depends solely on the hydrologic and physiographic conditions. Because of this, wetlands have higher potential to support certain endangered species habitat, and therefore, the species themselves.

**Figure 1-5** shows the project planning area along with identified wetlands as obtained from U.S. Fish and Wildlife National Wetlands Inventory. There are several wetlands located within the Planning Area; however, proposed project sites are not located within the identified wetland areas shown on the map. If necessary, delineation will be performed to ensure project sites remain outside of wetland boundaries.







#### **D. Surface Water Quality**

Surface Waters contained within the Planning Area are depicted graphically in **Figure 1-6**. The major surface waters in the area are Pipe Creek, Lilly Creek, Mud Creek, and Alexandria Creek. None of these surface waters within the Planning Area are listed on Indiana's Natural, Scenic and Recreational Rivers and Streams [312 IAC 7-2], on Indiana's Outstanding Rivers List, or designated Salmonid Stream [327 IAC 2-1.5-5(A)(3)]. No streams within the Planning Area are designated as Waters of High Quality [327 IAC 2-1-2(3)] or Exceptional Use Streams [327 IAC 2-1-11(B)]. No stream crossings are anticipated for the project. As such, the project will not require crossing or boring under Outstanding Rivers, Natural, Scenic, and Recreational Rivers, Exceptional Use Streams, Waters of High Quality, or Salmonid Streams.

The Indiana Department of Environmental Management (IDEM) develops Indiana's 303(d) List of Impaired Waters, a list which identifies streams that do not meet water quality standards. Portions of Pipe Creek are listed on the 303(d) list as impaired for E. coli, PCBs in fish tissue, and biological integrity. IDEM also develops Total Maximum Daily Load (TMDL) reports to assess impaired water bodies. The Planning Area is located with the Pipe Creek Watershed (HUC 0512020104) which has an approved and established TMDL for E. coli.

Construction activities are not expected to have long-term detrimental impacts on local wells. This project is not located within the Lake Michigan, St. Joseph River, or Maumee River basin.





## E. Groundwater

The U.S. Department of Agriculture (USDA) National Resource Conservation Service (NRCS) publishes measured depth to water table data for the project area on the Web Soil Survey. This depth to the water table is shown in **Figure 1-7**. The depth of the water table in the Planning Area varies from 0 to >200 cm, but is most often 0 to 30 cm. A geotechnical investigation should be performed during design to determine the effects of groundwater on any new structures proposed. Construction activities are not anticipated to cause long-term detriment to the groundwater table of local wells. No sole source aquifers will be affected by the proposed project.

## F. Floodway and Floodplain

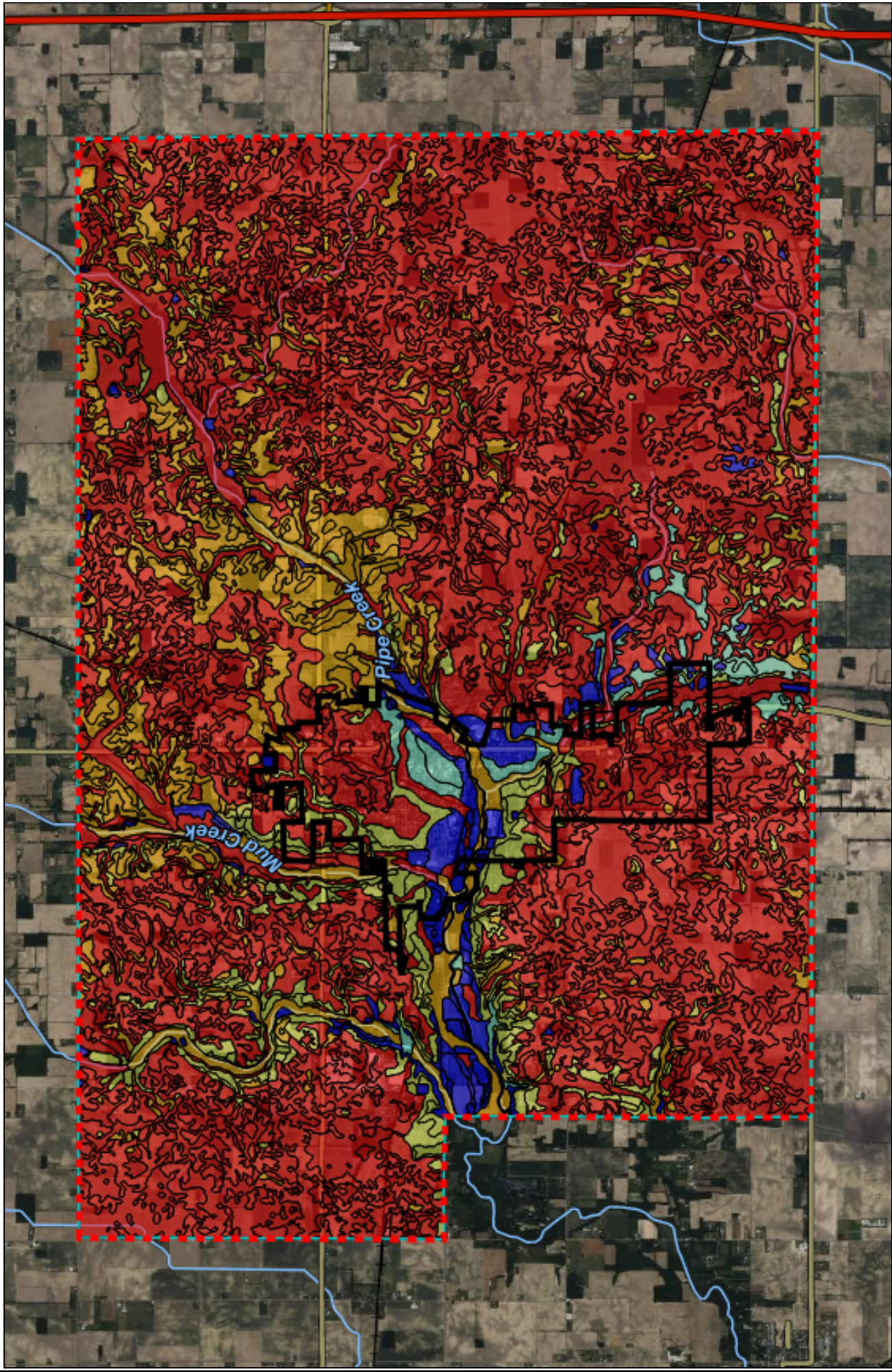
The Federal Emergency Management Agency (FEMA) completes comprehensive flood studies for the Planning Area. These studies use standard hydrologic and hydraulic computer models to find out the potential flooding from each riverine flooding source.

FEMA defines a 'floodway' and a 'floodway fringe' within their modeling and flood management system. A floodway is the channel of a stream and adjacent floodplain area that must be kept free of encroachment to carry the 100-year flood without substantial increases (> 0.1 ft.) in flood height. The floodway fringe is the area between the floodway and the natural 100-year floodplain boundary. The floodway fringe could be completely obstructed without significantly increasing the water surface elevation of the 100-year flood.

Floodways should be taken into consideration in the planning of any project. Due to accessibility, operations, maintenance and safety issues, new facilities should avoid floodways where possible. The FIRM (Flood Insurance Rate Map) for the project area was obtained from the IndianaMap website. **Figure 1-8** shows this map containing all the floodways in the Planning Area, and their classification. Design considerations will comply with Federal Flood Risk Management Standard (FFRMS) requirements, if necessary. Figure 1-8B Shows the floodplains, with floodways and fringes, for the areas where initial alternatives are considered.

Madison County is aware of the hazards of locating structures in areas subject to base flood. Location of the proposed project outside the 100-year floodplain is not deemed to be a feasible or reasonable alternative because the project involves only the construction of an underground low-pressure sewer or gravity sewer leading to a lift station, which will not impact the floodplain. Madison County, through local building codes, the authority of its council or planning commission, or other means, will ensure that the SRF-funded facilities will be protected from the 500-year flood to two feet above the base flood elevation for non-critical infrastructure, or to three feet above the base flood elevation for critical infrastructure, in accordance with Executive Order 14030.





**Natural Resources Conservation Service**  
Web Soil Survey  
National Cooperative Soil Survey

**Soil Rating**

|                                                                                       |          |                                                                                       |           |
|---------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|-----------|
|  | 0 - 25   |  | 100 - 150 |
|  | 25 - 50  |  | 150 - 200 |
|  | 50 - 100 |  | > 200     |

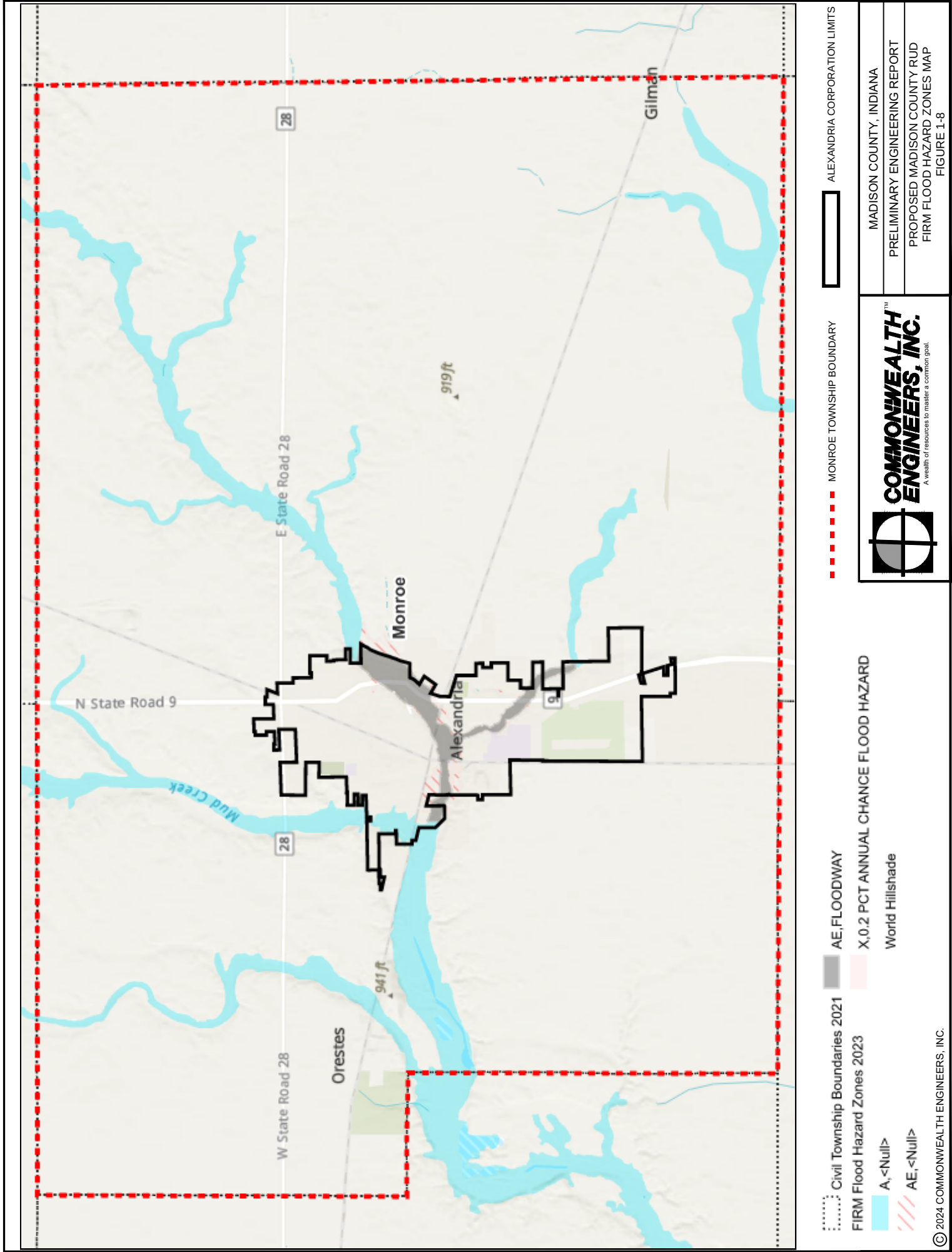
**MONROE TOWNSHIP BOUNDARY**

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**MADISON COUNTY, INDIANA**  
**PRELIMINARY ENGINEERING REPORT**  
**PROPOSED MADISON COUNTY RUD**  
**DEPTH OF WATER TABLE MAP**  
**FIGURE 1-7**





|                                |                               |
|--------------------------------|-------------------------------|
|                                | ALEXANDRIA CORPORATION LIMITS |
| MADISON COUNTY, INDIANA        |                               |
| PRELIMINARY ENGINEERING REPORT |                               |
| PROPOSED MADISON COUNTY RUD    |                               |
| FIRM FLOOD HAZARD ZONES MAP    |                               |

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## **G. Plants and Animals**

All construction activity performed as a result of this proposed project will be completed on previously disturbed land and rare and endangered species habitats are not anticipated to be affected in these areas. It is unlikely that any rare and endangered species will be disturbed by construction due to the location of their living environments relative to anticipated project sites. The project will be implemented to minimize impact to non-endangered species and their habitat. Mitigation measures cited in any comment letters received from the Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented.

Mitigation measures cited in any comment letters received from the Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented.

## **H. Soils**

**Figures 1-9 and 1-10** present the soil map and hydric soils map and corresponding legends for the entire Planning Area. Information discussed herein was obtained from the “Web Soil Survey” from the US Department of Agriculture (USDA) Natural Resources Conservation Service website (<http://websoilsurvey.nrcs.usda.gov>). The soil types identified throughout the project area primarily consist of “BgmA” “Blount silt loam, ground moraine”, “Bs” “Brookston silty clay loam”, and “BgmA” “Blount silt loam, ground moraine”. These soils typically have slopes between 0 to 2 percent. The soil types identified throughout the Scotts and Phillip’s addition areas primarily consist of “CrA” “Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes”, “Bs” “Brookston silty clay loam, 0 to 2 percent slopes”, and “MnB2” “Miami silt loam, 2 to 6 percent slopes, eroded”.

Potential construction projects are not expected to have any detrimental, long-term impacts on the soil. Short-term impacts can be readily mitigated using appropriate techniques for erosion control and surface restoration during and following construction activities.

Soil excavated during construction found to be suitable for bedding and backfill will be reused upon approval of the Engineer and Owner. Excavated soils will be placed in specific locations during backfill and excavation operations, with any excess soils removed and disposed of at a proper storage location. Proper erosion and sediment controls will be implemented around borrow storage locations.

## I. Prime Farmland

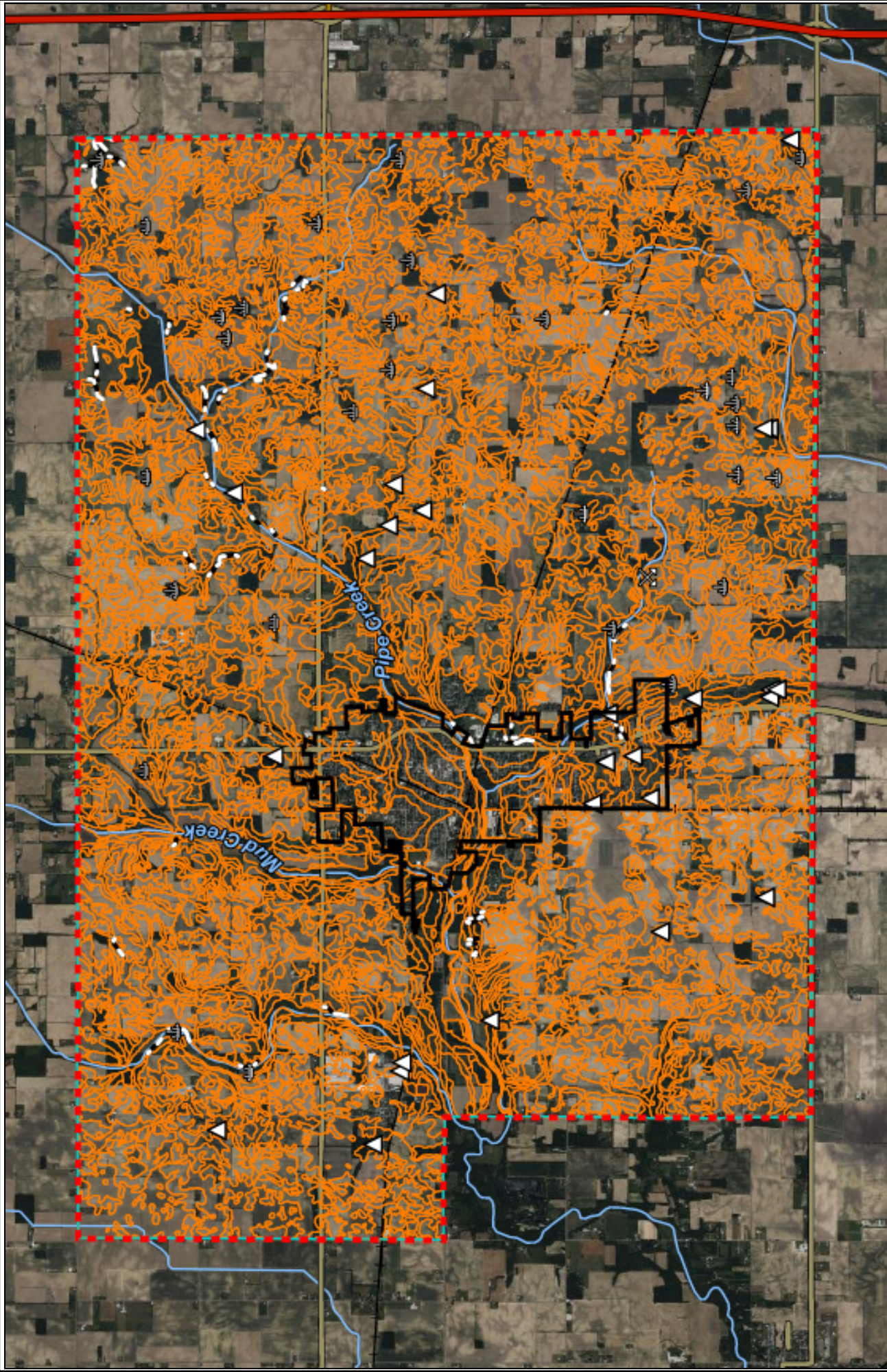
Prime Agricultural Land or Farmland is a designation assigned by the U.S. Department of Agriculture (USDA) and includes land that exhibits the best combination of physical and chemical characteristics for the production of food crops, feed, forage and fiber. Additionally, this designation includes land that is readily available for these uses.

Prime Farmland has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from regional precipitation, a favorable temperature and growing season, acceptable acidity and sodium content, and few or no rock outcroppings. They are permeable to water and air. Prime farmlands are not excessively susceptible to erosion or saturation for long periods of time, and they either do not flood frequently or are protected from flooding.

Prime farmland also tends to be well suited to residential and commercial development and is therefore prone to conversion to residential and commercial use when located in close proximity to urban areas. The USDA “Prime Farmland” designation serves to promote growth management and resource conservation efforts near urban areas.

**Figure 1-11** illustrates the Farmland Designation Map for the planning area – and associated legends. The planning area of Monroe Township consists primarily of “Prime farmland if drained”. The majority of proposed improvements will be located on land classified as “prime farmland if drained”; however, most improvements will take place on previously developed land and will consist of underground utility installation, and as such, will not impact farmland. The NRCS Farmland Conversion Impact Rating Form and Correspondence has been prepared in conjunction with this assessment. The NRCS response will be provided when available.





USDA  
Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

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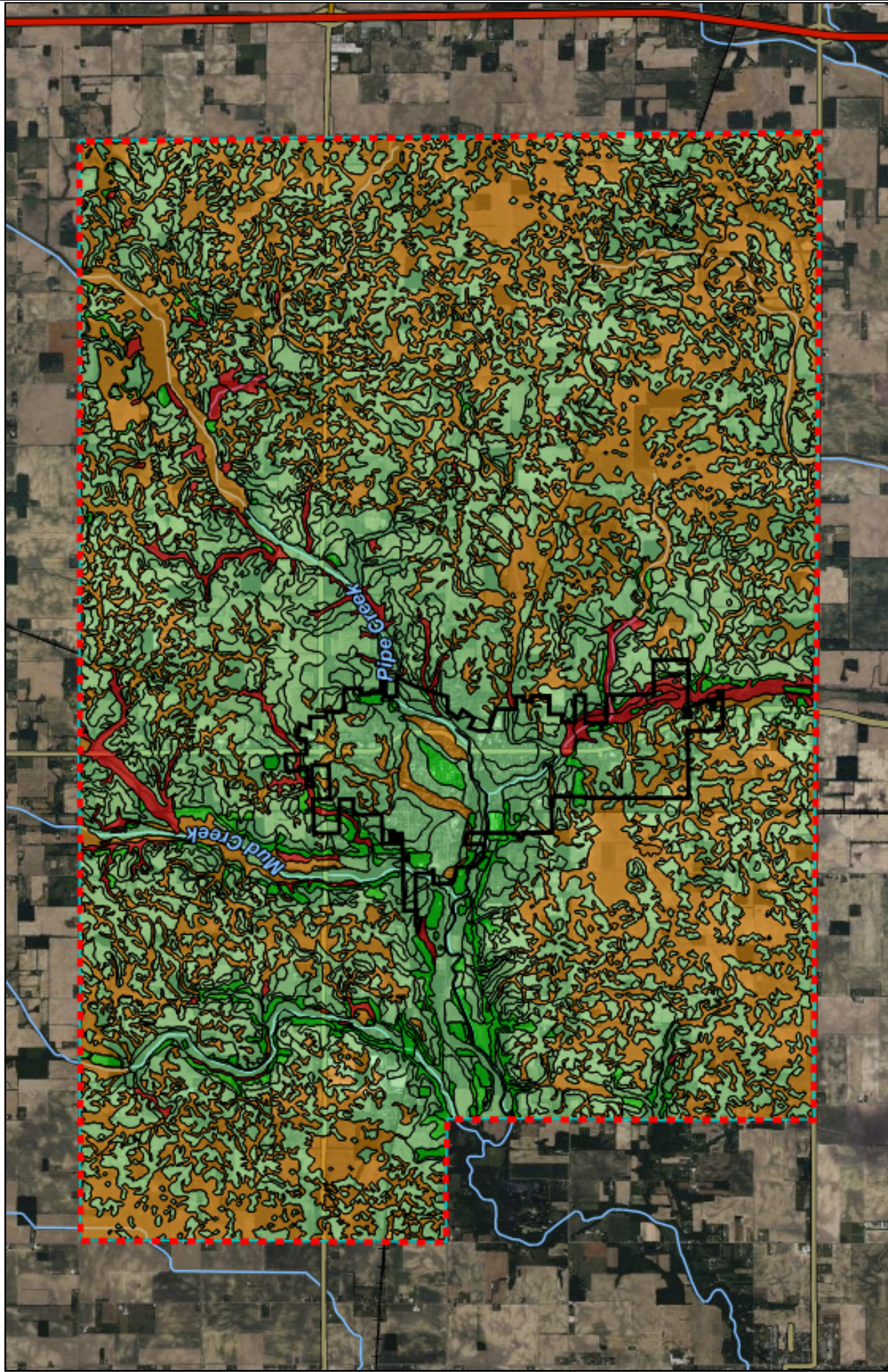
MADISON COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

PROPOSED MADISON COUNTY RUD

SOILS MAP  
FIGURE 1-9





**Natural Resources Conservation Service**  
Web Soil Survey  
National Cooperative Soil Survey

**Soil Rating**

|                                                                                       |                    |                                                                                       |                            |
|---------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------|----------------------------|
|  | Hydric (100%)      |  | Hydric (1 to 32%)          |
|  | Hydric (66 to 99%) |  | Not Hydric (0%)            |
|  | Hydric (33 to 65%) |  | Not rated or not available |

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**MONROE TOWNSHIP BOUNDARY**

MADISON COUNTY, INDIANA

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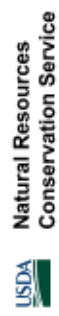
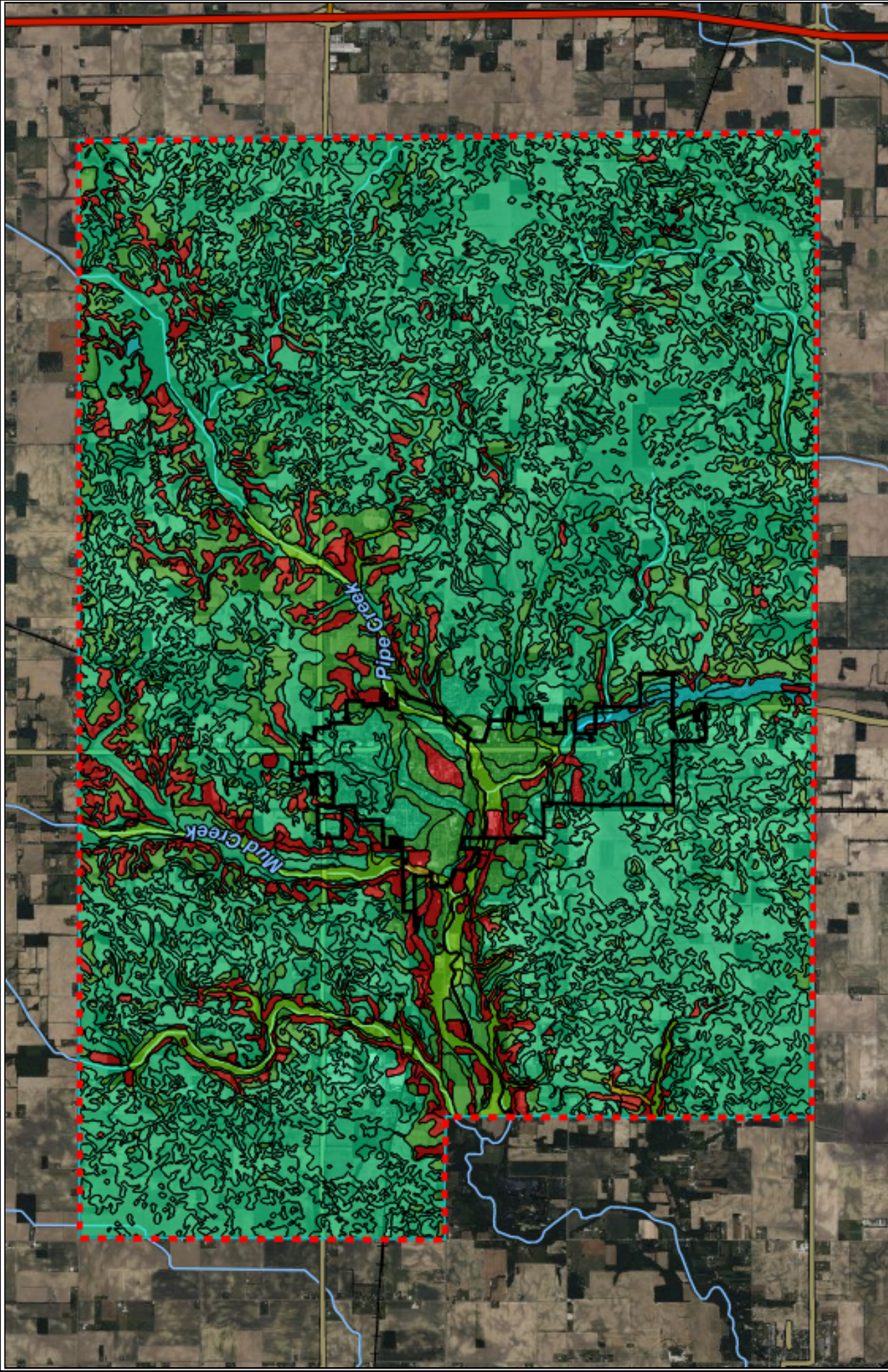
PROPOSED MADISON COUNTY RUD

HYDRIC SOILS MAP

FIGURE 1-10

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Web Soil Survey  
National Cooperative Soil Survey

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MADISON COUNTY, INDIANA  
PRELIMINARY ENGINEERING REPORT  
PROPOSED MADISON COUNTY RUD  
FARMLAND DESIGNATION MAP  
FIGURE 1-11



## **K. Air Quality**

Air quality impacts from the proposed project will be evaluated for conformance with applicable Rules under Title 326 Articles 1, 2, 6, 7, and 8 of the Federal 1990 Clean Air Act Amendments. There are no IDEM nonattainment areas within the Planning Area.

### **1. Construction Activity**

To minimize non-conformance with 326 IAC 6-4, “Fugitive Dust Emissions”, reasonable and proper construction techniques and clean up practices will be provided. In addition, surface wetting practices will be utilized to control dust emissions where required. Please note that 326 IAC 6-4-6(3) provides for an exemption to the rule “...from construction or demolition activity where every reasonable precaution has been taken in minimizing fugitive dust emissions”. Exhausts of construction equipment will be required to have mufflers for noise and air pollution abatement.

### **2. Clean Air Act Title III – Hazardous Air Pollutants**

Title III calls for a program to prevent the accidental releases of hazardous air pollutants from facilities. We do not anticipate use of chemicals in the project that may release hazardous air pollutants as defined by EPA’s Hazardous Air Pollutant Listing. If potential hazardous air pollutants are used on the project, we will require monitoring, record keeping, reporting, and vapor recovery, secondary containment, design, equipment, work practices and operation according to Federal Standards.

## **L. Open Space and Recreational Opportunities**

The proposed project’s construction and operation will neither create nor destroy open space and recreational opportunities.

## **M. Lake Michigan Costal Program**

The proposed project will not affect the Lake Michigan Costal Zone.

## **N. National Natural Landmarks**

The construction and operation of the proposed project will not affect National Natural Landmarks.

## **O. Mitigation Measures**

The majority of the environmental impacts will occur during construction of the proposed improvements. These issues will be temporary in nature, since no significant impacts to environmental, historical, or other regulated resources are involved. These temporary construction impacts include the potential for noise, dust, and construction site erosion. Provisions will be included in the construction specifications to limit such problems and to provide erosion control in accordance with current state standards. The work is expected to be completed during normal

working hours, restricting any work-related nuisances to those hours. All construction equipment will be required to have mufflers to reduce noise pollution. Additionally, reasonable and proper construction techniques and clean up practices will be required by the contractor to reduce dust emissions. Proper surface wetting practices will be required.

**P. Secondary Impacts**

Madison county, through local zoning laws, the authority of its council or planning commission, or other means, will ensure that future development and utility projects connecting to SRF-funded facilities will not adversely affect wetlands, wooded areas, steep slopes, archaeological/historical/structural resources, or other sensitive environmental resources. Madison County will require new development and utility projects to be constructed within the guidelines of the US Fish and Wildlife Service, Indiana Department of Natural Resources, Indiana Department of Environmental Management, and other environmental review authorities.

**1.4 Population Trends**

**A. Historic Population**

Monroe Township was incorporated in 1836. Historical and recent population data was obtained from STATS Indiana (developed and maintained by Indiana Business Research Center at Indiana's Kelley School of Business at [www.stats.indiana.edu](http://www.stats.indiana.edu)). **Table 1-4** shows the historical population for Madison County and Monroe Township from 1900 to 2010 as well as the growth rates over that time period and projected populations as discussed in the following section.

**Table 1-4**  
**Historical Population for Madison County and Monroe Township**

| Year | Madison County | Annual % Change | Monroe Township | Annual % Change |
|------|----------------|-----------------|-----------------|-----------------|
| 1900 | 70,470         |                 | 11,187          |                 |
| 1910 | 65,224         | -7.44%          | 7,945           | -28.98%         |
| 1920 | 69,151         | 6.02%           | 6,861           | -13.64%         |
| 1930 | 82,888         | 19.87%          | 7,330           | 6.84%           |
| 1940 | 88,575         | 6.86%           | 7,804           | 6.47%           |
| 1950 | 103,911        | 17.31%          | 8,662           | 10.99%          |
| 1960 | 125,819        | 21.08%          | 9,543           | 10.17%          |
| 1970 | 138,522        | 10.10%          | 9,993           | 4.72%           |
| 1980 | 139,336        | 0.59%           | 10,832          | 8.40%           |
| 1990 | 130,669        | -6.22%          | 10,057          | -7.15%          |
| 2000 | 133,358        | 2.06%           | 10,233          | 1.75%           |
| 2010 | 131,636        | -1.29%          | 8,786           | -14.14%         |
| 2020 | 130,129        | -1.14%          | 8,777           | -0.10%          |

## **B. Population Projection**

STATS Indiana provides population projections to the year 2050 for Madison County, but not for Monroe Township, Scotts Addition, or Phillips Land and Gas Addition. The population projections for Madison County show an increase in population from 2020 to 2050. For the purpose of designing for future infrastructure needs, it has been assumed that the population for both Scotts and Phillips Addition will have nominal growth of 0.5% per year over the 20-year design period. This increase in population accounts for any additional connections or new homes within the existing service area that would lead to general growth.

The service areas prioritized for this study include populations for both Scotts Addition and Phillips Land and Gas Addition, both of which are unincorporated areas located east of Alexandria. Because both areas are unincorporated, a population estimate is not presented on the STATS Indiana website. To determine the increase in demand for the design year, it is assumed that additional connections would be added slowly at the rate of 0.5% per year from the communities of both Scotts Addition and Phillips Land and Gas Addition.



For a 20-year design period (therefore a design year of 2045), the population of Scotts Addition is estimated to be 118 EDUs and Phillips Land and Gas Addition is estimated to have 140 EDUs. This is a growth of 12 EDUs in Scotts Addition and 14 EDUs in Phillips Land and Gas Addition from the current year. Projected EDUs for each study area are summarized in **Table 1-5** below.

**Table 1-5**  
**EDU Projections for Madison County, Scotts and Phillips Addition**

| Year | Scotts Addition | Phillips Land and Gas Addition |
|------|-----------------|--------------------------------|
| 2025 | 106             | 126                            |
| 2030 | 109             | 130                            |
| 2035 | 112             | 133                            |
| 2040 | 115             | 136                            |
| 2045 | 118             | 140                            |

Source: STATS Indiana.

## C. Local Economy

The local economy is an important demographic factor that must be considered when planning for any utility project. Since funding of projects is based on need, it is important to know the economic nature of the community. STATS Indiana (<http://www.stats.indiana.edu>) maintains a rather extensive database of demographic information for cities, towns, townships, and counties located in Indiana. Economic data for Madison County will be utilized to determine the current economic situation of the planning area.

### 1. Area Employment

The latest data available reported by STATS Indiana for employment and average wage data for Madison County is from the year 2022. The data is shown below in **Table 1-6**.

**Table 1-6  
Madison County 2022 Employment and Wage Data**

|                                         | <b>Establishments</b> | <b>Jobs</b> | <b>Yearly<br/>Average Wage</b> |
|-----------------------------------------|-----------------------|-------------|--------------------------------|
| Total Employment                        | 2,374                 | 38,944      | \$46,358                       |
| Agriculture, Forestry, Fishing,<br>Hunt | 21                    | 0           | \$0                            |
| Mining                                  | 2                     | 0           | \$0                            |
| Construction                            | 237                   | 1,570       | \$64,506                       |
| Manufacturing                           | 116                   | 5,102       | \$61,806                       |
| Wholesale Trade                         | 97                    | 0           | \$0                            |
| Retail Trade                            | 342                   | 4,608       | \$31,438                       |
| Transport. and Warehousing              | 86                    | 2,239       | \$52,725                       |
| Utilities                               | 2                     | 0           | \$0                            |
| Information                             | 25                    | 295         | \$47,214                       |
| Finance and Insurance                   | 148                   | 1,222       | \$79,513                       |
| Real Estate, Rental, Leasing            | 94                    | 333         | \$42,333                       |
| Professional and Tech. Servs.           | 214                   | 670         | \$58,138                       |
| Admin. and Waste Services               | 152                   | 2,153       | \$32,024                       |
| Educational Services                    | 57                    | 3,210       | \$39,908                       |
| Health Care and Social<br>Assistance    | 264                   | 6,482       | \$54,192                       |
| Arts, Entertain., and Recreation        | 37                    | 1,065       | \$34,068                       |
| Accommodation and Food<br>Service       | 226                   | 4,286       | \$18,591                       |
| Other Services                          | 204                   | 1,222       | \$29,847                       |
| Federal, State, & Local Govt.           | 54                    | 2,937       | \$53,250                       |

\* Data is not available

Source: STATS Indiana Online

## **2. Area Income**

According to the American Community Survey (ACS), as of the year 2022, Monroe Township had a median household income (MHI) of \$58,926 per year, which lies above the poverty rate of \$44,627.

### **1.4 Community Engagement**

Project planning should include but not be limited to helping the community develop an understanding of the need for the project, the utility operational service levels required, and funding/revenue strategies to meet these requirements.

To engage the community regarding the project represented in this report, a public meeting will be held, which will be a forum for presenting the major elements of this project, and the benefits it will bring to the community.

## Section 2 – Existing Facilities

### 2.1 Location Map

The proposed Madison County Regional Utility District (MCRUD) would service all unincorporated areas within Monroe Township (within Madison County) which are not currently afforded sanitary sewer service by existing Certified Treatment Areas (CTA's). Other excluded areas are any state parks or state-owned lands such as areas owned by the Department of Natural Resources. These unincorporated areas currently utilize small, individual residential onsite effluent disposal facilities (septic systems), many of which have been confirmed by the County Health Department to be approaching the end of their useful lives and at risk of failing. This assessment of a Regional Utility District and its proposed infrastructure projects is in response to an IDEM Violation Notice (Case No. 2023-29179-W) issued to Madison County Commissioners on May 24, 2023 (provided in **Appendix A1**).

### 2.2 History

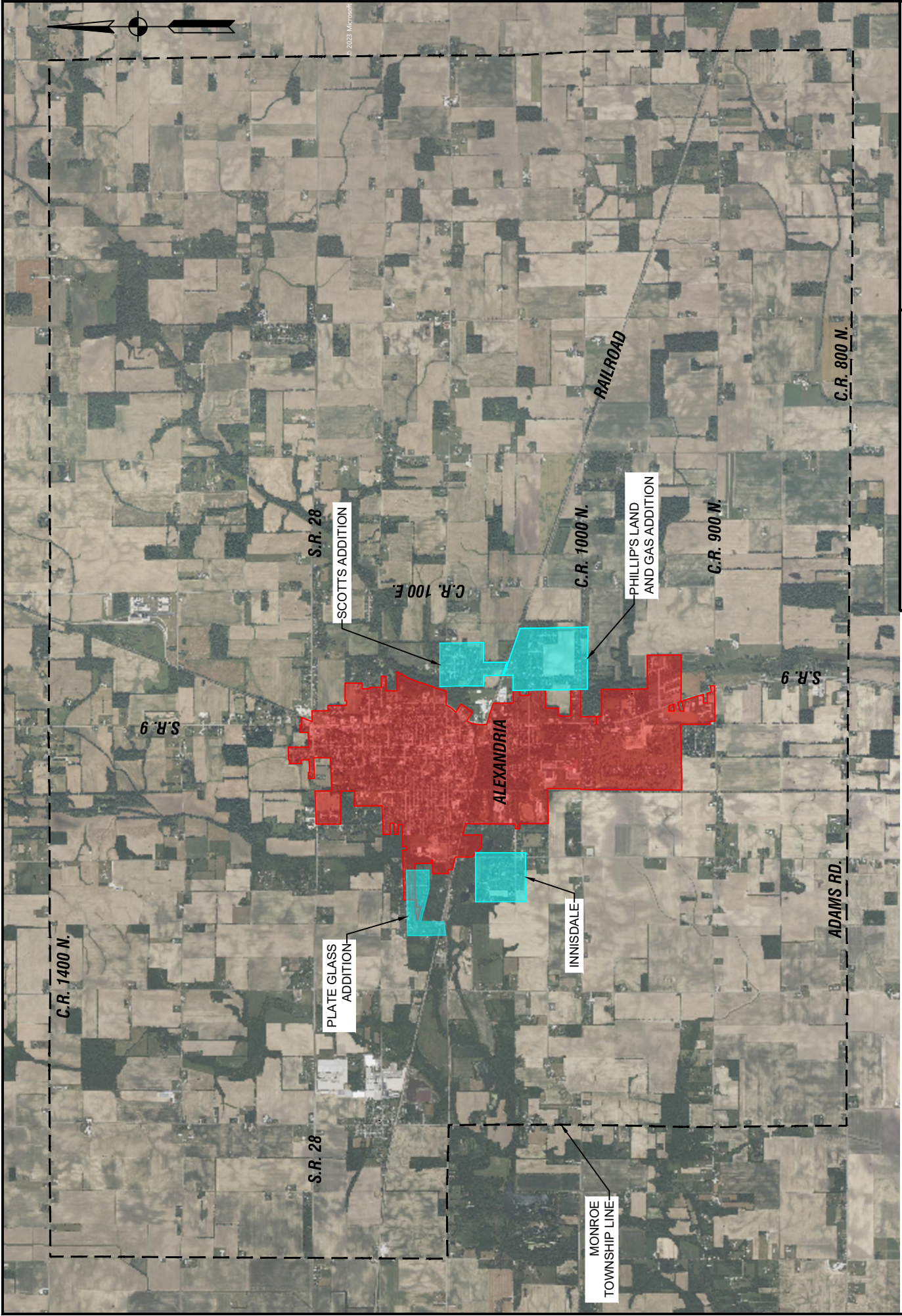
Within Monroe Township, only the incorporated community of Alexandria is excluded from this evaluation as it currently owns and operates a municipal wastewater treatment facility. For the remaining residents within Monroe Township, wastewater treatment and disposal are provided through small onsite septic systems. These types of systems pose a hazard to public health as they can leak significant concentrations of biological contaminants into local ground and surface water supplies. Many of the existing septic systems within Monroe Township are approaching the end of their useful lives and at risk of failing. To mitigate this risk, the County seeks to afford more residents the opportunity to connect to a safe and reliable wastewater collection system.

The following **Table 2-1** identifies and prioritizes the initial areas of concern as noted by County officials. For the purpose of this assessment, project alternatives will only be evaluated for the areas of Scotts Addition and the Phillips Land and Gas Addition. These areas are shown graphically in **Figure 2-1** through **Figure 2-4**.

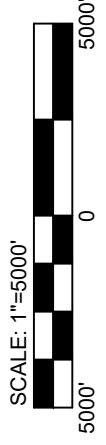
**Table 2-1**  
**Unsewered Areas of Concern**

| Priority | Location                       |
|----------|--------------------------------|
| 1        | Scotts Addition                |
| 2        | Phillips Land and Gas Addition |
| 3        | Innisdale                      |
| 4        | Plate Glass Addition           |



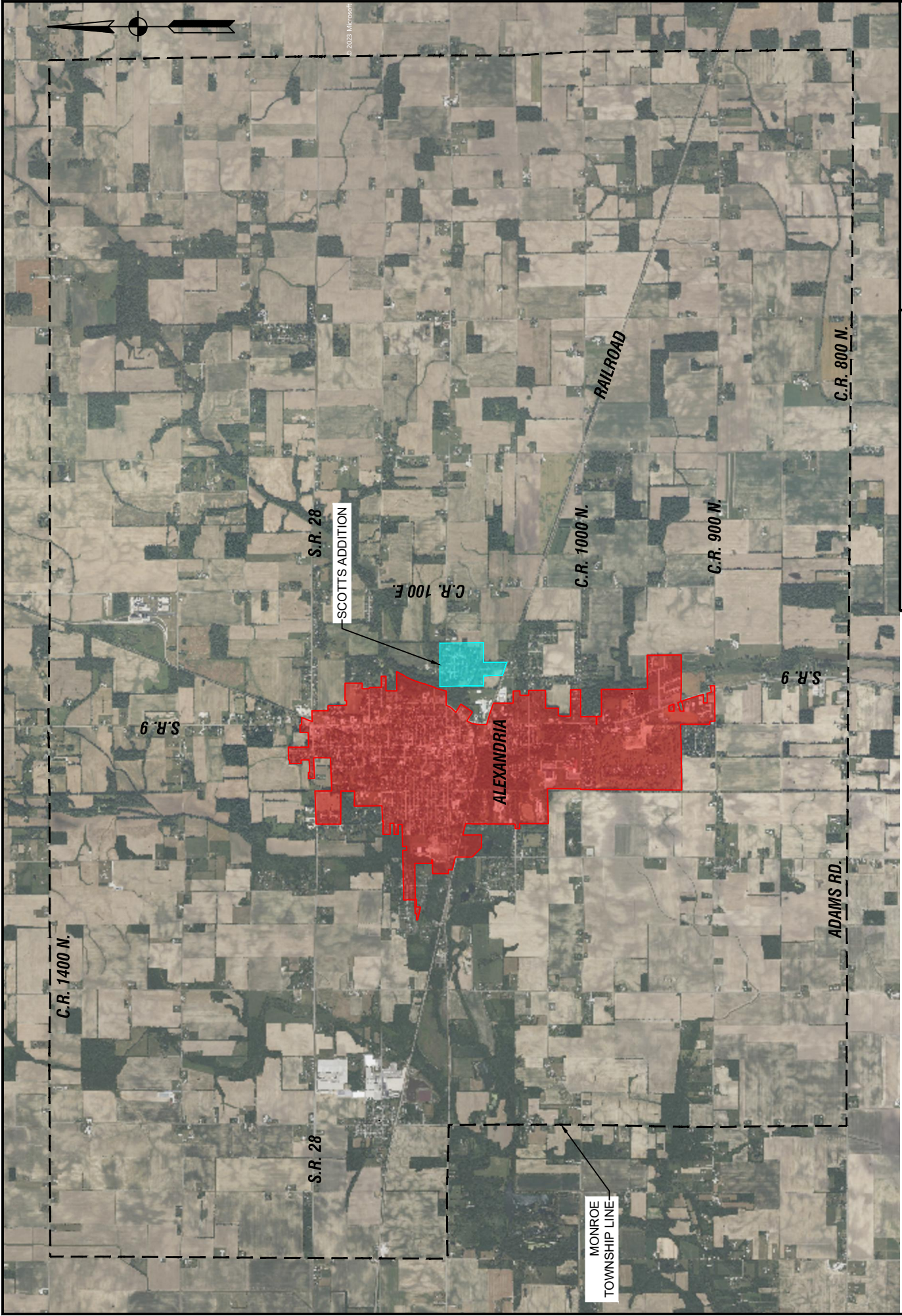


--- MONROE TOWNSHIP BOUNDARY  
ALEXANDRIA CORPORATION LIMITS  
PROPOSED RUD PROJECT AREAS  
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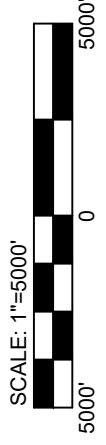


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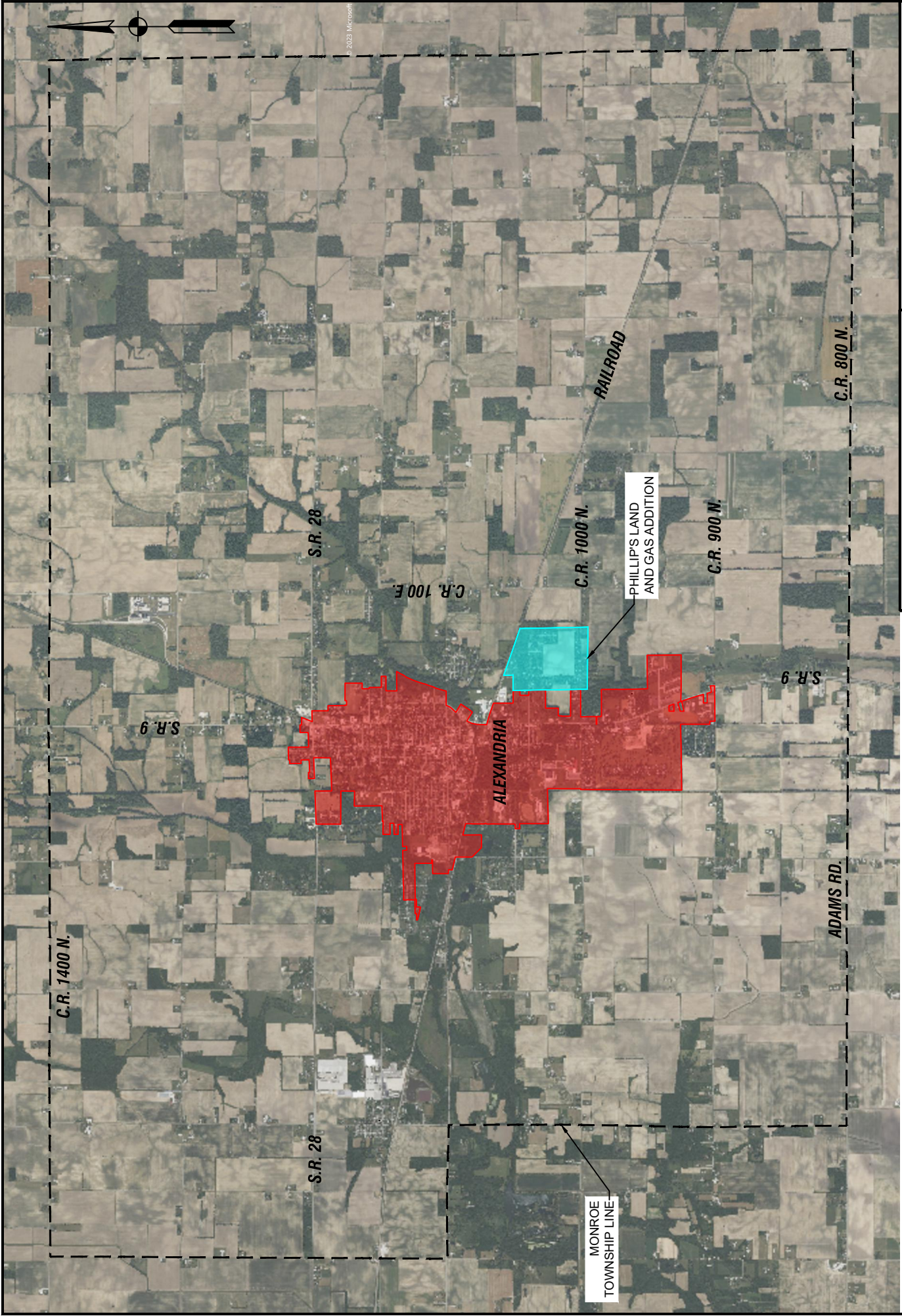




- MONROE TOWNSHIP BOUNDARY
- ALEXANDRIA CORPORATION LIMITS
- PROPOSED RUD PROJECT AREAS

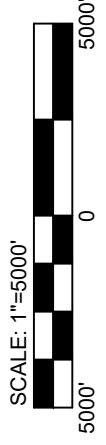






--- MONROE TOWNSHIP BOUNDARY  
[Red Outline] ALEXANDRIA CORPORATION LIMITS  
[Cyan Outline] PROPOSED RUD PROJECT AREAS

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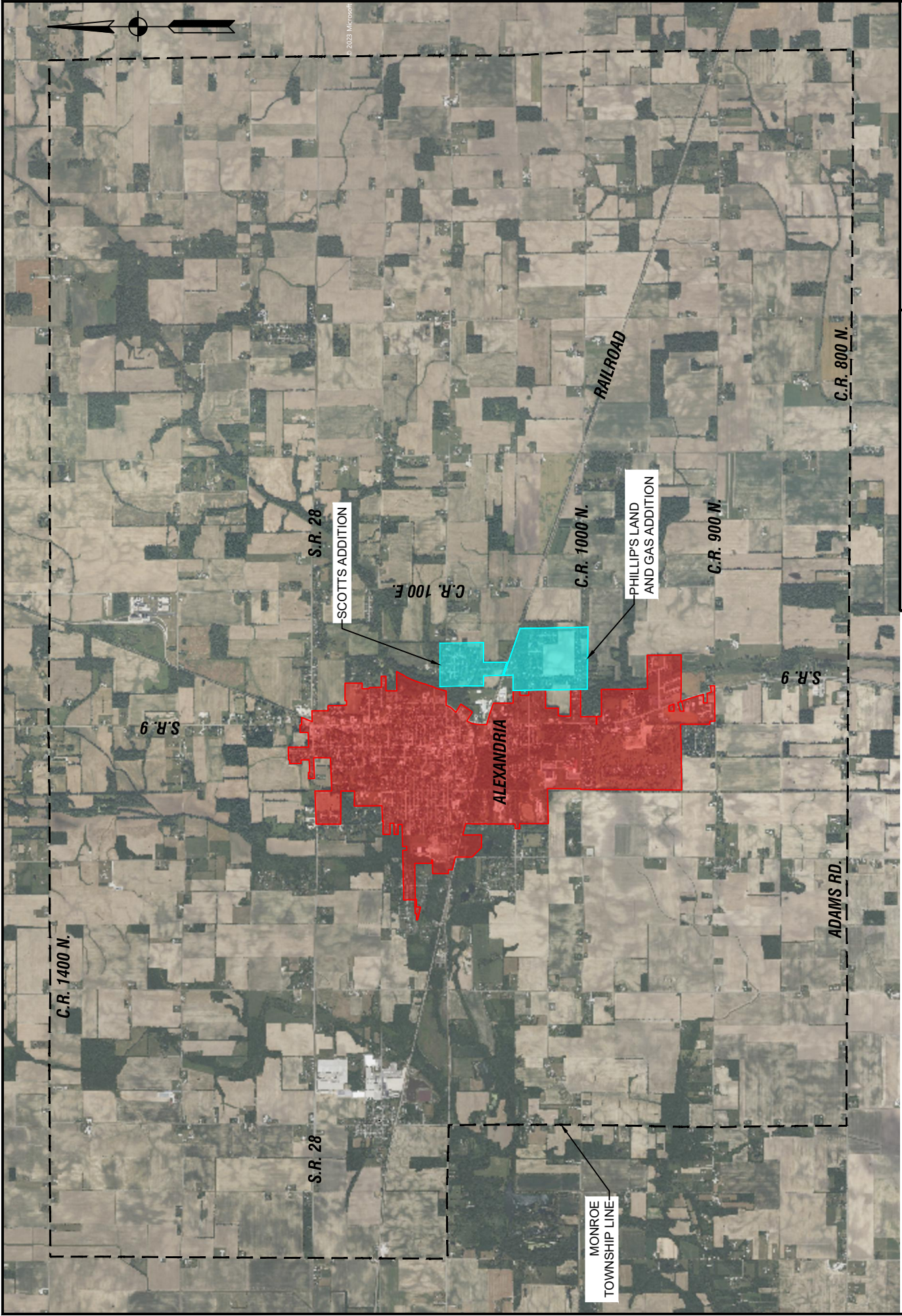


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|                                                               |
|---------------------------------------------------------------|
| MADISON COUNTY, INDIANA                                       |
| PRELIMINARY ENGINEERING REPORT                                |
| PROPOSED MADISON COUNTY RUD<br>PHILLIPS LAND AND GAS ADDITION |

FIGURE 2-3





--- MONROE TOWNSHIP BOUNDARY  
[Red Box] ALEXANDRIA CORPORATION LIMITS  
[Cyan Box] PROPOSED RUD PROJECT AREAS

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To support this initiative, the County Commissioners have petitioned the Indiana Department of Environmental Management (IDEM) for the purpose of forming, maintaining, and operating a Regional Utility District. A copy of the Madison County Compliance Plan (Agreed Order Case No. 2023-29179-W) is included in **Appendix A2**. The need for a proposed utility district has long been recognized by residents and businesses throughout Madison County. Additionally, the absence of a reliable regional wastewater utility has contributed to the suppression of economic and community development and environmental contamination in some areas of the proposed District.

## **2.3 Condition of Existing Facilities**

As noted above, the condition of many of the existing onsite septic systems throughout Monroe Township has deteriorated to the point where failure is anticipated in the near future. In many instances, replacement of these systems is not feasible due to cost, soil conditions, and / or parcel size. The purpose of developing a reliable wastewater utility will be to reduce environmental pollution, potential contamination of ground and surface water supplies, and improve the overall public health, safety, and welfare of the current and future residents of Madison County.

## **2.4 Financial Status of Existing Facilities**

### **A. Existing Rate Schedule**

Since the proposed District does not currently exist, there are no existing rates and charges defined for the County's proposed customer base. Upon formation of the proposed District, a comprehensive financial evaluation will be required to establish future rates and charges, inclusive of interlocal agreements with existing CTAs.

### **B. Annual Operation and Maintenance Expenses**

Since the proposed District does not currently exist, there are no existing operation and maintenance expenses defined for the County's proposed customer base. Upon formation of the proposed District, the comprehensive financial evaluation described above will take into consideration anticipated operation and maintenance expenses.

### **C. Annual Income**

Since the proposed District does not currently exist, there is no existing revenue / income to report. Future revenue will be collected based upon rates and charges established for the proposed utility.

### **D. Users and EDUs**

The number of existing equivalent dwelling units (EDUs) initially anticipated within the proposed District is presented in the following **Table 2-2**. For this report, one (1) EDU is equal to one (1) residential dwelling.



**Table 2-2  
Estimated Existing EDUs**

| Priority | Location                       | Equivalent Dwelling Unit (EDU) |
|----------|--------------------------------|--------------------------------|
| 1        | Scotts Addition                | 106                            |
| 2        | Phillips Land and Gas Addition | 126                            |

**E. Existing Loans**

Since the proposed District does not currently exist, there is no outstanding debt. Future debt may be required to support capital improvements within the proposed District.

**F. Existing Short-Lived Assets**

Since the proposed District does not currently exist, there are no short-lived assets to report in this Section. In the future, assets will be identified in support of proposed capital improvements.

## Section 3 – Need for Project

The purpose of this section is to identify system needs and deficiencies based on a thorough evaluation of available information and issues noted by Madison County (throughout Monroe Township). Proposed solutions to target the needs described herein are discussed in the following section of this report.

### 3.1 Health, Sanitation, and Security

Currently, many of the proposed District's customers rely upon onsite septic systems that are approaching or have already surpassed the end of their useful lives. Failure of these types of onsite systems can cause untreated wastewater to be released into the environment. Most, if not all, of these customers use groundwater wells for their potable water supply. When the septic systems fail, the risk of groundwater contamination, and subsequently drinking water contamination, increases. These issues with the septic tanks must be addressed to eliminate future groundwater contamination.

### 3.2 Aging Infrastructure

As discussed in **Section 2 – Existing Facilities**, it was noted that many onsite septic systems throughout unincorporated areas of Monroe Township are nearing the end of their useful life or have surpassed their useful life. In some cases, the costs associated with replacement of these systems can be a significant burden on the residents. In other cases, soil conditions and / or parcel size are not sufficient to support continued utilization of onsite septic systems.

### 3.3 Reasonable Growth

As mentioned in **Section 1 – Project Planning**, the population is projected to have an assumed nominal growth rate of 0.5%. That said, the creation of a reliable, regional utility district is critical to supporting the existing and future residents of Madison County. Additionally, it will promote growth and economic development throughout the County.

## Section 4 – Alternatives Considered

As described in prior report sections, many of the current septic systems within Madison County are approaching or have surpassed their useful lives and need to be replaced and / or eliminated. It was noted that in many cases, replacement with a completely new system is not economically viable or prohibitive due to limitations associated with parcel size and existing soil conditions. Therefore, a more economically feasible way to collect and transport wastewater is necessary. In this Section, alternative solutions for the areas of Scotts Addition and Phillips Land and Gas Addition are presented as a potential remedy for these issues. Detailed construction cost estimates have been developed for each alternative and are included in **Appendix B**.

### 4.1 Gravity Sewer Alternatives

#### A. Alternative 1.0 - No Action Alternative

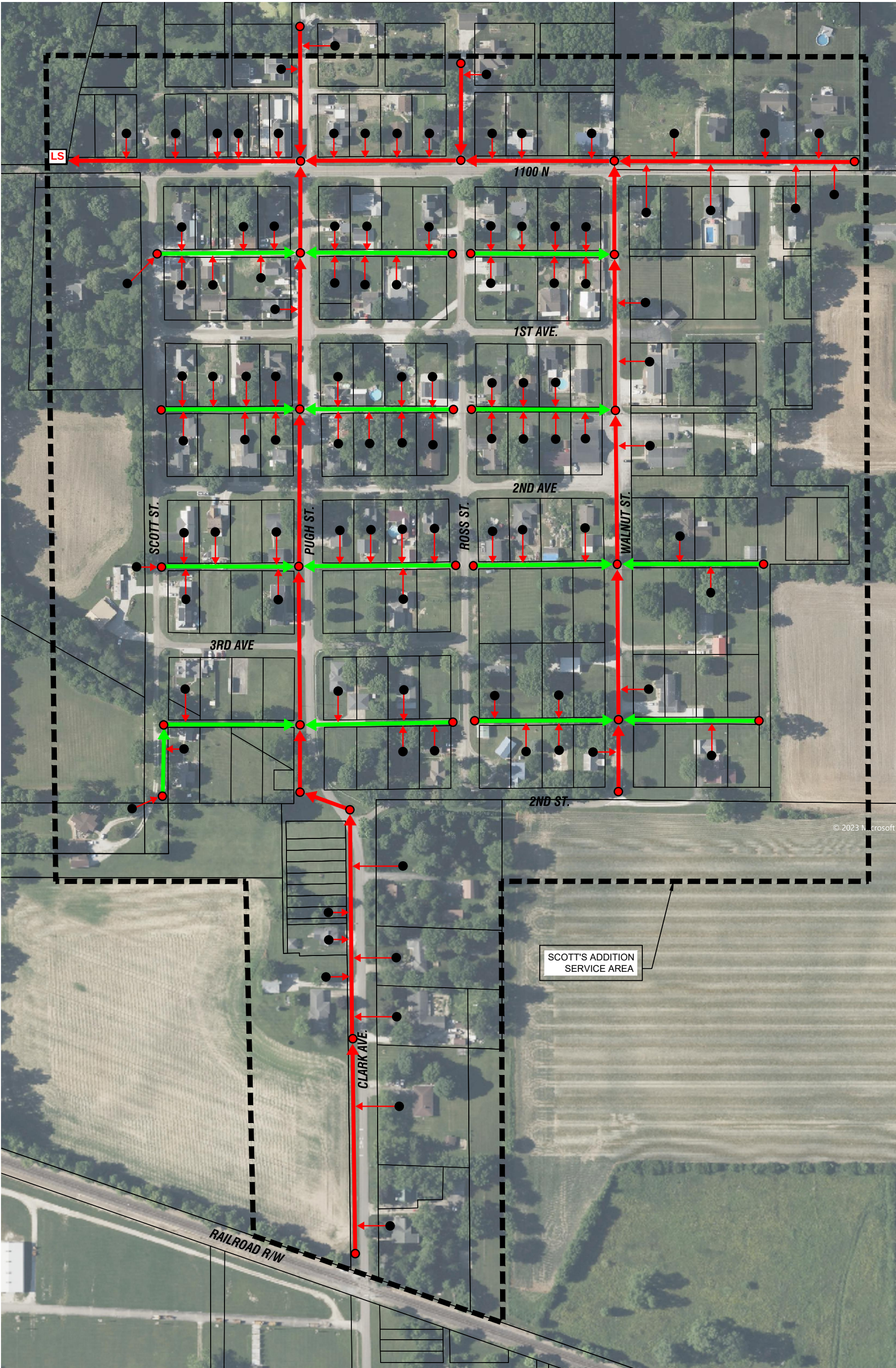
If no action is taken, the County's residents will continue to face high costs associated with replacing the septic systems. Furthermore, the risk associated with environmental contamination of ground and surface water supplies will remain high. The "No Action" Alternative also fails to uphold the Agreed Order (Case No. 2023-29179-W) established between Indiana Department of Environmental Management (IDEM) and the Madison County Commissioners to address unpermitted/unauthorized discharge to Pipe Creek from the unincorporated area known as Scotts Addition.

#### B. Alternative 1.1 - New Gravity Sewer for Scotts Addition

This alternative proposes a new gravity sewer collection system inclusive of mainline gravity sewers, laterals extending to existing rights-of-way, manhole structures, and a lift station and force main to be built to provide reliable service to the residents throughout Scotts Addition. Flows would be collected and pumped to Alexandria for treatment and disposal. The limits of each service connection would consist of a sanitary cleanout installed at the public right-of-way. Septic systems are presumed to be located in the back of the properties near the existing alley right-of-way. Connection to the new gravity system will involve disconnecting the septic system discharge from existing tile, which has connections from a variety of sources, e.g. sump pumps. The location, size, condition, and material of the existing tile is unknown. A conceptual layout of the proposed gravity sewer alternative is illustrated in **Figure 4-1**. A conceptual layout of the proposed force main alignment to Alexandria is illustrated in **Figure 4-7**. A summary of the proposed collection system infrastructure for Scotts Addition is summarized in the following **Table 4-1**.



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LEGEND

- LS** PROPOSED LIFT STATION
- PROPOSED SANITARY MANHOLE
- PROPOSED CONNECTION
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY LATERAL

SCOTT'S ADDITION MAP

Scale: 1" = 200'

SCALE: 1"=200'



- GRANULAR
- NON GRANULAR



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FIGURE 4-1 SCOTT'S ADDITION  
ALTERNATIVE 1.1 - GRAVITY SEWER



## 1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands. A portion of force main from the lift station to the discharge point in Alexandria's collection system will be located within a floodplain. However, it is intended to be installed via horizontal directional drilling to avoid construction activity within the floodway. All construction, with the exception of the lift station site, is expected to take place on previously disturbed land located within State and County right-of-way. Acquisition of the lift station site will be completed once the appropriate location is coordinated with and selected by Madison County.

## 2. Land Requirements

Permanent land acquisition is not anticipated for any of the proposed improvements for this alternative, except for the lift station. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing rights-of-way or utility easements.

## 3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

## 4. Cost Estimate

**Table 4-1 and Table 4-2** summarize the estimated capital costs and annual O&M&R costs for the proposed Scotts Addition gravity sewer under this alternative.

**Table 4-1**  
**Alternative 1.1 – New Gravity Sanitary Sewer for Scotts Addition**  
**Construction Cost Estimate**

| Item No.                    | Item                                            | Qty    | Unit | Unit Cost    | Cost                  |
|-----------------------------|-------------------------------------------------|--------|------|--------------|-----------------------|
| 1                           | Mobilization and Demobilization                 | 1      | LS   | \$178,200.00 | \$178,200.00          |
| 2                           | 8" Gravity Sewer (10'-15') - GR                 | 3,500  | LF   | \$180.00     | \$630,000.00          |
| 3                           | 8" Gravity Sewer (10'-15') - NG                 | 4,300  | LF   | \$110.00     | \$473,000.00          |
| 4                           | 8" Gravity Sewer (15'-20') - GR                 | 1,900  | LF   | \$225.00     | \$427,500.00          |
| 5                           | 8" Gravity Sewer (20'-25') - GR                 | 500    | LF   | \$325.00     | \$162,500.00          |
| 6                           | Sanitary Sewer Manhole, 48-inch dia. (10-15 ft) | 24     | EA   | \$7,000.00   | \$168,000.00          |
| 7                           | Sanitary Sewer Manhole, 48-inch dia. (15-20 ft) | 7      | EA   | \$8,000.00   | \$56,000.00           |
| 8                           | Sanitary Sewer Manhole, 48-inch dia. (20-25 ft) | 1      | EA   | \$12,500.00  | \$12,500.00           |
| 9                           | Interior Manhole Drop                           | 6      | EA   | \$12,000.00  | \$72,000.00           |
| 10                          | 6" Gravity Sanitary Service Lateral             | 2400   | LF   | \$65.00      | \$156,000.00          |
| 11                          | 8"x6" Wye Fittings                              | 118    | EA   | \$300.00     | \$35,400.00           |
| 12                          | 6" Slant Stacks                                 | 118    | EA   | \$300.00     | \$35,400.00           |
| 13                          | 6" Lateral Cleanouts                            | 118    | EA   | \$500.00     | \$59,000.00           |
| 14                          | Lift Station and Generator                      | 1      | LS   | \$486,000.00 | \$486,000.00          |
| 15                          | 6" Force Main, Directionally Drilled            | 3,000  | LF   | \$130.00     | \$390,000.00          |
| 16                          | 6" Force Main, Jack and Bore                    | 220    | LF   | \$60.00      | \$13,200.00           |
| 17                          | 12" Casing Pipe for Jack and Bore               | 220    | LF   | \$500.00     | \$110,000.00          |
| 18                          | Force Main Locate Box and Marker                | 6      | EA   | \$1,500.00   | \$9,000.00            |
| 19                          | New FM Connection to Gravity Sewer              | 1      | LS   | \$4,000.00   | \$4,000.00            |
| 20                          | HMA, Surface, Type B, 9.5 mm                    | 568    | TON  | \$110.00     | \$62,600.00           |
| 21                          | Asphalt for Tack Coat                           | 27,200 | SY   | \$0.75       | \$20,400.00           |
| 22                          | Utility Coordination and Potholing Allowance    | 1      | ALW  | \$40,000.00  | \$40,000.00           |
| 23                          | Local Electric Utility Allowance                | 1      | ALW  | \$40,000.00  | \$40,000.00           |
| 24                          | Dewatering                                      | 1      | LS   | \$100,000.00 | \$100,000.00          |
| 25                          | Erosion Control                                 | 1      | LS   | \$106,900.00 | \$106,900.00          |
| 26                          | Final Grading and Seeding                       | 1      | LS   | \$71,300.00  | \$71,300.00           |
| 27                          | Construction Engineering                        | 1      | LS   | \$106,900.00 | \$106,900.00          |
| <b>Subtotal</b>             |                                                 |        |      |              | <b>\$4,025,800.00</b> |
| <b>Contingency (10%)</b>    |                                                 |        |      |              | <b>\$402,600.00</b>   |
| <b>BABA Allowance (10%)</b> |                                                 |        |      |              | <b>\$402,600.00</b>   |
| <b>Total</b>                |                                                 |        |      |              | <b>\$4,831,000.00</b> |



**Table 4-2**  
**Alternative 1.1 – New Gravity Sanitary Sewer for Scotts Addition**  
**System O&M&R Cost**

| Manpower                                             | Amount   | Units | per   | Annual Amount |                 |
|------------------------------------------------------|----------|-------|-------|---------------|-----------------|
| Maintenance                                          | 0.25     | hours | Week  | 13 hours      | \$650           |
| Electrical                                           | 268.5    | KW    | Daily | 97,985        | \$2,000         |
| <b>Total Estimated O&amp;M</b>                       |          |       |       |               | <b>\$2,650</b>  |
| <b>Short Lived Assets/Equipment Replacement Cost</b> |          |       |       |               |                 |
| Lift Station Pumps                                   | \$80,000 | Every | 15    | Years         | \$5,333         |
| Lift Station Pump Motors                             | \$25,000 | Every | 15    | Years         | \$1,666         |
| Lift Station Control Panel                           | \$40,000 | Every | 15    | Years         | \$2,666         |
| Lift Station Flow Meter                              | \$15,000 | Every | 15    | Years         | \$1,000         |
| <b>Total Estimated Annual Replacement Cost</b>       |          |       |       |               | <b>\$10,665</b> |

**Table 4-3** summarizes the total estimated project costs for the Scotts Addition project area. For planning purposes, a 25% multiplier to account for non-construction related project costs has been included.

**Table 4-3**  
**Alternative 1.1 – New Gravity Sanitary Sewer for Scotts Addition**  
**Summary of Estimated Total Project Costs**

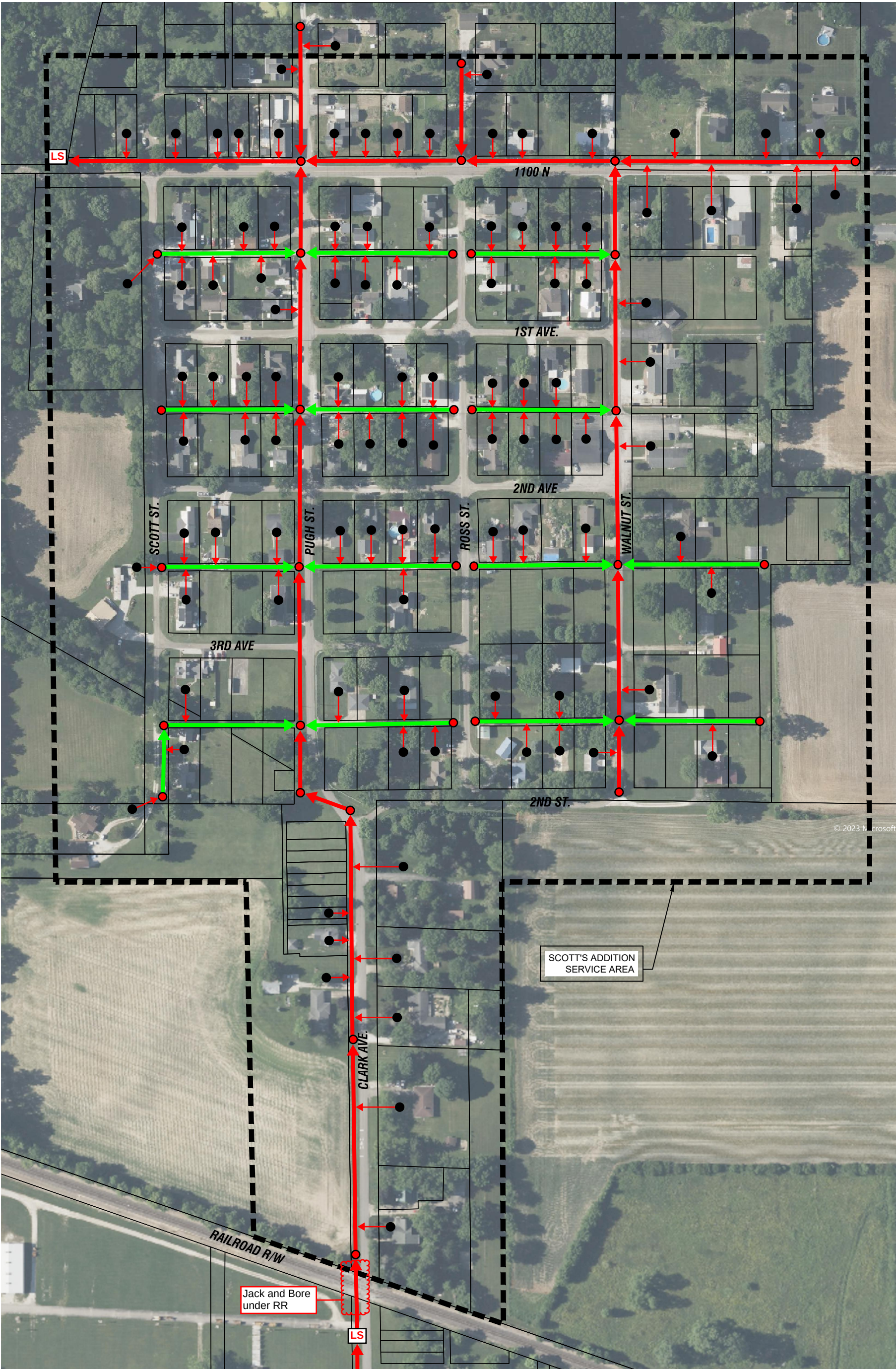
|                                                | Estimated Cost     |
|------------------------------------------------|--------------------|
| <b>Estimated Construction Subtotal:</b>        | <b>\$4,025,800</b> |
| <b>Contingency and BABA:</b>                   | <b>\$805,200</b>   |
| <b>Estimated Non-Construction Costs (25%):</b> | <b>\$1,207,750</b> |
| <b>Total Estimated Project Costs:</b>          | <b>\$6,038,750</b> |

### **C. Alternative 1.2 - New Gravity Sewer for Both Scotts and Phillips Addition**

This alternative proposes a new gravity sewer collection system inclusive of mainline gravity sewers, laterals extending to existing rights-of-way, manhole structures, and (2) lift stations to be built to provide reliable service to the residents throughout Scotts Addition and Phillips Land and Gas Addition. Eliminating the Phillips Addition lift station by deepening the Scotts Addition lift station and conveying flows via gravity was considered but deemed cost prohibitive due to excessive depths. These flows would be collected and pumped to Alexandria for treatment and disposal. The limits of each service connection would consist of a sanitary cleanout installed at the public right-of-way. Connection of the Phillips Addition service area would require a casing for the force main to be installed via jack and bore below the CSX Railroad which separates each service area. A conceptual layout of the proposed gravity sewer alternative for both Scotts Addition and Phillips Addition is illustrated in **Figure 4-2** and **Figure 4-3**. A summary of the additional collection system infrastructure proposed for the Phillips Land and Gas Addition only is summarized in the following **Table 4-4**.



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LEGEND

- LS** PROPOSED LIFT STATION
- PROPOSED SANITARY MANHOLE
- PROPOSED CONNECTION
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY LATERAL

SCOTT'S ADDITION MAP

Scale: 1" = 200'

SCALE: 1"=200'



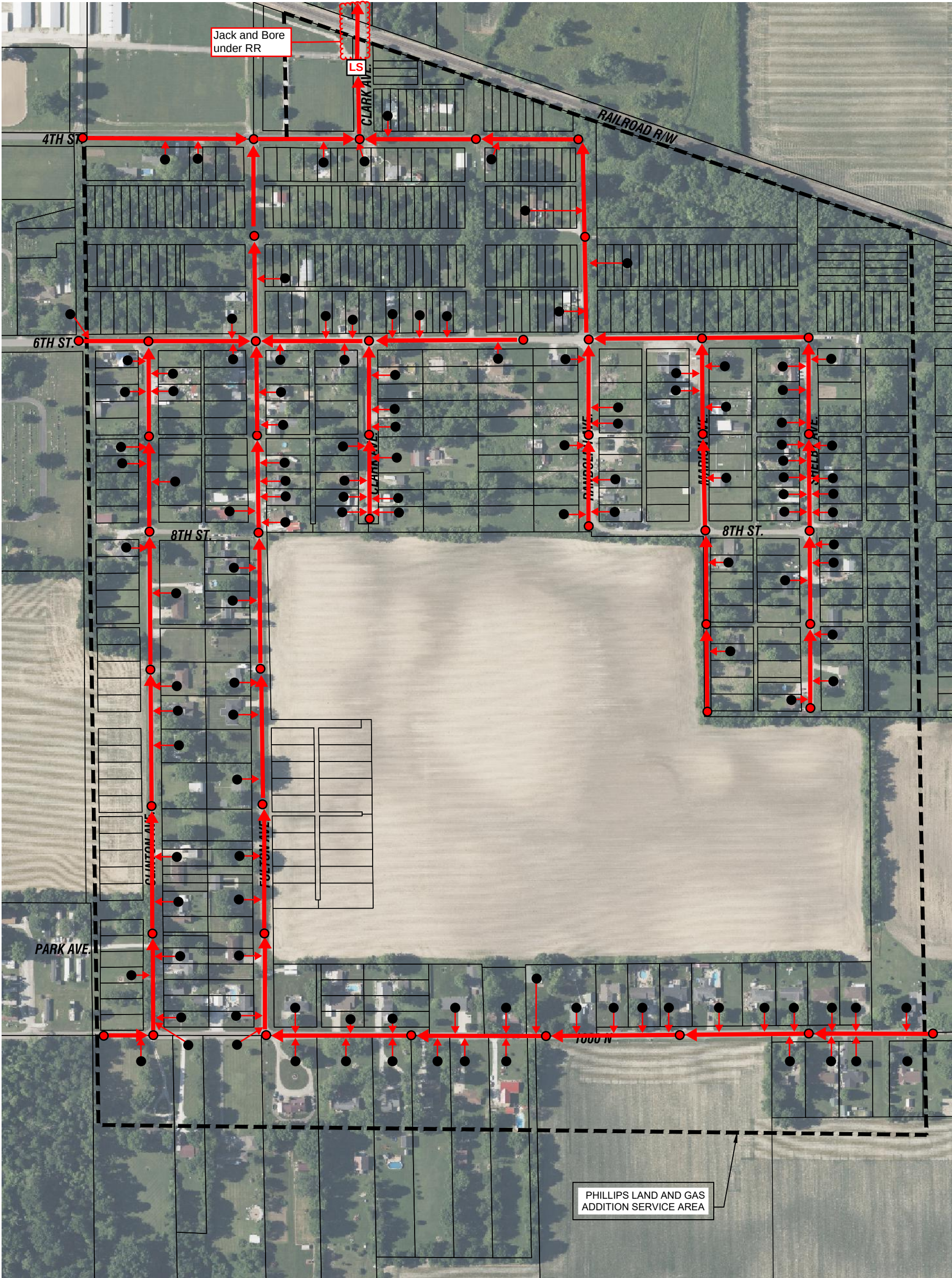
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FIGURE 4-2 SCOTT'S ADDITION  
ALTERNATIVE 1.2 - GRAVITY SEWER





**PHILLIPS LAND AND GAS ADDITION MAP**  
Scale: 1" = 300'

LEGEND

LS

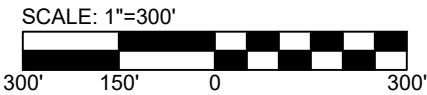
PROPOSED LIFT STATION

PROPOSED SANITARY MANHOLE

PROPOSED CONNECTION

PROPOSED SANITARY SEWER

PROPOSED SANITARY LATERAL



GRANULAR

NON GRANULAR

MADISON COUNTY, INDIANA  
WASTEWATER INFRASTRUCTURE AND  
MANAGERIAL NEEDS ASSESSMENT  
FIGURE 4-3 PHILLIPS LAND AND GAS ADDITION  
ALTERNATIVE 1.2 - GRAVITY SEWER



## 1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands. A portion of force main from the lift station to the discharge point in Alexandria's collection system will be located within a floodplain. However, it is intended to be installed via horizontal directional drilling to avoid construction activity within the floodway. All construction, with the exception of the lift station site, is expected to take place on previously disturbed land located within State and County rights-of-way. Acquisition of the lift station sites will be completed once the appropriate location is coordinated with and selected by Madison County.

## 2. Land Requirements

Permanent land acquisition is not anticipated for any of the proposed improvements for this alternative, except for the lift station. A temporary construction easement may be required for access and installation of the new gravity sewer; however, it is expected that any collection system improvements will be permanently located within existing rights-of-way or utility easements.

## 3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

## 4. Cost Estimate

**Table 4-4 and Table 4-5** summarize the estimated capital costs and annual O&M&R costs for the additional Phillips Land and Gas Addition gravity sewer under this alternative.

**Table 4-4**  
**Alternative 1.2 – New Gravity Sanitary Sewer for Phillips Land and Gas Addition Only**  
**Construction Cost Estimate**

| Item No. | Item                                            | Qty    | Unit | Unit Cost     | Cost            |
|----------|-------------------------------------------------|--------|------|---------------|-----------------|
| 1        | Mobilization and Demobilization                 | 1      | LS   | \$ 343,500.00 | \$ 343,500.00   |
| 2        | 8" Gravity Sewer (10'-15') - GR                 | 6,200  | LF   | \$ 180.00     | \$ 1,116,000.00 |
| 3        | 8" Gravity Sewer (15'-20') - GR                 | 3,400  | LF   | \$ 225.00     | \$ 765,000.00   |
| 4        | 8" Gravity Sewer (20'-25') - GR                 | 2,500  | LF   | \$ 325.00     | \$ 812,500.00   |
| 5        | 8" Gravity Sewer (25'-30') - GR                 | 1,400  | LF   | \$ 2,000.00   | \$ 2,800,000.00 |
| 6        | Sanitary Sewer Manhole, 48-inch dia. (10-15 ft) | 23     | EA   | \$ 7,000.00   | \$ 161,000.00   |
| 7        | Sanitary Sewer Manhole, 48-inch dia. (15-20 ft) | 10     | EA   | \$ 8,000.00   | \$ 80,000.00    |
| 8        | Sanitary Sewer Manhole, 48-inch dia. (20-25 ft) | 6      | EA   | \$ 12,500.00  | \$ 75,000.00    |
| 9        | Sanitary Sewer Manhole, 48-inch dia. (25-30 ft) | 5      | EA   | \$ 18,000.00  | \$ 90,000.00    |
| 10       | Sanitary Sewer Manhole, 48-inch dia. (30-35 ft) | 1      | EA   | \$ 30,000.00  | \$ 30,000.00    |
| 11       | Interior Manhole Drop                           | 3      | EA   | \$ 12,000.00  | \$ 36,000.00    |
| 12       | 6" Gravity Sanitary Service Lateral             | 2,800  | LF   | \$ 65.00      | \$ 182,000.00   |
| 13       | 8"x6" Wye Fittings                              | 140    | EA   | \$ 300.00     | \$ 42,000.00    |
| 14       | 6" Slant Stacks                                 | 140    | EA   | \$ 300.00     | \$ 42,000.00    |
| 15       | 6" Lateral Cleanouts                            | 140    | EA   | \$ 500.00     | \$ 70,000.00    |
| 16       | Lift Station and Generator                      | 1      | LS   | \$ 300,000.00 | \$ 300,000.00   |
| 17       | 4" Force Main, Jack and Bore                    | 200    | LF   | \$ 60.00      | \$ 12,000.00    |
| 18       | 12" Casing Pipe for Jack and Bore               | 200    | LF   | \$ 500.00     | \$ 100,000.00   |
| 19       | Force Main Locate Box and Marker                | 1      | EA   | \$ 1,500.00   | \$ 1,500.00     |
| 20       | New FM Connection to Gravity Sewer              | 1      | LS   | \$ 4,000.00   | \$ 4,000.00     |
| 21       | HMA, Surface, Type B, 9.5 mm                    | 760    | TON  | \$ 110.00     | \$ 83,600.00    |
| 22       | Asphalt for Tack Coat                           | 36,000 | SY   | \$ 0.75       | \$ 27,000.00    |
| 23       | Utility Coordination and Potholing Allowance    | 1      | ALW  | \$ 5,000.00   | \$ 5,000.00     |
| 24       | Local Electric Utility Allowance                | 1      | ALW  | \$ 20,000.00  | \$ 20,000.00    |
| 25       | Dewatering                                      | 1      | LS   | \$ 15,000.00  | \$ 15,000.00    |

| Item No.                    | Item                      | Qty | Unit | Unit Cost     | Cost                   |
|-----------------------------|---------------------------|-----|------|---------------|------------------------|
| 26                          | Erosion Control           | 1   | LS   | \$ 206,100.00 | \$ 206,100.00          |
| 27                          | Final Grading and Seeding | 1   | LS   | \$ 137,400.00 | \$ 137,400.00          |
| 28                          | Construction Engineering  | 1   | LS   | \$ 206,100.00 | \$ 206,100.00          |
| <b>Subtotal</b>             |                           |     |      |               | <b>\$ 7,762,700.00</b> |
| <b>Contingency (10%)</b>    |                           |     |      |               | <b>\$ 776,300.00</b>   |
| <b>BABA Allowance (10%)</b> |                           |     |      |               | <b>\$ 776,300.00</b>   |
| <b>Total</b>                |                           |     |      |               | <b>\$ 9,316,000.00</b> |

**Table 4-5**  
**Alternative 1.2 – New Gravity Sanitary Sewer for Phillips Land and Gas Addition Only**  
**System O&M&R Cost**

| Manpower                                             | Amount   | Units | per   | Annual Amount |                |
|------------------------------------------------------|----------|-------|-------|---------------|----------------|
| Maintenance                                          | 0.25     | hours | Week  | 13 hours      | \$650          |
| Electrical                                           | 134.4    | KW    | Daily | 49,056        | \$1,000        |
| <b>Total Estimated O&amp;M</b>                       |          |       |       |               | <b>\$1,650</b> |
| <b>Short Lived Assets/Equipment Replacement Cost</b> |          |       |       |               |                |
| Lift Station Pumps                                   | \$70,000 | Every | 15    | Years         | \$4,666        |
| Lift Station Pump Motors                             | \$20,000 | Every | 15    | Years         | \$1,333        |
| Lift Station Control Panel                           | \$35,000 | Every | 15    | Years         | \$2,333        |
| Lift Station Flow Meter                              | \$12,500 | Every | 15    | Years         | \$833          |
| <b>Total Estimated Annual Replacement Cost</b>       |          |       |       |               | <b>\$9,165</b> |

**Table 4-6** summarizes the total estimated project costs for the Phillips Land and Gas Addition project area. For planning purposes, a 25% multiplier to account for non-construction related project costs has been included.

**Table 4-6**  
**Alternative 1.2 – New Gravity Sanitary Sewer for Phillips Land and Gas Addition Only**  
**Summary of Estimated Total Project Costs**

|                                                | Estimated Cost      |
|------------------------------------------------|---------------------|
| <b>Estimated Construction Subtotal:</b>        | <b>\$7,762,700</b>  |
| <b>Contingency and BABA:</b>                   | <b>\$1,552,600</b>  |
| <b>Estimated Non-Construction Costs (25%):</b> | <b>\$2,329,000</b>  |
| <b>Total Estimated Project Costs:</b>          | <b>\$11,645,000</b> |

**Table 4-7** summarizes the total estimated project costs for both the Scotts Addition and Phillips Addition project areas. Total costs for each project area are presented separately, but assume both service areas will be developed as funding becomes available. For planning purposes, a 25% multiplier to account for non-construction related project costs has been included.



**Table 4-7**  
**Alternative 1.2 – New Gravity Sanitary Sewer for Both Scotts and Phillips Addition**  
**Summary of Estimated Total Project Costs**

| Item                            | Cost                    |
|---------------------------------|-------------------------|
| Scotts Addition Gravity Sewer   | \$ 4,831,000.00         |
| Phillips Addition Gravity Sewer | \$ 9,316,000.00         |
| <b>TOTAL CONSTRUCTION COST</b>  | <b>\$ 14,147,000.00</b> |
| Non-Construction Costs (25%)    | \$ 3,536,750.00         |
| <b>TOTAL PROJECT COST</b>       | <b>\$ 17,683,750.00</b> |

## 4.2 Low Pressure Sewer (LPS) Alternatives

### A. Alternative 2.0 - No Action Alternative

If no action is taken, the County's residents will continue to face high costs associated with replacing the septic systems. Furthermore, the risk associated with environmental contamination of ground and surface water supplies will remain high. The "No Action" Alternative also fails to uphold the Agreed Order (Case No. 2023-29179-W) established between Indiana Department of Environmental Management (IDEM) and the Madison County Commissioners to address unpermitted/unauthorized discharge to Pipe Creek from the unincorporated area known as Scotts Addition.

### B. Alternative 2.1 - New LPS for Scotts Addition

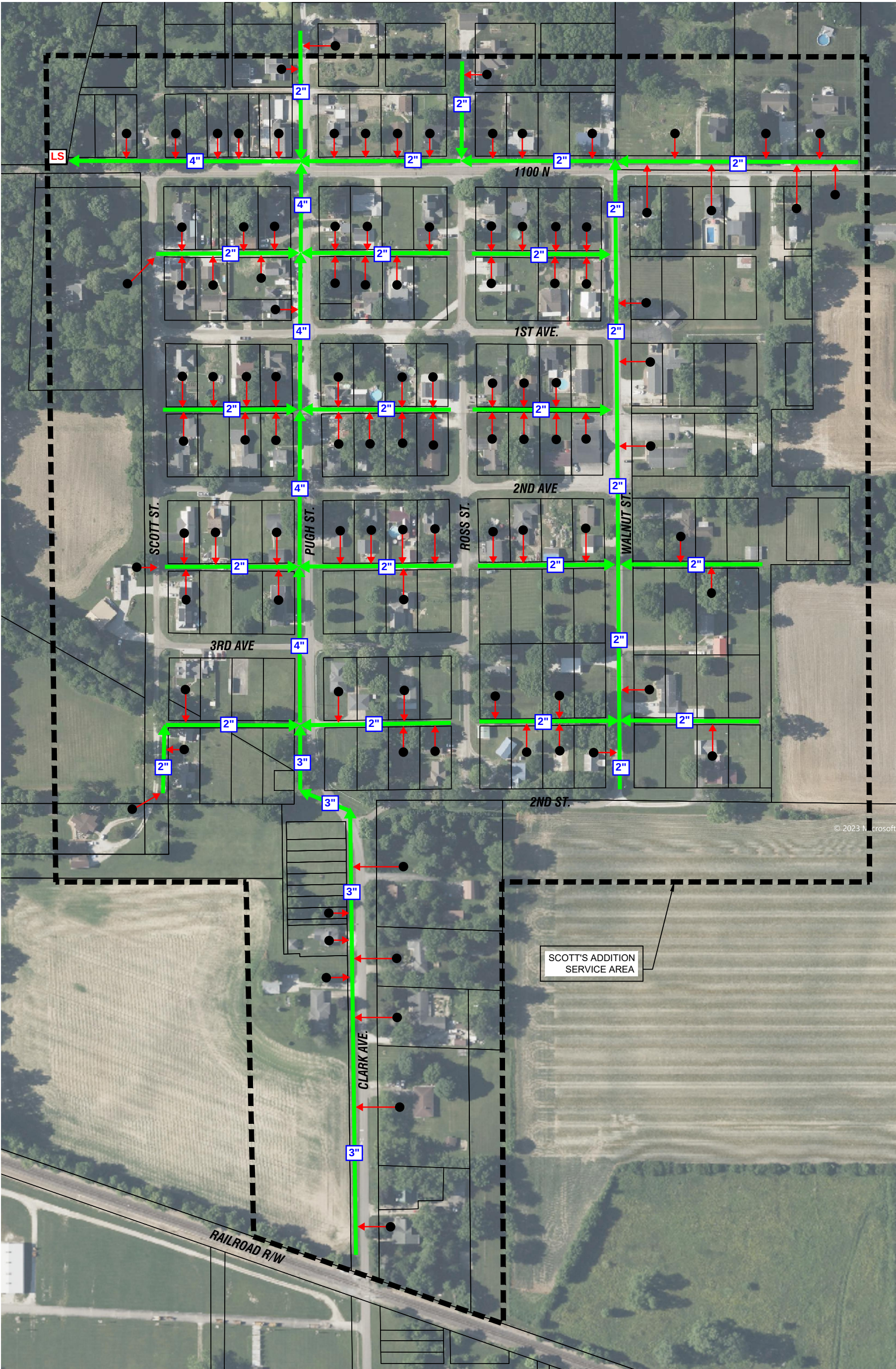
This alternative proposes a new low pressure sewer system inclusive of installing low pressure sewer lines and service lines from the grinder pump basin to the right-of-way, grinder pump, basin, and electrical panel, abandonment of the septic system, and connection of existing lateral to grinder pump station and lift station in Scotts Addition and force main to discharge to Alexandria's collection system to provide reliable service to the residents and businesses in Scotts Addition. Flows would be collected and pumped to Alexandria for treatment and disposal.

Low pressure sewer mains will collect flows from residential dwellings and will be located within existing rights-of-way. All flows will be discharged into a main lift station that will pump directly to the Alexandria WWTP. Air release valves will be installed at points of high pressure in the pressure mains.

The proposed LPS service area is depicted graphically in **Figure 4-4**. A conceptual layout of the proposed force main alignment to Alexandria is illustrated in **Figure 4-7**. A summary of the proposed collection system infrastructure for Scotts Addition is summarized in the following **Table 4-8**.



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SCOTT'S ADDITION MAP

Scale: 1" = 200'

LEGEND

LS

PROPOSED LIFT STATION

●

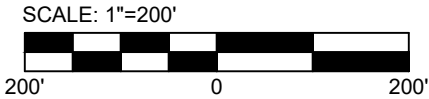
PROPOSED CONNECTION

→

PROPOSED SANITARY LPS

→

PROPOSED SANITARY LATERAL



|                                                                     |
|---------------------------------------------------------------------|
| MADISON COUNTY, INDIANA                                             |
| WASTEWATER INFRASTRUCTURE AND<br>MANAGERIAL NEEDS ASSESSMENT        |
| FIGURE 4-4 SCOTT'S ADDITION<br>ALTERNATIVE 2.1 - LOW PRESSURE SEWER |



## **1. Environmental Impacts**

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands. A portion of force main from the lift station to the discharge point in Alexandria's collection system will be located within a floodplain. However, it is intended to be installed via horizontal directionally drilling to avoid construction activity within the floodway. All construction, with the exception of the lift station site, is expected to take place on previously disturbed land located within State and County rights-of-way. Acquisition of the lift station sites will be completed once the appropriate location is coordinated with and selected by Madison County.

## **2. Land Requirements**

Permanent land acquisition is not anticipated for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new sewer; however, it is expected that any collection system improvements will be permanently located within existing rights-of-way or utility easements.

## **3. Potential Construction Problems**

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

## **4. Cost Estimate**

**Tables 4-8 and 4-9** summarize the estimated construction and annual O&M&R costs for the proposed Scotts Addition LPS sewer under this alternative. Madison County RUD intends to subsidize the initial LPS grinder pump station and service line costs. Each homeowner would then be responsible for future operations and maintenance costs. Therefore, O&M&R costs for the grinder pumps and electrical panels were not included.



**Table 4-8**  
**Alternative 2.1 – New LPS for Scotts Addition**  
**Construction Cost Estimate**

| Item No.                    | Item                                           | Qty   | Unit | Unit Cost     | Cost                   |
|-----------------------------|------------------------------------------------|-------|------|---------------|------------------------|
| 1                           | Mobilization and Demobilization                | 1     | LS   | \$ 161,400.00 | \$ 161,400.00          |
| 2                           | 2" HDPE Pressure Main (HDD)                    | 7,000 | LF   | \$ 25.00      | \$ 175,000.00          |
| 3                           | 3" HDPE Pressure Main (HDD)                    | 1,400 | LF   | \$ 30.00      | \$ 42,000.00           |
| 4                           | 4" HDPE Pressure Main (HDD)                    | 1,700 | LF   | \$ 35.00      | \$ 59,500.00           |
| 5                           | Terminal Flushing Connections                  | 8     | EA   | \$ 10,000.00  | \$ 80,000.00           |
| 6                           | 1.5" LPS Service Laterals and Curb Boxes       | 1     | LS   | \$ 175,000.00 | \$ 175,000.00          |
| 7                           | Simplex Grinder Pump Station and Control Panel | 118   | EA   | \$ 7,500.00   | \$ 885,000.00          |
| 8                           | 1.5" LPS Service Lateral and Connection        | 118   | EA   | \$ 3,000.00   | \$ 354,000.00          |
| 9                           | Existing Septic System Abandonment             | 1     | LS   | \$ 250,000.00 | \$ 250,000.00          |
| 10                          | Lift Station and Generator                     | 1     | LS   | \$ 486,000.00 | \$ 486,000.00          |
| 11                          | 6" Force Main, Directionally Drilled           | 3,000 | LF   | \$ 130.00     | \$ 390,000.00          |
| 12                          | 6" Force Main, Jack and Bore                   | 220   | LF   | \$ 60.00      | \$ 13,200.00           |
| 13                          | 12" Casing Pipe for Jack and Bore              | 220   | LF   | \$ 500.00     | \$ 110,000.00          |
| 14                          | Force Main Locate Box and Marker               | 6     | EA   | \$ 1,500.00   | \$ 9,000.00            |
| 15                          | New FM Connection to Gravity Sewer             | 1     | LS   | \$ 4,000.00   | \$ 4,000.00            |
| 16                          | HMA, Surface, Type B, 9.5 mm                   | 130   | TON  | \$ 110.00     | \$ 14,300.00           |
| 17                          | Asphalt for Tack Coat                          | 5,830 | SY   | \$ 0.75       | \$ 4,400.00            |
| 18                          | Utility Coordination and Potholing Allowance   | 1     | ALW  | \$ 25,000.00  | \$ 25,000.00           |
| 19                          | Local Electric Utility Allowance               | 1     | ALW  | \$ 50,000.00  | \$ 50,000.00           |
| 20                          | Dewatering                                     | 1     | LS   | \$ 100,000.00 | \$ 100,000.00          |
| 21                          | Erosion Control                                | 1     | LS   | \$ 96,800.00  | \$ 96,800.00           |
| 22                          | Final Grading and Seeding                      | 1     | LS   | \$ 64,600.00  | \$ 64,600.00           |
| 23                          | Construction Engineering                       | 1     | LS   | \$ 96,800.00  | \$ 96,800.00           |
| <b>Subtotal</b>             |                                                |       |      |               | <b>\$ 3,646,000.00</b> |
| <b>Contingency (10%)</b>    |                                                |       |      |               | <b>\$ 364,600.00</b>   |
| <b>BABA Allowance (10%)</b> |                                                |       |      |               | <b>\$ 364,600.00</b>   |
| <b>Total</b>                |                                                |       |      |               | <b>\$ 4,376,000.00</b> |

**Table 4-9**  
**Alternative 2.1 – New LPS for Scotts Addition**  
**System O&M&R Cost**

| Manpower                                             | Amount   | Units | per   | Annual Amount |                 |
|------------------------------------------------------|----------|-------|-------|---------------|-----------------|
| Maintenance                                          | 0.25     | hours | Week  | 13 hours      | \$650           |
| Electrical                                           | 268.5    | KW    | Daily | 97,985        | \$2,000         |
| <b>Total Estimated O&amp;M</b>                       |          |       |       |               | <b>\$2,650</b>  |
| <b>Short Lived Assets/Equipment Replacement Cost</b> |          |       |       |               |                 |
| Lift Station Pumps                                   | \$80,000 | Every | 15    | Years         | \$5,333         |
| Lift Station Pump Motors                             | \$25,000 | Every | 15    | Years         | \$1,666         |
| Lift Station Control Panel                           | \$40,000 | Every | 15    | Years         | \$2,666         |
| Lift Station Flow Meter                              | \$15,000 | Every | 15    | Years         | \$1,000         |
| <b>Total Estimated Annual Replacement Cost</b>       |          |       |       |               | <b>\$10,665</b> |

**Table 4-10** summarizes the total estimated project costs for Scotts Addition to Alexandria project area. For planning purposes, a 25% multiplier to account for non-construction related project costs has been included.

**Table 4-10**  
**Alternative 2.1 – New LPS for Scotts Addition**  
**Summary of Estimated Total Project Costs**

|                                                | Estimated Cost        |
|------------------------------------------------|-----------------------|
| <b>Estimated Construction Subtotal:</b>        | <b>\$3,646,000.00</b> |
| <b>Contingency and BABA:</b>                   | <b>\$729,200.00</b>   |
| <b>Estimated Non-Construction Costs (25%):</b> | <b>\$1,094,000.00</b> |
| <b>Total Estimated Project Costs:</b>          | <b>\$5,470,000.00</b> |

**C. Alternative 2.2 - New LPS for Both Scotts and Phillips Addition**

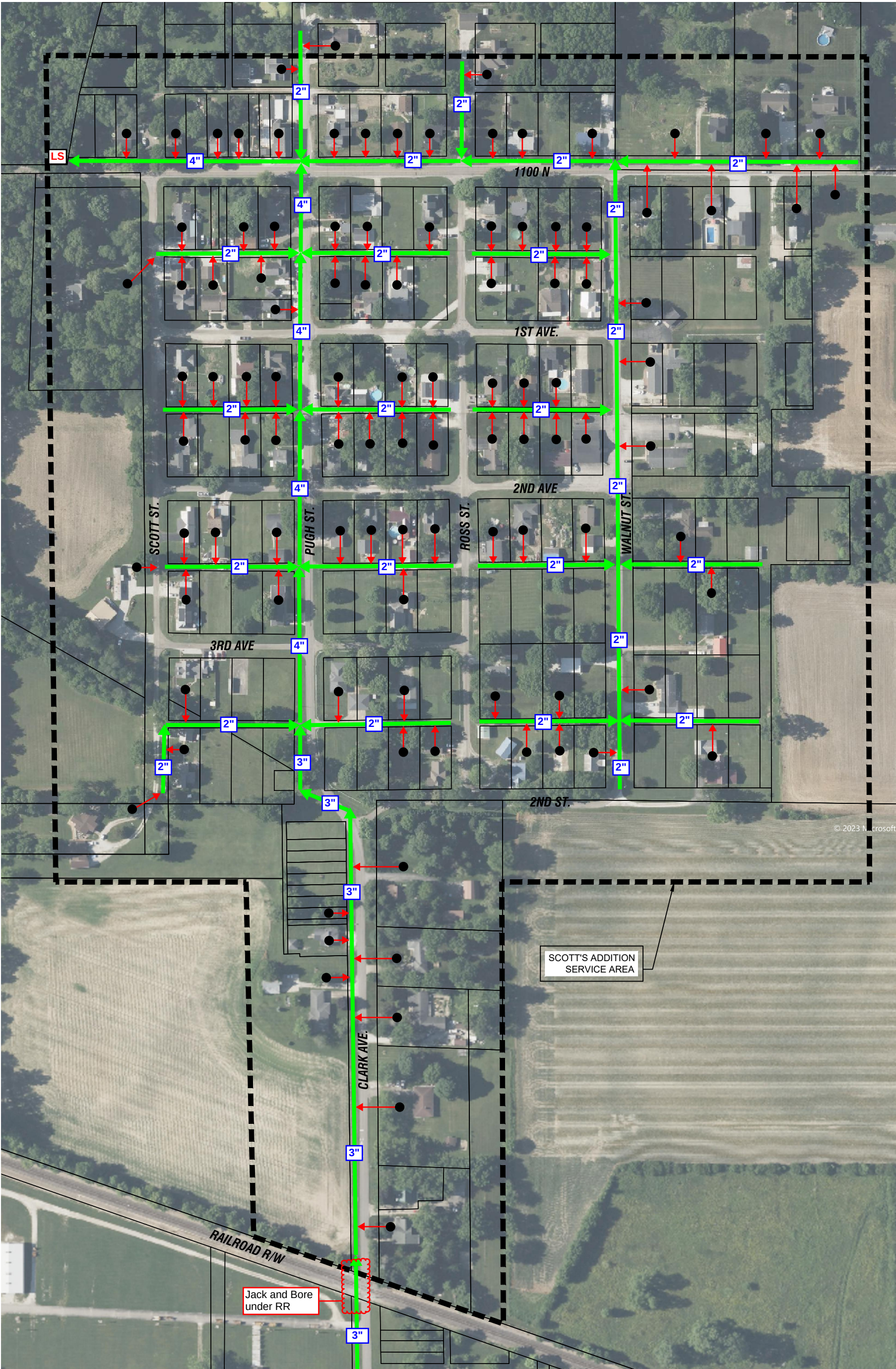
This alternative proposes a new low pressure sewer system inclusive of service lines to the right-of-way, pump station in both Scotts and Phillips Addition and force main to discharge to Alexandria’s collection system to provide reliable service to the residents and businesses in both Scotts and Phillips Addition. Flows would be collected and pumped to Alexandria for treatment and disposal.

Low pressure sewer mains will collect flows from residential dwellings and will be located within existing right-of-ways. All flows will be discharged into a main lift station that will pump directly to the Alexandria WWTP. Air release valves will be installed at points of high pressure in the pressure mains.

The proposed LPS service area is depicted graphically in **Figure 4-5** and **Figure 4-6**.



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SCOTT'S ADDITION MAP

Scale: 1" = 200'

LEGEND

LS

PROPOSED LIFT STATION

●

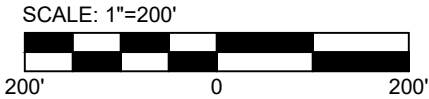
PROPOSED CONNECTION

→

PROPOSED SANITARY LPS

→

PROPOSED SANITARY LATERAL

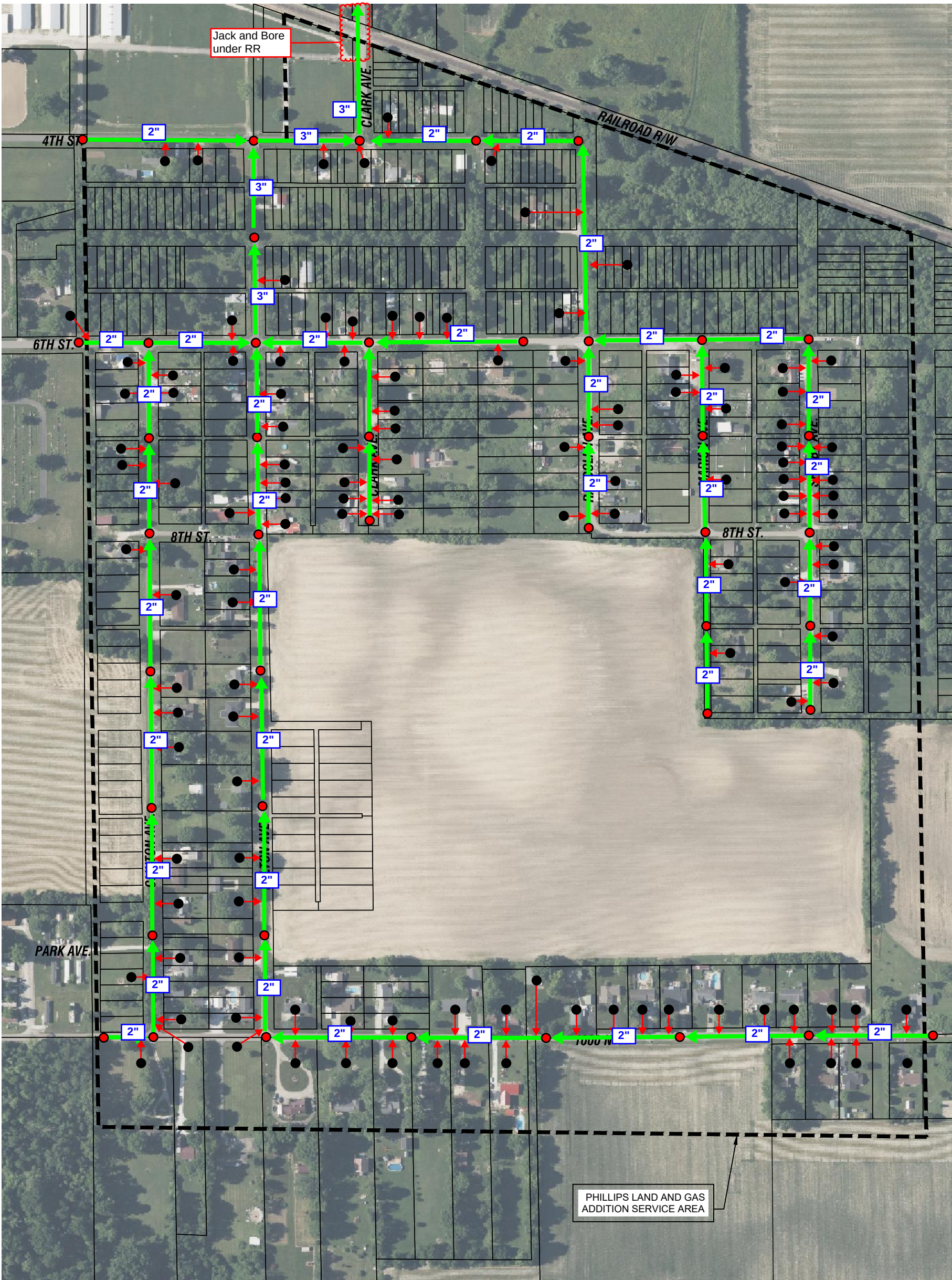


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|---------------------------------------------------------------------|
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| WASTEWATER INFRASTRUCTURE AND<br>MANAGERIAL NEEDS ASSESSMENT        |
| FIGURE 4-5 SCOTT'S ADDITION<br>ALTERNATIVE 2.2 - LOW PRESSURE SEWER |



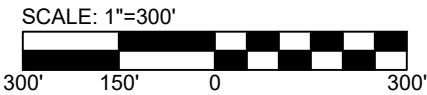
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**PHILLIPS LAND AND GAS ADDITION MAP**  
Scale: 1" = 300'

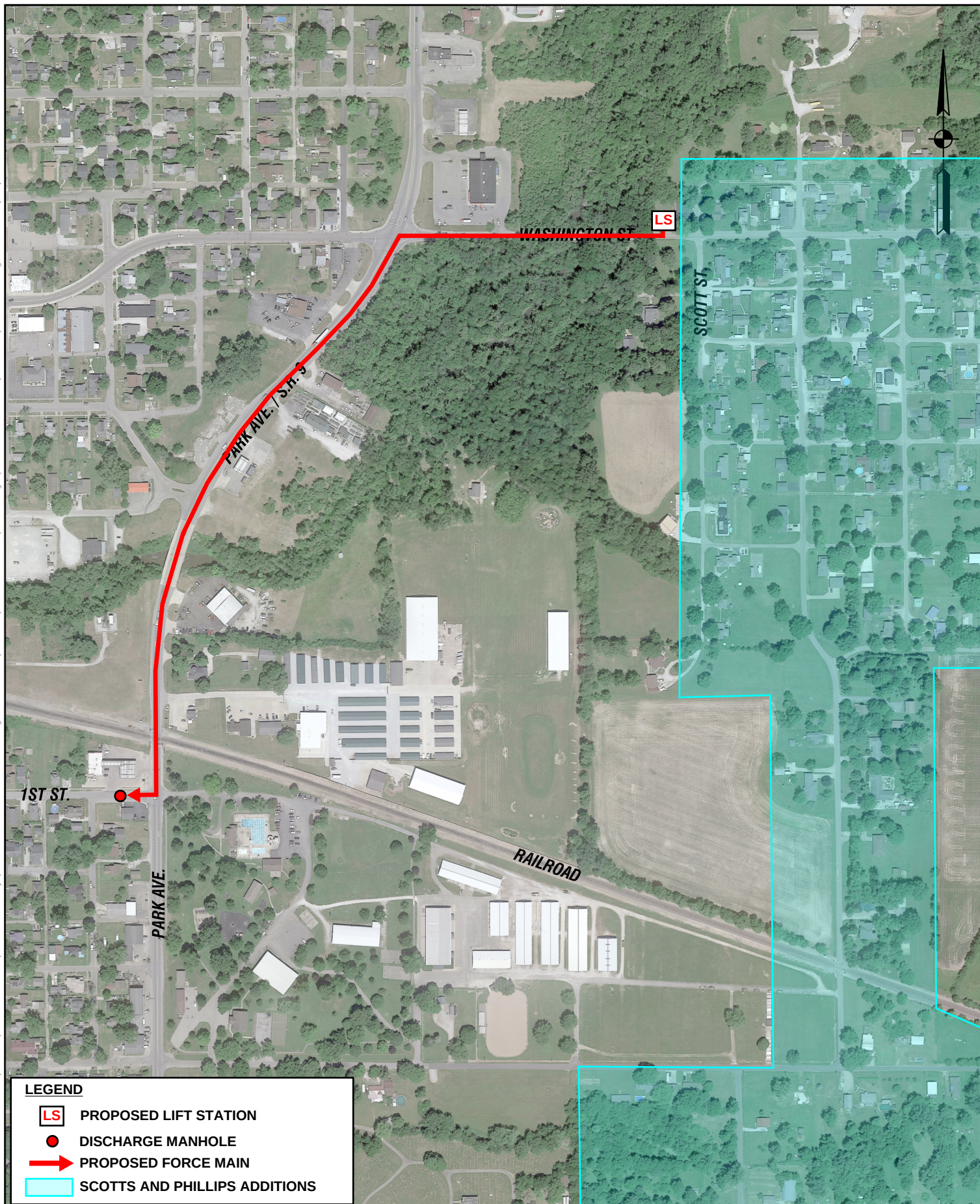
**LEGEND**

- LS** PROPOSED LIFT STATION
- PROPOSED CONNECTION
- PROPOSED SANITARY LPS
- PROPOSED SANITARY LATERAL



|                                                                                   |
|-----------------------------------------------------------------------------------|
| MADISON COUNTY, INDIANA                                                           |
| WASTEWATER INFRASTRUCTURE AND<br>MANAGERIAL NEEDS ASSESSMENT                      |
| FIGURE 4-6 PHILLIPS LAND AND GAS ADDITION<br>ALTERNATIVE 2.2 - LOW PRESSURE SEWER |





**LEGEND**



PROPOSED LIFT STATION



DISCHARGE MANHOLE

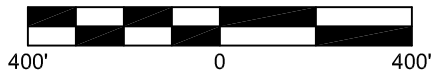


PROPOSED FORCE MAIN

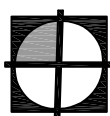


SCOTTS AND PHILLIPS ADDITIONS

SCALE: 1"=400'



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MADISON COUNTY, INDIANA  
PRELIMINARY ENGINEERING REPORT  
FORCE MAIN ALIGNMENT TO  
ALEXANDRIA COLLECTION SYSTEM  
FIGURE 4-7



## 1. Environmental Impacts

The environmental impacts of this alternative are expected to be minimal. The improvements associated with this alternative will not disturb any wetlands. A portion of force main from the lift station to the discharge point in Alexandria's collection system will be located within a floodplain. However, it is intended to be installed via horizontal directionally drilling to avoid construction activity within the floodway. All construction, with the exception of the lift station site, is expected to take place on previously disturbed land located within State and County rights-of-way. Acquisition of the lift station sites will be completed once the appropriate location is coordinated with and selected by Madison County.

## 2. Land Requirements

Permanent land acquisition is not anticipated for any of the proposed improvements for this alternative. A temporary construction easement may be required for access and installation of the new sewer; however, it is expected that any collection system improvements will be permanently located within existing rights-of-way or utility easements.

## 3. Potential Construction Problems

Temporary construction impacts include the potential for noise, dust, and erosion control requirement, which will be addressed within the contract documents during the design phase. The work associated with these upgrades is expected to take place during normal work hours. Erosion control measures include offsite sedimentation control and drainage inlet protection. Dust control practices will be specified in the contract documents and required to be implemented in accordance with current practices.

## 4. Cost Estimate

**Table 4-11** summarizes the estimated construction and annual O&M&R costs for the proposed Scotts Addition LPS sewer under this alternative. Madison County RUD intends to subsidize the initial LPS grinder pump station and service line costs. Each homeowner would then be responsible for future operations and maintenance costs. Therefore, O&M&R costs for the grinder pumps and electrical panels were not included.



**Table 4-11**  
**Alternative 4.2.2 – New LPS for Phillips Land and Gas Addition Only**  
**Construction Cost Estimate**

| Item No.                    | Item                                           | Qty    | Unit | Unit Cost     | Cost                   |
|-----------------------------|------------------------------------------------|--------|------|---------------|------------------------|
| 1                           | Mobilization and Demobilization                | 1      | LS   | \$ 128,700.00 | \$ 128,700.00          |
| 2                           | 2" HDPE Pressure Main (HDD)                    | 13,600 | LF   | \$ 25.00      | \$ 340,000.00          |
| 3                           | 3" HDPE Pressure Main (HDD)                    | 1,200  | LF   | \$ 30.00      | \$ 36,000.00           |
| 4                           | Terminal Flushing Connections                  | 8      | EA   | \$ 10,000.00  | \$ 80,000.00           |
| 5                           | 1.5" LPS Service Laterals and Curb Boxes       | 1      | LS   | \$ 175,000.00 | \$ 175,000.00          |
| 6                           | Simplex Grinder Pump Station and Control Panel | 140    | EA   | \$ 7,500.00   | \$ 1,050,000.00        |
| 7                           | 1.5" LPS Service Lateral and Connection        | 140    | EA   | \$ 3,000.00   | \$ 420,000.00          |
| 8                           | Existing Septic System Abandonment             | 1      | LS   | \$ 300,000.00 | \$ 300,000.00          |
| 9                           | 8" Casing Pipe for Jack and Bore               | 200    | LF   | \$ 450.00     | \$ 90,000.00           |
| 10                          | Force Main Locate Box and Marker               | 1      | EA   | \$ 1,500.00   | \$ 1,500.00            |
| 11                          | New FM Connection to Gravity Sewer             | 1      | LS   | \$ 4,000.00   | \$ 4,000.00            |
| 12                          | HMA, Surface, Type B, 9.5 mm                   | 150    | TON  | \$ 110.00     | \$ 16,500.00           |
| 13                          | Asphalt for Tack Coat                          | 6,890  | SY   | \$ 0.75       | \$ 5,200.00            |
| 14                          | Utility Coordination and Potholing Allowance   | 1      | ALW  | \$ 40,000.00  | \$ 40,000.00           |
| 15                          | Dewatering                                     | 1      | LS   | \$ 15,000.00  | \$ 15,000.00           |
| 16                          | Erosion Control                                | 1      | LS   | \$ 77,200.00  | \$ 77,200.00           |
| 17                          | Final Grading and Seeding                      | 1      | LS   | \$ 51,500.00  | \$ 51,500.00           |
| 18                          | Construction Engineering                       | 1      | LS   | \$ 77,200.00  | \$ 77,200.00           |
| <b>Subtotal</b>             |                                                |        |      |               | <b>\$ 2,907,800.00</b> |
| <b>Contingency (10%)</b>    |                                                |        |      |               | <b>\$ 290,800.00</b>   |
| <b>BABA Allowance (10%)</b> |                                                |        |      |               | <b>\$ 290,800.00</b>   |
| <b>Total</b>                |                                                |        |      |               | <b>\$ 3,490,000.00</b> |

**Table 4-12** summarizes the total estimated project costs for the Phillips Addition project area. For planning purposes, a 25% multiplier to account for non-construction related project costs has been included.

**Table 4-12**  
**Alternative 4.2.2 – New LPS for Both Scotts and Phillips Addition**  
**Summary of Estimated Total Project Costs**

|                                                | Estimated Cost        |
|------------------------------------------------|-----------------------|
| <b>Estimated Construction Subtotal:</b>        | <b>\$2,907,800.00</b> |
| <b>Contingency and BABA:</b>                   | <b>\$581,600.00</b>   |
| <b>Estimated Non-Construction Costs (25%):</b> | <b>\$872,500.00</b>   |
| <b>Total Estimated Project Costs:</b>          | <b>\$4,362,500.00</b> |

**Table 4-13** summarizes the total estimated project costs for both Scotts Addition and Phillips Addition project areas. Total costs for each project area are presented separately but assume both service areas will be developed as funding becomes available. For planning purposes, we have identified a 25% multiplier to account for non-construction related project costs.

**Table 4-13**  
**Alternative #2 – Summary of Estimated Total Project Costs**

| Item                           | Cost                   |
|--------------------------------|------------------------|
| Scotts Addition LPS            | \$ 4,376,000.00        |
| Phillips Addition LPS          | \$ 3,490,000.00        |
| <b>TOTAL CONSTRUCTION COST</b> | <b>\$ 7,866,000.00</b> |
| Non-Construction Costs (25%)   | \$ 1,966,500.00        |
| <b>TOTAL PROJECT COST</b>      | <b>\$ 9,832,500.00</b> |



## Section 5 – Selection of an Alternative

The proposed alternatives were presented in **Section 4 – Alternatives Considered**; this section details the comparative analysis used to recommend and option. A Life Cycle Cost Analysis was performed for each alternative based on the minimum requirements of the Water Resources Reform and Development Act of 2014. An economic analysis is useful in selecting the best alternative as it determines a measure of total money spent to implement any given alternative. The costs of the alternatives are compared on a “present worth” basis whereby the alternative with the smallest present worth is the least costly alternative to implement. Present worth may be thought of as the sum that if invested now at a given interest rate, would provide exactly the funds required to make all necessary expenditures during the life of the project.

The period of time considered in the analysis is 20 years, typically used for planning municipal infrastructure improvements. The analysis is dependent on the discount (interest) rate. In planning work for public wastewater treatment facilities, the federal discount rate is industry standard to use for this calculation, as can be found in OMB Circular No. A-94, **Appendix C**. The last published value is that of December 2023. The rate is 2.5% for a planning period of 20 years.

### 5.1 Life Cycle Cost Analysis

The various cost considerations for the ‘present worth’ analysis are as follows:

#### A. Construction Cost

Construction costs are capital costs to purchase and install the facilities and equipment. The costs are based on 2024-dollar values.

#### B. Project Related Cost

These costs are those needed for non-construction items that are necessary to develop and finance the project. Items included are design, construction related and start-up services, financial, legal, survey.

#### C. Total Estimated Project Capital Cost

Cost is the sum of the Estimated Construction Cost and the Project Related Costs.

#### D. Operation and Maintenance and Equipment Replacement Fund (O&M&R) Cost

The costs are based upon the following unit rate estimates:

- Labor costs are based on a rate of \$50.00 per hour, including benefits, overhead, and other overhead costs.
- Power costs are based on an electric rate of 8 cents per Kilowatt Hour (KWH).
- Equipment Replacement Fund annual cost is the annual funding needed to replace equipment that has an estimated service life of 15-years or less. The annual cost assigned is the purchase cost of the particular piece of equipment divided by its estimated life.

#### E. Salvage Value

The planning period used in the analysis is 20 years. At the end of 20 years, the structural and piping components have 20 or 30 years left to their useful life. The value of these assets is used to lower the present worth of the alternatives. Straight line depreciation is used.

#### F. Present Worth Analysis

The total present worth of an alternative is determined by summing the initial total project cost, present worth of the operation, maintenance and equipment replacement costs and subtracting the salvage value. Some of the multiplying factors to bring items to present worth current dollars based on the interest rate noted previously include:

- 15.59 to bring the 20 years of O&M&R costs back to present worth;
- 0.610 to convert year 20 salvage value back to present worth.

### 5.2 Alternative Analysis

#### A. Collection System Alternatives

##### 1. Present Worth Analysis

**Table 5-1** compares the Total Present Worth Value for the proposed alternatives presented in **Section 4**. The new low-pressure sewer system is the least cost alternative.



**Table 5-1**  
**Alternatives Summary**  
**Cost Effectiveness Comparison**

| Alternatives                                   | No Action  | Alternative 1: New Gravity Sewer System | Alternative 2: New Low Pressure Sewer System |
|------------------------------------------------|------------|-----------------------------------------|----------------------------------------------|
| <b>Cost Summary</b>                            |            |                                         |                                              |
| a. Estimated Construction Costs                | \$0        | \$14,147,000                            | \$7,8664,000                                 |
| b. Estimated Additional Non-Construction Costs | \$0        | \$3,536,750                             | \$1,966,500                                  |
| c. Estimated Annual O&M&R                      | \$0        | \$39,233                                | \$24,250                                     |
| d. Estimated Salvage Value                     | \$0        | \$3,312,357                             | \$1,033,615                                  |
| <b>Present Worth</b>                           |            |                                         |                                              |
| (20 years at 2.5%)                             |            |                                         |                                              |
| a. Total Capital Cost                          | \$0        | \$17,683,750                            | \$9,832,500                                  |
| b. Present Worth Annual O&M&R                  | \$0        | \$611,615                               | \$378,037                                    |
| (Present Worth Factor 15.59)                   |            |                                         |                                              |
| c. Present Worth Salvage                       | \$0        | \$2,021,435                             | \$630,785                                    |
| (Present Worth Factor 0.610)                   |            |                                         |                                              |
| <b>d. Total Present Worth</b>                  | <b>\$0</b> | <b>\$16,273,930</b>                     | <b>\$9,579,752</b>                           |
| (TPW = a + b – c)                              |            |                                         |                                              |

## 2. Non-Monetary Factors

Non-monetary factors such as social, environmental, and safety concerns should be considered in addition to costs. Social concerns may arise if no corrective action is taken and residents do not have access to an affordable wastewater disposal solution. Environmental concerns have been noted along with each alternative discussed in **Section 4 – Alternatives Considered**. Safety should be a top priority for utility personnel and the residents of Madison County. The corrective actions recommended herein included safety measures to reduce the potential risk to health and safety.

## 3. Phasing

It is recommended that the improvements be constructed in phases to provide affordability and re-prioritization upon successful implementation of each phase.

## Section 6 – Recommended Alternative

### 6.1 Recommended Improvements Project

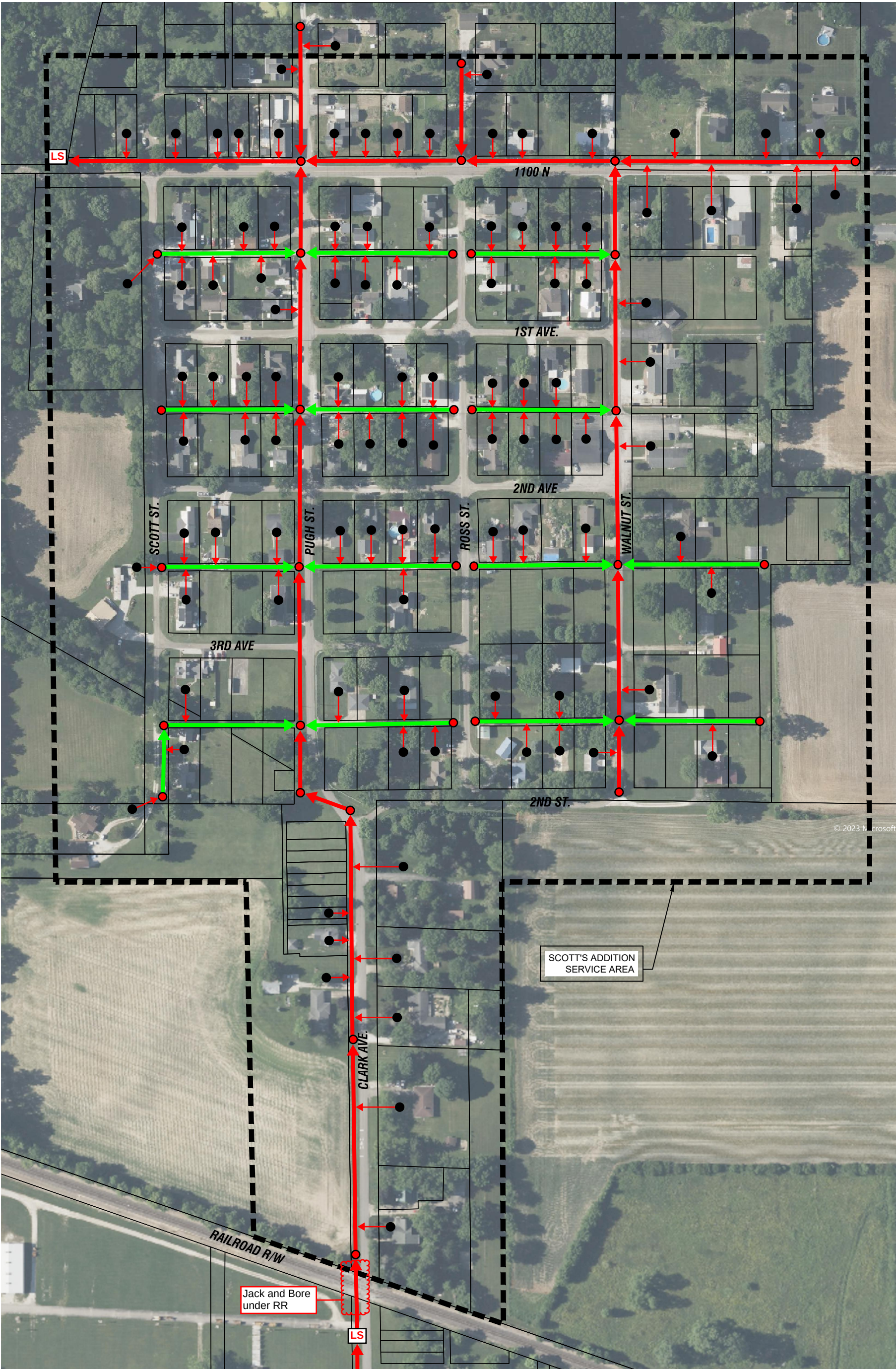
Based on the alternatives presented in **Section 4** and the present worth analysis and additional factors of consideration in **Section 5**, the recommended alternative is summarized below and on **Figure 4-2, Figure 4-3, and Figure 4-7**. A preliminary design summary summarizing the recommended alternatives is included.

#### A. Wastewater Collection System Alternative

- a. Scotts Addition Lift Station and Gravity Sewer and Phillips Land and Gas Addition Lift Station and Gravity Sewer
  - 1) Duplex Submersible Lift Station and Force Main for each subdivision
  - 2) Sanitary Force Main to Alexandria Collection System
  - 3) Gravity Sewer Main throughout Service Area
  - 4) Jack and Bore Casing Pipe below (2) Railroad Crossings



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LEGEND

- LS** PROPOSED LIFT STATION
- PROPOSED SANITARY MANHOLE
- PROPOSED CONNECTION
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY LATERAL

SCOTT'S ADDITION MAP

Scale: 1" = 200'

SCALE: 1"=200'



- GRANULAR
- NON GRANULAR



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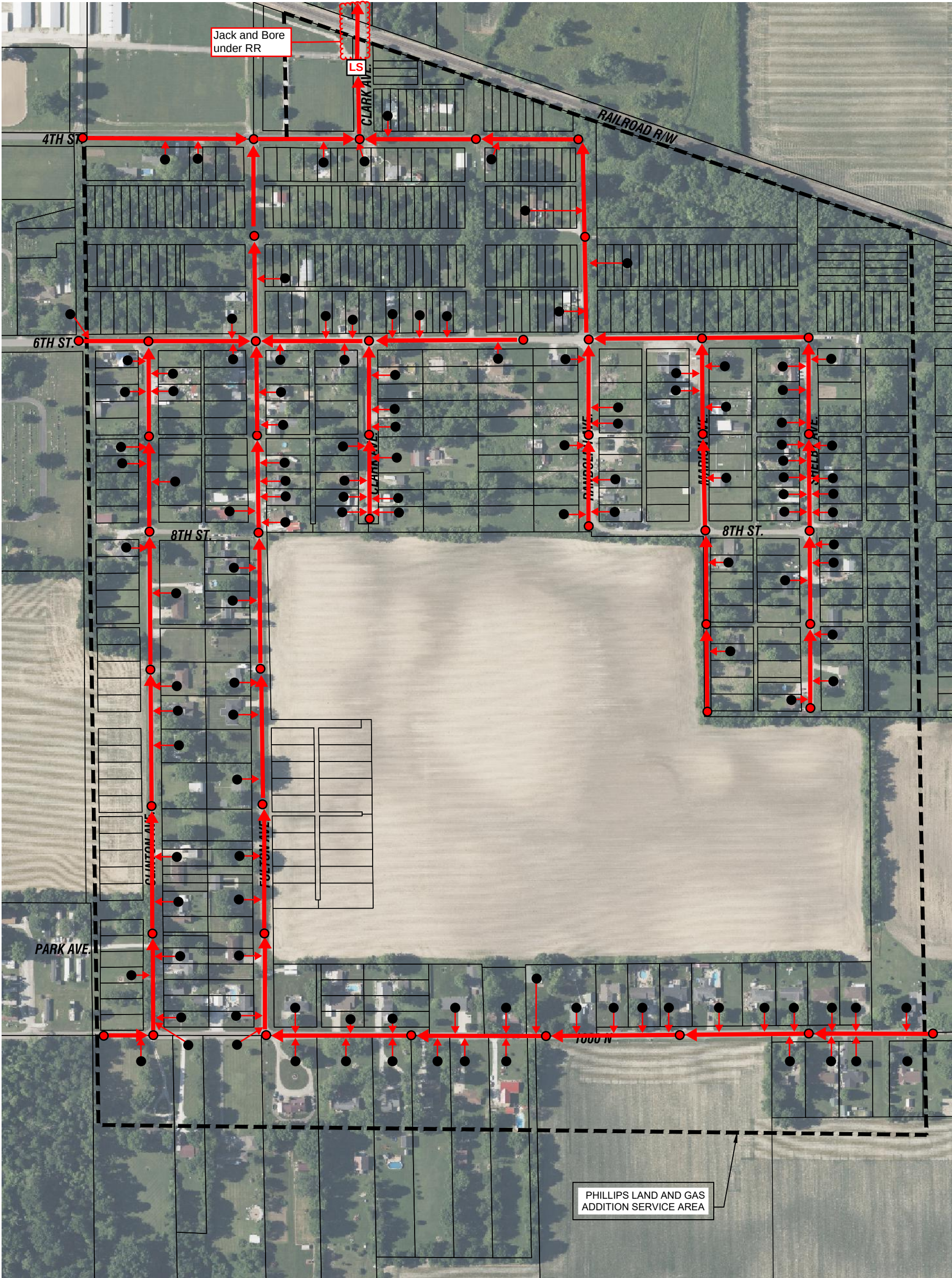
MADISON COUNTY, INDIANA

WASTEWATER INFRASTRUCTURE AND  
MANAGERIAL NEEDS ASSESSMENT

FIGURE 4-2 SCOTT'S ADDITION  
ALTERNATIVE 1.2 - GRAVITY SEWER



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**PHILLIPS LAND AND GAS ADDITION MAP**  
Scale: 1" = 300'

LEGEND

LS

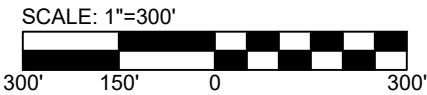
PROPOSED LIFT STATION

PROPOSED SANITARY MANHOLE

PROPOSED CONNECTION

PROPOSED SANITARY SEWER

PROPOSED SANITARY LATERAL

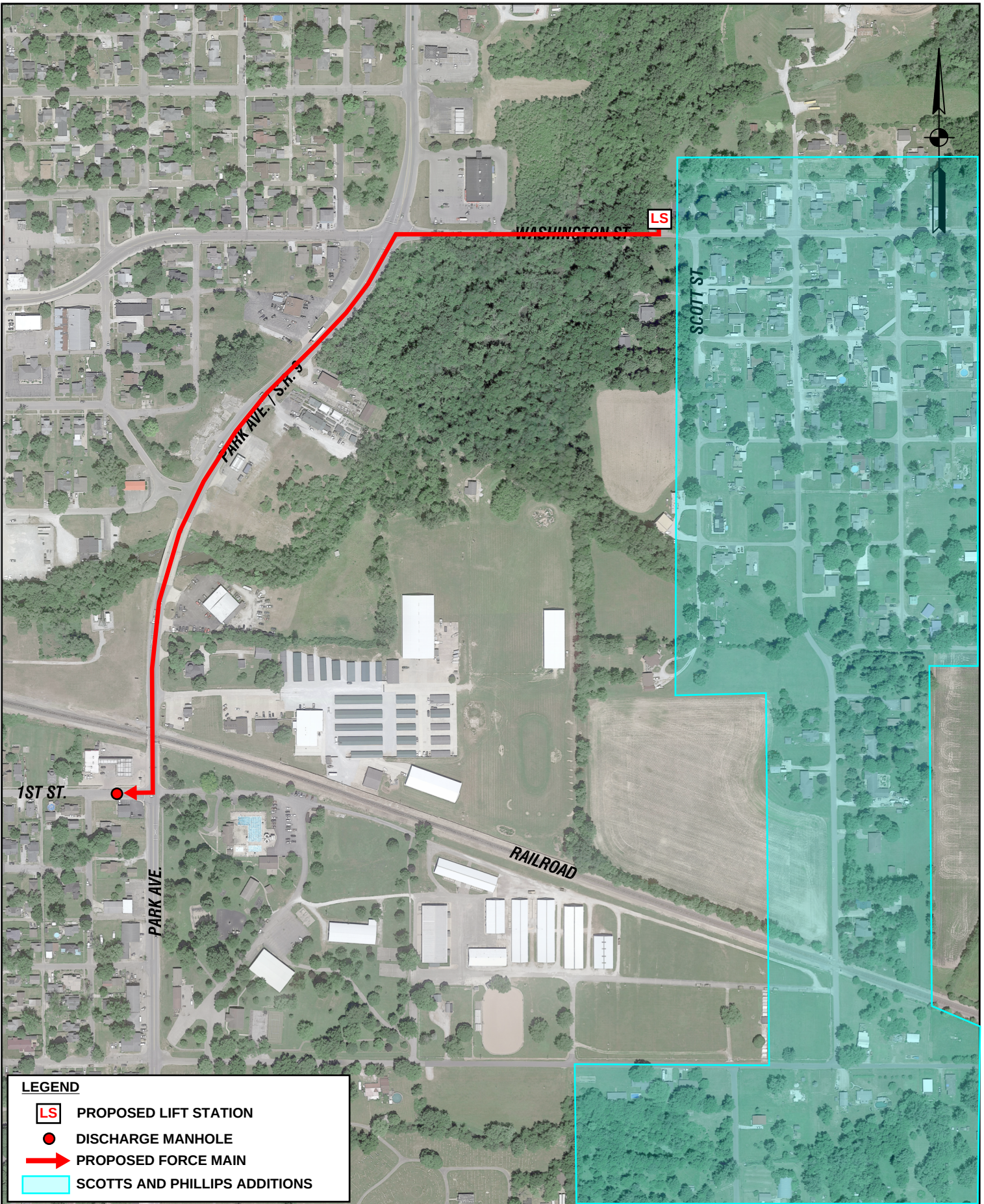


GRANULAR

NON GRANULAR

MADISON COUNTY, INDIANA  
WASTEWATER INFRASTRUCTURE AND  
MANAGERIAL NEEDS ASSESSMENT  
FIGURE 4-3 PHILLIPS LAND AND GAS ADDITION  
ALTERNATIVE 1.2 - GRAVITY SEWER





**LEGEND**



PROPOSED LIFT STATION



DISCHARGE MANHOLE



PROPOSED FORCE MAIN



SCOTTS AND PHILLIPS ADDITIONS

SCALE: 1"=400'

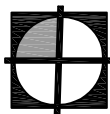


400'

0

400'

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MADISON COUNTY, INDIANA

PRELIMINARY ENGINEERING REPORT

FORCE MAIN ALIGNMENT TO  
ALEXANDRIA COLLECTION SYSTEM  
FIGURE 4-7



## 6.2 Project Schedule

This project should be constructed in a timely fashion. **Table 6-1** shows a proposed schedule.

**Table 6-1**  
**Proposed Schedule for Wastewater System Improvements Project**

| Item                                                            | Date to be Completed |
|-----------------------------------------------------------------|----------------------|
| Madison County Formally Approves Preliminary Engineering Report | March 2025           |
| Madison County Authorizes Design                                | March 2025           |
| Preliminary Engineering Report Submitted to Funding Agency      | March 2025           |
| Madison County Authorizes Submission of Permits                 | September 2025       |
| Finalize District Funding Package                               | September 2025       |
| Permits Obtained                                                | December 2025        |
| Design Completed                                                | February 2026        |
| Madison County Regional Utility District Approved by IDEM       | February 2026        |
| District Authorizes Bid Proposals                               | March 2026           |
| District Receives Bid Proposals                                 | April 2026           |
| District Awards Contract/Issues Notice to Proceed               | June 2026            |
| Construction Substantially Complete                             | August 2026          |
| Final Inspection – Project Completion                           | September 2026       |



### 6.3 Permit Requirements

It is anticipated that the following permits will be required for construction of this project, including:

- Construction General Stormwater Permit
- IDNR Construction in a Floodway Permit (Non-Modeling)
- IDEM Construction Permit for Sanitary Sewer System
- INDOT Right-of-Way Permit
- Madison County Right-of-Way Permit
- Railroad Crossing Permits (2)

### 6.4 Sustainability Consideration

The project discussed in this report includes constructing a new collection system to provide wastewater collection services to homes currently utilizing septic tanks. Septic tanks can fail due to age or improper maintenance which leads to untreated wastewater leaching into the environment. This can cause contamination in groundwater, and therefore cause contamination in nearby wells. The County Health Department has confirmed that many of these septic systems are failing and / or approaching the end of their useful life. The recommended project will protect the environment by eliminating the chance of groundwater contamination from septic tanks. While the new collection system may also fail and risk groundwater contamination, a utility is better suited towards fast and proper action being taken to reduce these risks and address any issues.

### 6.5 Total Project Cost Estimate (Engineer's Opinion of Probable Cost)

**Table 6-2** shows the estimate of probable construction and non-construction costs.

**Table 6-2  
Opinion of Probable Costs**

| Item                                                                                                                      | Cost                |
|---------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>Construction Costs</b>                                                                                                 |                     |
| Scotts Addition & Phillips Land and Gas Addition – Gravity Sewer (includes lift station and force main) - <b>SUBTOTAL</b> | \$11,788,500        |
| Contingency (10%)                                                                                                         | \$1,179,000         |
| BABA Allowance (10%)                                                                                                      | \$1,179,000         |
| <b>Est. Total Construction Costs</b>                                                                                      | <b>\$14,146,500</b> |
| <b>Non-Construction Costs</b>                                                                                             |                     |
| Preliminary Design                                                                                                        | \$385,000           |
| Final Design                                                                                                              | \$243,000           |
| Bidding / Negotiating                                                                                                     | \$50,000            |
| Construction Engineering                                                                                                  | \$225,000           |
| Construction Inspection <sup>1</sup>                                                                                      | \$787,500           |
| Field Investigation & Survey (Traditional Topographic Survey)                                                             | \$179,410           |
| Route Survey (along state highway only)                                                                                   | \$30,000            |
| Geotechnical Evaluation/Soil Borings                                                                                      | \$74,175            |
| Traffic Control Allowance (for soil borings)                                                                              | \$13,800            |
| Construction Stormwater General Permit (CSGP/SWPPP)                                                                       | \$7,500             |
| Regulatory Assistance                                                                                                     | \$14,500            |
| Permitting                                                                                                                | \$36,500            |
| Permit Application Fees (Railroad, IDNR, County Highway)                                                                  | \$20,000            |
| Easement Assistance – Descriptions and Exhibits                                                                           | \$2,000             |
| American Iron & Steel/BABA Compliance                                                                                     | \$30,000            |
| Post-Bid Document Assembly                                                                                                | \$12,000            |
| Start-up Assistance                                                                                                       | \$15,000            |
| O&M Manuals                                                                                                               | \$10,000            |
| CAD Record Drawings                                                                                                       | \$10,000            |
| Rate Consultant                                                                                                           | \$80,000            |
| Local Attorney                                                                                                            | \$50,000            |
| Bond Counsel                                                                                                              | \$60,000            |
| BAN Fee (design paid with ARPA funds)                                                                                     | \$0                 |
| Interest During Design (design paid with ARPA funds)                                                                      | \$0                 |
| Post-Construction                                                                                                         | \$20,000            |
| Asset Management Plan, Technical and Managerial                                                                           | \$30,000            |
| Asset Management Plan, Financial                                                                                          | \$20,000            |
| Labor Standards                                                                                                           | \$50,000            |
| Right-of-Way Services – Appraisals/Negotiations/Buying                                                                    | \$10,000            |
| <b>Est. Total Non-Construction Costs</b>                                                                                  | <b>\$2,466,000</b>  |
| <b>Est. Total Costs</b>                                                                                                   | <b>\$16,612,500</b> |

<sup>1</sup> Assumes average of 1.5 RPRs used during construction.

Pricing is reflective of American Iron and Steel requirements.



## 6.6 Annual Operating Budget

### A. Existing Annual Operating Budget

Since the proposed District does not currently exist, there is no existing annual operating budget. Upon formation of the proposed District, a comprehensive financial evaluation will be required and take into consideration the anticipated operation and maintenance expenses.

## 6.7 Annual O&M Costs

**Table 6-3** shows the new annual estimated O&M costs for the Utility associated with the proposed project.

**Table 6-3**  
**Estimate for System Annual O&M&R Cost**

| Manpower                                      | Amount   | Units | per   | Annual Amount |          |
|-----------------------------------------------|----------|-------|-------|---------------|----------|
| Scotts Addition                               |          |       |       |               |          |
| Maintenance                                   | 0.25     | hours | Week  | 13 hours      | \$650    |
| Electrical                                    | 268.5    | KW    | Daily | 97,985        | \$2,000  |
| Phillips Addition                             |          |       |       |               |          |
| Maintenance                                   | 0.25     | hours | Week  | 13 hours      | \$650    |
| Electrical                                    | 134.4    | KW    | Daily | 49,056        | \$1,000  |
| Total Estimated O&M                           |          |       |       |               | \$4,300  |
| Short Lived Assets/Equipment Replacement Cost |          |       |       |               |          |
| Scotts Addition                               |          |       |       |               |          |
| Lift Station Pumps                            | \$80,000 | Every | 15    | Years         | \$5,333  |
| Lift Station Pump Motors                      | \$25,000 | Every | 15    | Years         | \$1,666  |
| Lift Station Control Panel                    | \$40,500 | Every | 15    | Years         | \$2,666  |
| Lift Station Flow Meter                       | \$15,000 | Every | 15    | Years         | \$1,000  |
| Phillips Addition                             |          |       |       |               |          |
| Lift Station Pumps                            | \$70,000 | Every | 15    | Years         | \$4,666  |
| Lift Station Pump Motors                      | \$20,000 | Every | 15    | Years         | \$1,333  |
| Lift Station Control Panel                    | \$35,000 | Every | 15    | Years         | \$2,333  |
| Lift Station Flow Meter                       | \$12,500 | Every | 15    | Years         | \$833    |
| Lift Station Pumps                            | \$70,000 | Every | 15    | Years         | \$4,666  |
| Total Estimated O&M&R                         |          |       |       |               | \$24,496 |

## 6.8 Reserves

Since the proposed District does not currently exist, there are no existing short-lived assets. **Table 6-4** shows the new short-lived assets associated with the proposed project.

**Table 6-4**  
**New Short-Lived Assets**

| Short Lived Assets/Equipment Replacement Cost   |          |       |    |       |                 |
|-------------------------------------------------|----------|-------|----|-------|-----------------|
| Scotts Addition                                 |          |       |    |       |                 |
| Lift Station Pumps                              | \$80,000 | Every | 15 | Years | \$5,333         |
| Lift Station Pump Motors                        | \$25,000 | Every | 15 | Years | \$1,666         |
| Lift Station Control Panel                      | \$40,000 | Every | 15 | Years | \$2,666         |
| Lift Station Flow Meter                         | \$15,000 | Every | 15 | Years | \$1,000         |
| Phillips Addition                               |          |       |    |       |                 |
| Lift Station Pumps                              | \$70,000 | Every | 15 | Years | \$4,666         |
| Lift Station Pump Motors                        | \$20,000 | Every | 15 | Years | \$1,333         |
| Lift Station Control Panel                      | \$35,000 | Every | 15 | Years | \$2,333         |
| Lift Station Flow Meter                         | \$12,500 | Every | 15 | Years | \$833           |
| Lift Station Pumps                              | \$70,000 | Every | 15 | Years | \$4,666         |
| <b>Total Estimated Annual Replacement Costs</b> |          |       |    |       | <b>\$24,496</b> |

## 6.9 Rate Impacts and Debt Repayments

The RUS guidance documents for Preliminary Engineering Reports directs that the report be based on loans, not grants from RUS. RUS will then evaluate the proposed project for possible RUS grant funding.

The County will retain a rate consultant to determine estimated monthly user rates for the proposed system improvements project, and this section will be updated via addendum at a later date upon completion of the rate study.



## **Section 7 – Conclusions and Recommendations**

### **7.1 Purpose**

This PER discusses alternatives for improving the public wastewater facilities which serve Monroe Township and provides final recommendations and a course of action to help Madison County ensure the quality and reliability of safely treated wastewater in the future.

### **7.2 Proposed Project(s)**

Through discussions with the County, a recommended improvements project has been selected to address the acute needs of the County's aging infrastructure and equipment. Based upon a present worth analysis of the alternatives considered, it is recommended that once the new RUD is established, the Phase 1 project to construct a new gravity sewer collection system, lift station, and force main for the Scotts Addition and Phillips Land and Gas Addition be implemented. This project will ensure reliable wastewater collection and disposal to the residents throughout such unincorporated areas of Monroe Township.

## **Section 8 – Legal, Financial & Managerial Capabilities**

### **8.1 Introduction**

The purpose of this section is to provide details and documentation pertaining to the legal, financial, and managerial capabilities of the proposed Madison County Regional Utility District and how those are impacted by the Wastewater Utility Improvements Project.

### **8.2 Resolutions**

A completed and signed Preliminary Engineering Report Acceptance Resolution and Authorized Representative Resolution will be included via an amendment to this report once obtained at a later date.

### **8.3 SRF Project Financing Information**

A completed SRF Project Financing Information form is included will be included via an amendment to this report once obtained at a later date.

### **8.4 Fiscal Sustainability Plan**

The County will develop a Fiscal Sustainability Plan (FSP) that meets the minimum requirements listed in the Federal Water Pollution Control Act Section 603(d)(1)(E)(i) and will submit a completed FSP Certification Form prior to request for final disbursement related to the primary project. The FSP and FSP Certification Form will be provided to SRF for inclusion once completed.

### **8.5 Asset Management Program**

The County will develop an Asset Management Program (AMP) that meets the requirements defined by the State Revolving Fund's Asset Management Program Guidelines pursuant to Indiana Code 5-1.2-10-16, and will submit a completed AMP Certification Form prior to request for final disbursement related to the primary project. The AMP and AMP Certification Form will be provided to SRF for inclusion once completed. Note, completing the AMP will also fulfill the minimum requirements of the FSP, therefore only one document is required.



## **Section 9 – Public Participation**

### **9.1 Public Hearing**

Public participation information for this PER will be included via an amendment to this report once obtained at a later date. The public hearing will be scheduled at a date to be determined and held at the Madison County Government Center located at 16 E 9<sup>th</sup> Street, Anderson, Indiana 46016. The public notice and publisher's affidavit will be included via an amendment to this report once obtained at a later date. A complete draft of this Preliminary Engineering Report was available to the public ten (10) days prior to the public hearing.

Copies of the Publisher's Affidavit for the Public Hearing Notice, sign-in sheet from the public hearing, public hearing minutes, written comments submitted by the public, and mailing labels for interested parties will be included via an amendment to this report once obtained at a later date.

## **Appendix A1**

### **Madison County IDEM Violation Notice**





## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

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(800) 451-6027 • (317) 232-8603 • [www.idem.IN.gov](http://www.idem.IN.gov)

Eric J. Holcomb  
Governor

Brian C. Rockensuess  
Commissioner

**May 24, 2023**

Via Certified Mail No.:  
7017 0190 0000 9502 4951

Tom Ecker, Administrator  
Madison County Commissioners  
16 East 9<sup>th</sup> Street  
Alexandria, Indiana 46016

Dear Mr. Ecker:

Re: Notice of Violation and  
Proposed Agreed Order  
Indiana Department of  
Environmental Management  
v.  
Madison County Commissioners  
Case No. 2023-29179-W  
Alexandria, Madison County

This is to advise that the Indiana Department of Environmental Management (IDEM) has conducted an investigation of Madison County Commissioners. As a result of that investigation, IDEM has made a preliminary determination that violations exist. Pursuant to IC 13-30-3-3, enclosed please find a Notice of Violation and a proposed Agreed Order, setting forth IDEM's specific findings of violation and the actions necessary to resolve them.

You may request a settlement conference to discuss the allegations and the necessary corrective actions, which may include a compliance schedule. Payment of a civil penalty will also be discussed. The civil penalty amount noted in the proposed Agreed Order is a preliminary figure for settlement discussion purposes only and is based on the alleged violations set forth in the Notice of Violation.

To resolve this matter as provided for in the enclosed Agreed Order, sign and return the entire document to me at the following address:

Office of Water Quality – IGCN 1255  
Indiana Department Environmental Management  
100 North Senate Avenue  
Indianapolis, IN 46204-2251



A State that Works



Recycled Paper

The enclosed proposed Agreed Order is subject to the final approval of IDEM. No Agreed Order is binding on IDEM until the Agreed Order has been approved and adopted by the appropriate IDEM official. IDEM retains the right to withdraw from the proposed Agreed Order if IDEM becomes aware of facts or considerations that indicate that the Agreed Order is unfair, inappropriate, or inconsistent with state law or the Clean Water Act.

IDEM is not required to extend the offer of entry into an Agreed Order for more than 60 days. You may enter into an Agreed Order without admitting that the violations occurred. If an Agreed Order is not entered into, IDEM may proceed to issue a unilateral Notice and Order of the Commissioner requiring compliance with the environmental laws, rules, and/or permits, including payment of a civil penalty.

Please contact me at 317-234-3123 or [rjulian@idem.in.gov](mailto:rjulian@idem.in.gov) within 15 days if you have any questions or if you wish to request a settlement conference.

Sincerely,

A handwritten signature in black ink that reads "Ryan Julian". The signature is written in a cursive, flowing style.

Ryan Julian, Case Manager  
Water Enforcement Section  
Office of Water Quality

Enclosures

cc: Madison County Health Department  
<http://www.in.gov/idem>





## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Eric J. Holcomb  
Governor

Brian C. Rockensuess  
Commissioner

### NOTICE OF VIOLATION

Via Certified Mail No.:  
7017 0190 0000 9502 4951

Tom Ecker, Administrator  
Madison County Commissioners  
16 East 9<sup>th</sup> Street  
Alexandria, Indiana 46016

Case No. 2023-29179-W

Pursuant to Indiana Code (IC) 13-30-3-3, the Indiana Department of Environmental Management (IDEM) issues this Notice of Violation. Based on an investigation on September 21, 2022, IDEM has reason to believe that Madison County Commissioners (Respondent) has violated environmental rules. The violations are based on the following:

1. Pursuant to Indiana Code (IC) 36-2-2-2, County Board of Commissioners are the County Executive.
2. As County Executive, Respondent has jurisdiction over, and responsibility for, septic tank systems, and county ditches and drains in the unincorporated areas of Madison County, Indiana (the Site).
3. Pursuant to 327 IAC 5-2-2, any discharge of pollutants into waters of the State as a point source discharge, is prohibited unless in conformity with a valid National Pollutant Discharge Elimination System (NPDES) permit obtained prior to the discharge.
4. Pursuant to IC 13-30-2-1(1), no person may discharge, emit, cause, allow, or threaten to discharge, emit, cause, or allow any contaminant or waste including any noxious odor, either alone or in combination with contaminants from other sources, into the environment or into any publicly owned treatment works in any form which causes or would cause pollution which violates rules, standards, or discharge or emission requirements adopted by the appropriate board pursuant to this title.

Pursuant to IC 13-18-4-5, a person may not: (1) throw, run, drain, or otherwise dispose; or (2) cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed; into any of the streams or waters of Indiana any organic or

inorganic matter that causes or contributes to a polluted condition of any of the streams or waters of Indiana.

Pursuant to 327 IAC 2-1-6(a)(1), all surface waters at all times and at all places, including the mixing zone, shall meet the minimum conditions of being free from substances, materials, floating debris, oil or scum attributable to municipal, industrial, agricultural, and other land use practices or other discharges that do any of the following:

- a. will settle to form putrescent or otherwise objectionable deposits;
- b. are in amounts sufficient to be unsightly or deleterious;
- c. produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;
- d. are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such degree as to create a nuisance, be unsightly, or otherwise impair the designated uses; or
- e. are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans.

During a complaint investigation on September 21, 2022, IDEM staff observed a concrete storm sewer pipe located at the Site was broken, revealing the water flowing through the pipe. The water flowing in the pipe was black and septic with an odor of sewage. The pipe was traced to an unnamed tributary (UNT) where it discharged from a concrete outfall into the UNT. The discharge from the outfall contained black water with septic odor that had caused the entire stream to appear black, with black sediments and a strong septic smell. The UNT was traced approximately fifty (50) yards where it flowed into Pipe Creek, immediately north of County Road 1100 North bridge over Pipe Creek, causing, or contributing to, the contamination of waters of the State, without appropriate authorization, and/or a NPDES permit, in violation of 327 IAC 5-2-2, 327 IAC 2-1-6(a)(1), IC13-30-2-1(1), and IC 13-18-4-5.

In accordance with IC 13-30-3-3, the Commissioner herein provides notice that violations may exist and offers an opportunity to enter into an Agreed Order providing for the actions required to correct the violations and, as necessary and appropriate, for the payment of a civil penalty. The Commissioner is not required to extend this offer for more than 60 days.

As provided in IC 13-30-3-3, an alleged violator may enter into an Agreed Order without admitting that the violations occurred. IDEM encourages settlement by Agreed Order, thereby resulting in quicker correction of the environmental violations and avoidance of extensive litigation. Timely settlement by Agreed Order may result in a reduced civil penalty. Also, settlement discussions will allow the opportunity to present any mitigating factors that may be relevant to the violations.

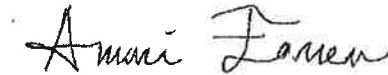
If an Agreed Order is not entered into within 60 days of receipt of this Notice of Violation, the Commissioner may issue a Notice and Order under IC 13-30-3-4 containing the actions that must be taken to correct the violations and requiring the payment of an



appropriate civil penalty. Pursuant to IC 13-30-4-1, the Commissioner may assess penalties of up to \$25,000 per day for each violation.

Please contact Ryan Julian at (317) 234-3123 or [rjulian@idem.in.gov](mailto:rjulian@idem.in.gov) within 15 days after receipt of this Notice to discuss resolution of this matter.

For the Commissioner:



Date: May 24, 2023

---

Amari Farren, Chief  
Enforcement Section  
Office of Water Quality

cc: Madison County Health Department  
<http://www.in.gov/idem>



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • [www.idem.IN.gov](http://www.idem.IN.gov)

**Eric J. Holcomb**  
*Governor*

**Brian C. Rockensuess**  
*Commissioner*

STATE OF INDIANA            )  
                                      )     SS: BEFORE THE INDIANA DEPARTMENT  
COUNTY OF MARION          ) OF ENVIRONMENTAL MANAGEMENT

COMMISSIONER OF THE DEPARTMENT  
OF ENVIRONMENTAL MANAGEMENT,

Complainant,

**v.**

Case No. 2023-29179-W

MADISON COUNTY COMMISSIONERS,

Respondent.

## AGREED ORDER

Complainant and Respondent desire to settle and compromise this action without hearing or adjudication of any issue of fact or law, and consent to the entry of the following Findings of Fact and Order. Pursuant to Indiana Code (IC) 13-30-3-3, entry into the terms of this Agreed Order does not constitute an admission of any violation contained herein. Respondent's entry into this Agreed Order shall not constitute a waiver of any defense, legal or equitable, which Respondent may have in any future administrative or judicial proceeding, except a proceeding to enforce this order.

## **I. FINDINGS OF FACT**

1. Complainant is the Commissioner (Complainant) of the Indiana Department of Environmental Management (IDEM), a department of the State of Indiana created by IC 13-13-1-1.
2. As County Executive, Respondent has jurisdiction over, and responsibility for, septic tank systems, and county ditches and drains in the unincorporated areas of Madison County, Indiana (the Site).
3. IDEM has jurisdiction over the parties and the subject matter of this action pursuant to IC 13-30-3.
4. Pursuant to IC 13-30-3-3, IDEM issued a Notice of Violation (NOV) via Certified Mail/personal service to:

Tom Ecker, Administrator



## A State that Works



*Recycled Paper*



Madison County Commissioners  
16 East 9<sup>th</sup> Street  
Alexandria, Indiana 46016

5. During an inspection on September 21, 2022, conducted by a representative of IDEM, violations were found, as described below.

Pursuant to 327 IAC 5-2-2, any discharge of pollutants into waters of the State as a point source discharge, is prohibited unless in conformity with a valid National Pollutant Discharge Elimination System (NPDES) permit obtained prior to the discharge.

Pursuant to IC 13-30-2-1(1), no person may discharge, emit, cause, allow, or threaten to discharge, emit, cause, or allow any contaminant or waste including any noxious odor, either alone or in combination with contaminants from other sources, into the environment or into any publicly owned treatment works in any form which causes or would cause pollution which violates rules, standards, or discharge or emission requirements adopted by the appropriate board pursuant to this title.

Pursuant to IC 13-18-4-5, a person may not: (1) throw, run, drain, or otherwise dispose; or (2) cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed; into any of the streams or waters of Indiana any organic or inorganic matter that causes or contributes to a polluted condition of any of the streams or waters of Indiana.

Pursuant to 327 IAC 2-1-6(a)(1), all surface waters at all times and at all places, including the mixing zone, shall meet the minimum conditions of being free from substances, materials, floating debris, oil or scum attributable to municipal, industrial, agricultural, and other land use practices or other discharges that do any of the following:

- a. will settle to form putrescent or otherwise objectionable deposits;
- b. are in amounts sufficient to be unsightly or deleterious;
- c. produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;
- d. are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such degree as to create a nuisance, be unsightly, or otherwise impair the designated uses; or
- e. are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans.

During a complaint investigation on September 21, 2022, IDEM staff observed a concrete storm sewer pipe located at the Site was broken, revealing the water flowing through the pipe. The water flowing in the pipe was black and septic with an odor of sewage. The pipe was traced to an unnamed tributary (UNT) where it discharged from a concrete outfall into the UNT. The discharge from the outfall contained black water with septic odor that had caused the entire stream to appear

black, with black sediments and a strong septic smell. The UNT was traced approximately fifty (50) yards where it flowed into Pipe Creek, immediately north of County Road 1100 North bridge over Pipe Creek, causing, or contributing to, the contamination of waters of the State, without appropriate authorization, and/or a NPDES permit, in violation of 327 IAC 5-2-2, 327 IAC 2-1-6(a)(1), IC13-30-2-1(1), and IC 13-18-4-5.

6. On September 28, 2022, IDEM sent Inspection Summary Letter(s) to Respondent outlining violations at the Site. The letters required a response detailing actions taken to correct the violations. To date, IDEM has not received a response to the above noted violation and noncompliance letters, and the violations continue.
7. Orders of the Commissioner are subject to administrative review by the Office of Environmental Adjudication under IC 4-21.5; however, in recognition of the settlement reached, Respondent acknowledges notice of this right and waives any right to administrative and judicial review of this Agreed Order.

## II. ORDER

1. This Agreed Order shall be effective (Effective Date) when it is adopted by Complainant or Complainant's delegate (as evidenced by signature), and the adopted Agreed Order has been received by Respondent. This Agreed Order shall have no force or effect until the Effective Date. In addition to addressing the violations cited in Paragraph 5 of the Findings of Fact above, this Agreed Order also addresses any additional violations of these same rules that may have occurred subsequent to the issuance of the NOV and prior to the Effective Date.
2. Respondent shall comply with 327 IAC 5-2-2, IC 13-30-2-1(1), 327 IAC 2-1-6(a)(1) and IC 13-18-4-5. Specifically, Respondent shall make all reasonable attempts to eliminate unpermitted discharge from the Site.
3. Within 30 days of the Effective Date, Respondent shall develop and submit to IDEM for approval a Compliance Plan (CP) which identifies actions that Respondent will take to achieve and maintain compliance, specifically including the actions Respondent will take to:
  - A. Evaluate and implement a means to eliminate unpermitted discharges from the Site and minimize their environmental impact, including;
    - a. Identifying sources of contaminated discharge into the storm sewer and disconnecting or identifying a means to provide adequate treatment
  - B. Apply for and obtain any necessary permits, which may include a construction permit and/or NPDES permit from IDEM, or approval from the Indiana State Department of Health;
  - C. A schedule for securing financing for the project;
  - D. A construction plan, which includes an implementation and completion schedule, including specific milestone dates.

Respondent shall notify IDEM in writing of variations to the approved CP.

4. Respondent shall, after completion of the work required pursuant to the approved CP from Paragraph 3 above, demonstrate 12-consecutive months of compliance (Compliance Demonstration), during which no unpermitted discharges occur.
5. In the event that violation(s) occur during the Compliance Demonstration, within 30 days of the violation, Respondent shall develop and submit to IDEM, for approval, an Additional Action Plan (AAP), which identifies the additional actions that Respondent will take to achieve and maintain compliance. The AAP, if required, shall include an implementation and completion schedule, including specific milestone dates.
6. The plans required by Order Paragraphs 3 and 5 are subject to IDEM approval. In the event IDEM determines that any plan or any modified plan submitted by Respondent is deficient or otherwise unacceptable, Respondent shall revise and resubmit the plan to IDEM in accordance with IDEM's notice. After three submissions of such plan by Respondent, IDEM may seek civil enforcement of this Order.
7. Respondent, upon receipt of written notification from IDEM, shall immediately implement the approved plan(s) and adhere to the milestone dates therein. The approved CP and AAP shall be incorporated into the Agreed Order and shall be deemed an enforceable part thereof.

Following completion of the actions included in the AAP, the 12-month Compliance Demonstration, as specified in Paragraph 4 above, will re-start. Failure to achieve compliance at the conclusion of work under an AAP may subject Respondent to additional enforcement action.

8. Beginning with the first calendar quarter following the Effective Date, Respondent shall submit to IDEM a written progress report within 10 days of the end of each calendar quarter, which identifies the compliance actions implemented during each quarter ending on March 31<sup>st</sup>, June 30<sup>th</sup>, September 30<sup>th</sup>, and December 31<sup>st</sup> until completion of the CP or AAP.
9. Beginning on the Effective Date and continuing until the successful completion of implementation of the approved CP as required by Paragraph 3 above, Respondent shall, at all times, minimize all wastewater discharges without a permit to the extent possible.
10. All submittals required by this Agreed Order, unless Respondent is notified otherwise in writing by IDEM, shall be sent to:

Ryan Julian, Enforcement Case Manager  
Office of Water Quality – IGCN 1255  
Indiana Department of Environmental Management  
100 North Senate Avenue  
Indianapolis, IN 46204-2251



11. Respondent is assessed and agrees to pay a civil penalty of Two Thousand, One Hundred Twenty-Five Dollars (\$2,125). Respondent shall pay the civil penalty by the due date printed on the invoice, as attached.

Civil and stipulated penalties are payable to the "Environmental Management Special Fund" by mail, phone, or online following the instructions below:

Mail:

Civil and stipulated penalties are payable by check to the "Environmental Management Special Fund." Checks shall include the Case Number 2023-29179-W of this action and shall be mailed to:

Indiana Department of Environmental Management  
Accounts Receivable  
IGCN, Room 1340  
100 North Senate Avenue  
Indianapolis, IN 46204

Online:

Accounts Receivable is accepting payments online by e-Check, Master Card, Visa, or Discover. Please visit [www.IN.gov/IDEM](http://www.IN.gov/IDEM). Under Online Services, click Online Payment options and follow the prompts. A processing fee of \$1 plus 1.99% will be charged for credit card payments. A processing fee of \$1 will be charged for e-Check payments. The Case Number 2023-29179-W of this action is required to complete the process.

Phone:

Accounts Receivable also accepts payments by phone at 317-234-3099. Follow the instructions for Master Card, Visa, or Discover payments. A processing fee of \$1 plus 1.99% will be charged for credit card payments. A processing fee of \$1 will be charged for e-Check payments. The Case Number 2023-29179-W is required to complete the process.

12. In the event the terms and conditions of the following paragraphs are violated, IDEM may assess and Respondent shall pay the corresponding stipulated penalty:

| Paragraph | Violation                                                                       | Stipulated Penalty                    |
|-----------|---------------------------------------------------------------------------------|---------------------------------------|
| 3         | Failure to submit the CP within the required time period.                       | \$250 per week late, or part thereof. |
| 4         | For violations during the Compliance Demonstration.                             | \$400 per violation                   |
| 5         | Failure to submit the AAP, if required, within the given time period.           | \$500 per week late, or part thereof. |
| 6         | Failure to modify the CP and/or AAP, if required, within the given time period. | \$500 per week late, or part thereof. |
| 7         | Failure to meet and/or implement any                                            | \$500 per week late, or               |

|   |                                                                                                                   |                                       |
|---|-------------------------------------------------------------------------------------------------------------------|---------------------------------------|
|   | milestone date set forth in the approved CP or AAP.                                                               | part thereof.                         |
| 8 | Failure to submit to IDEM a written progress report as specified in the CP or AAP approval letter.                | \$150 per week late, or part thereof. |
| 9 | Failure to operate the sewer system as efficiently and effectively as possible prior to Compliance Demonstration. | \$200 per violation.                  |

13. Stipulated penalties shall be due and payable no later than the 30<sup>th</sup> day after Respondent receives written notice that IDEM has determined a stipulated penalty is due, the 30<sup>th</sup> day being a "Due Date." IDEM may notify Respondent at any time that a stipulated penalty is due. Failure to notify Respondent in writing in a timely manner of a stipulated penalty assessment shall not waive IDEM's right to collect such stipulated penalty or preclude IDEM from seeking additional relief against Respondent for violation of this Agreed Order. Neither assessment nor payment of stipulated penalties shall preclude IDEM from seeking additional relief against Respondent for a violation of this Agreed Order. Such additional relief includes any remedies or sanctions available pursuant to Indiana law, including, but not limited to, civil penalties pursuant to IC 13-30-4.
14. This Agreed Order shall apply to and be binding upon Respondent, its successors and assigns. Respondent's signatories to this Agreed Order certify that they are fully authorized to execute this Agreed Order and legally bind the party they represent. No change in ownership, corporate, or partnership status of Respondent shall in any way alter its status or responsibilities under this Agreed Order.
15. In the event that the monies due to IDEM pursuant to this Agreed Order are not paid on or before their Due Date, Respondent shall pay interest on the unpaid balance and any accrued interest at the rate established by IC 24-4.6-1. The interest shall be computed as having accrued from the Due Date until the date that Respondent pays any unpaid balance. The interest shall continue to accrue on the first of each month until the civil penalty and any interest accrued are paid in full. Such interest shall be payable to the "Environmental Management Special Fund," and shall be payable to IDEM in the manner specified above.
16. In the event that any terms of this Agreed Order are found to be invalid, the remaining terms shall remain in full force and effect and shall be construed and enforced as if this Agreed Order did not contain the invalid terms.
17. Respondent shall provide a copy of this Agreed Order, if in force, to any subsequent owners or successors before ownership rights are transferred. Respondent shall ensure that all contractors, firms and other persons performing work under this Agreed Order comply with the terms of this Agreed Order.

18. This Agreed Order is not and shall not be interpreted to be a permit or a modification of an existing permit. This Agreed Order, and IDEM's review or approval of any submittal made by Respondent pursuant to this Agreed Order, shall not in any way relieve Respondent of its obligation to comply with the requirements of its applicable permits or any applicable Federal or State law or regulation.
19. Complainant does not, by his approval of this Agreed Order, warrant or aver in any manner that Respondent's compliance with any aspect of this Agreed Order will result in compliance with the provisions of any permit, order, or any applicable Federal or State law or regulation. Additionally, IDEM or anyone acting on its behalf shall not be held liable for any costs or penalties Respondent may incur as a result of Respondent's efforts to comply with this Agreed Order.
20. Nothing in this Agreed Order shall prevent or limit IDEM's rights to obtain penalties or injunctive relief under any applicable Federal or State law or regulation, except that IDEM may not, and hereby waives its right to, seek additional civil penalties for the same violations specified in the Notice of Violation.
21. Nothing in this Agreed Order shall prevent IDEM (or anyone acting on its behalf) from communicating with the United States Environmental Protection Agency (US EPA) or any other agency or entity about any matters relating to this enforcement action. IDEM or anyone acting on its behalf shall not be held liable for any costs or penalties Respondent may incur as a result of such communications with the US EPA or any other agency or entity.
22. This Agreed Order shall remain in effect until Respondent has complied with the terms and conditions of this Agreed Order and IDEM issues a Resolution of Case (close out) letter to Respondent.

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**TECHNICAL RECOMMENDATION:**

Department of Environmental Management

By:

Amari Farren

Amari Farren, Chief  
Water Enforcement Section  
Office of Water Quality

Date: May 24, 2023

**RESPONDENT:**

Madison County Commissioners

By:

Printed:

Title:

Date:

**COUNSEL FOR RESPONDENT:**

By:

Date:

APPROVED AND ADOPTED BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL  
MANAGEMENT THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

For the Commissioner:

\_\_\_\_\_  
Martha Clark Mettler  
Assistant Commissioner  
Office of Water Quality

**Appendix A2**  
**Madison County Compliance Plan Guidance**



December 20, 2024

Ryan Julian  
IDEM Enforcement Case Manager  
Office of Water Quality  
Indiana Department of Environmental Management  
100 N. Senate Avenue  
Indianapolis, IN 46204

**RE: Madison County Compliance Plan  
Q3 & Q4 2024 Update  
Case No. 2023-29179-W**

Dear Ryan Julian:

The Commissioners of Madison County, Indiana have entered into Agreed Order (Case No. 2023-29179-W) to address unpermitted/unauthorized discharge to Pipe Creek immediately north of the County Road 1100 North Bridge from the unincorporated area known as Scotts Addition. Madison County has developed a Compliance Plan (CP) as required by the Agreed Order, which was approved by the Indiana Department of Environmental Management (IDEM) Office of Water Quality (OWQ) on May 8, 2024.

**Actions Implemented:**

The following activities have occurred and/or continued as part of the approved CP:

- Completed the Madison County Regional Utility District (RUD) Wastewater Utility Improvements Preliminary Engineering Report (PER) to serve as the basis for future regionalization project financing consideration and District Formation Petition. This report specifically includes alternatives to provide sewer service to the Scotts Addition and Phillips Addition, whereby sewage treatment would ultimately be provided by the City of Alexandria. It should also be noted that the aforementioned PER document is intended to replace the Phase II – Water & Wastewater Infrastructure & Managerial Needs Assessment given that the focus of the study has shifted to Scotts Addition and Phillips Addition as a result of project need and this enforcement action.
- Madison County officials and representatives of Commonwealth Engineers, Inc. (CEI) met on December 13<sup>th</sup> and 19<sup>th</sup>, 2024 to review the RUD formation process and PER in detail. A draft RUD formation petition and a draft detailed memorandum with a focused regional district formation guide and schedule has been developed by CEI and shared with County Officials. Additionally, PER wastewater collection alternative revisions are currently



underway as a result of these meetings and will be issued to the county for review in mid-January. The RUD working group will reconvene in January 2025 to review the Draft-Final PER and discuss RUD Formation next steps.

- Outreach to the City of Alexandria to continue discussions on the Execution of the Madison County/Alexandria Memorandum of Understanding for Scotts Addition Sewer Service has occurred; however, no formal meetings or additional detailed discussions are scheduled at this time.

### **Summary of Planned Actions:**

The following activities are scheduled to be completed throughout 2025 and beyond as part of the Compliance Plan:

- Initiate the Phase IIIa – File Regional District Formation Petition process.
- Continue coordination with the City of Alexandria on the Phase IIIb – Execution of Madison County/Alexandria Memorandum of Understanding for Scotts Addition Sewer Service.
- Initiate design of the Scotts Addition and Phillips Addition sewer systems.

Please note that the attached Compliance Plan has been revised to reflect the current status of milestones as described in this correspondence. Should you have any additional comments or questions, please feel free to contact Brady Dryer of Commonwealth Engineers, Inc. by email at [bdryer@contactcei.com](mailto:bdryer@contactcei.com) or by phone at (317) 888-1177.

Sincerely,

**COMMONWEALTH ENGINEERS, INC.**



Brady M. Dryer  
Compliance Manager / Partner

BMD/mst

Enclosures

CC: Olivia Pratt – Commissioner – Madison County  
Jessica Bastin, County Engineer – Madison County  
Joe Davis, Environmental Supervisor – Madison County Health Department  
Commonwealth Engineers, Inc.

**Madison County**  
**Case No. 2023-29179-W**  
**Eliminate Unpermitted/Unauthorized Discharges at Storm Sewer Outfall Located at 184 East 1100 North**  
**Compliance Plan**  
**Approved May 8, 2024; Revised July 9, 2024 & December 13, 2024**

| Milestone                                                                                                          | Projected Start Date <sup>2</sup>                      | Actual Start Date | Projected Completion Date <sup>2</sup> | Actual Completion Date |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------|----------------------------------------|------------------------|
| Phase I – Fix Broken Storm Sewer Pipe Located at 184 East 1100 North & Install Remedial Measures                   | 03/01/24                                               | 03/01/24          | 04/15/24                               | 05/01/24 – 06/30/24    |
| Phase II – Water & Wastewater Infrastructure & Managerial Needs Assessment*                                        | 12/06/22                                               | 12/06/22          | <del>05/31/24</del><br>09/30/24        | 10/21/24               |
| Phase IIIa – File Regional District Formation Petition*                                                            | <del>09/01/24</del><br><del>11/30/24</del><br>04/01/25 |                   | <del>08/31/25</del><br>12/31/25        |                        |
| Phase IIIb – Execution of Madison County/Alexandria Memorandum of Understanding for Scotts Addition Sewer Service* | <del>09/01/24</del><br>04/01/25                        |                   | <del>12/31/24</del><br>12/31/25        |                        |
| Phase IV - Sewer Improvements Preliminary Design                                                                   | <del>01/01/25</del><br>04/01/25                        |                   | <del>06/30/25</del><br>12/31/25        |                        |

\*The findings and recommendations of Phase II will determine whether a Regional District is formed. Madison County and Alexandria representatives met on September 26, 2023 to discuss providing sewer service to this area, known as Scotts Addition. Madison County intends to continue these discussions on a quarterly basis; however, IDEM and the Respondent must understand that Alexandria sewer service and schedule are beyond Madison County's control. A revised CP may be required at the conclusion of the Phase II milestone depending on whether sewer service is provided through the formation of a Regional Sewer District or through the development of an MOU with the City of Alexandria with a goal to provide Scotts Addition wastewater collection and treatment.

**Appendix B**  
**Detailed Construction Cost Estimates**



| Useful Life | Salvage     | SLA      | O&M         |
|-------------|-------------|----------|-------------|
| 50          | \$264,336   | \$0      |             |
| 50          | \$198,462   | \$0      |             |
| 50          | \$179,371   | \$0      |             |
| 50          | \$68,182    | \$0      |             |
| 50          | \$70,490    | \$0      |             |
| 50          | \$23,497    | \$0      |             |
| 50          | \$5,245     | \$0      |             |
| 50          | \$30,210    | \$0      |             |
| 40          | \$54,545    | \$0      |             |
| 40          | \$12,378    | \$0      |             |
| 40          | \$12,378    | \$0      |             |
| 40          | \$20,629    | \$0      |             |
| 15          | \$0         | \$21,600 | \$ 2,650.00 |
| 50          | \$163,636   | \$0      |             |
| 50          | \$5,538     | \$0      |             |
| 50          | \$46,154    | \$0      |             |
| 40          | \$3,147     | \$0      |             |
|             |             |          |             |
|             |             |          |             |
|             |             |          |             |
|             |             |          |             |
|             |             |          |             |
| Total       | \$1,158,196 | \$21,600 | \$2,650     |

| Item No.                    | Item                                            | Qty    | Unit | Unit Cost     | Cost                   |
|-----------------------------|-------------------------------------------------|--------|------|---------------|------------------------|
| 1                           | Mobilization and Demobilization                 | 1      | LS   | \$ 178,200.00 | \$ 178,200.00          |
| 2                           | 8" Gravity Sewer (10'-15') - GR                 | 3,500  | LF   | \$ 180.00     | \$ 630,000.00          |
| 3                           | 8" Gravity Sewer (10'-15') - NG                 | 4,300  | LF   | \$ 110.00     | \$ 473,000.00          |
| 4                           | 8" Gravity Sewer (15'-20') - GR                 | 1,900  | LF   | \$ 225.00     | \$ 427,500.00          |
| 5                           | 8" Gravity Sewer (20'-25') - GR                 | 500    | LF   | \$ 325.00     | \$ 162,500.00          |
| 6                           | Sanitary Sewer Manhole, 48-inch dia. (10-15 ft) | 24     | EA   | \$ 7,000.00   | \$ 168,000.00          |
| 7                           | Sanitary Sewer Manhole, 48-inch dia. (15-20 ft) | 7      | EA   | \$ 8,000.00   | \$ 56,000.00           |
| 8                           | Sanitary Sewer Manhole, 48-inch dia. (20-25 ft) | 1      | EA   | \$ 12,500.00  | \$ 12,500.00           |
| 9                           | Interior Manhole Drop                           | 6      | EA   | \$ 12,000.00  | \$ 72,000.00           |
| 10                          | 6" Gravity Sanitary Service Lateral             | 2400   | LF   | \$ 65.00      | \$ 156,000.00          |
| 11                          | 8"x6" Wye Fittings                              | 118    | EA   | \$ 300.00     | \$ 35,400.00           |
| 12                          | 6" Slant Stacks                                 | 118    | EA   | \$ 300.00     | \$ 35,400.00           |
| 13                          | 6" Lateral Cleanouts                            | 118    | EA   | \$ 500.00     | \$ 59,000.00           |
| 14                          | Lift Station and Generator                      | 1      | LS   | \$ 486,000.00 | \$ 486,000.00          |
| 15                          | 6" Force Main, Directionally Drilled            | 3,000  | LF   | \$ 130.00     | \$ 390,000.00          |
| 16                          | 6" Force Main, Jack and Bore                    | 220    | LF   | \$ 60.00      | \$ 13,200.00           |
| 17                          | 12" Casing Pipe for Jack and Bore               | 220    | LF   | \$ 500.00     | \$ 110,000.00          |
| 18                          | Force Main Locate Box and Marker                | 6      | EA   | \$ 1,500.00   | \$ 9,000.00            |
| 19                          | New FM Connection to Gravity Sewer              | 1      | LS   | \$ 4,000.00   | \$ 4,000.00            |
| 20                          | HMA, Surface, Type B, 9.5 mm                    | 568    | TON  | \$ 110.00     | \$ 62,600.00           |
| 21                          | Asphalt for Tack Coat                           | 27,200 | SY   | \$ 0.75       | \$ 20,400.00           |
| 22                          | Utility Coordination and Potholing Allowance    | 1      | ALW  | \$ 40,000.00  | \$ 40,000.00           |
| 23                          | Local Electric Utility Allowance                | 1      | ALW  | \$ 40,000.00  | \$ 40,000.00           |
| 24                          | Dewatering                                      | 1      | LS   | \$ 100,000.00 | \$ 100,000.00          |
| 25                          | Erosion Control                                 | 1      | LS   | \$ 106,900.00 | \$ 106,900.00          |
| 26                          | Final Grading and Seeding                       | 1      | LS   | \$ 71,300.00  | \$ 71,300.00           |
| 27                          | Construction Engineering                        | 1      | LS   | \$ 106,900.00 | \$ 106,900.00          |
| <b>Subtotal</b>             |                                                 |        |      |               | <b>\$ 4,025,800.00</b> |
| <b>Contingency (10%)</b>    |                                                 |        |      |               | <b>\$ 402,600.00</b>   |
| <b>BABA Allowance (10%)</b> |                                                 |        |      |               | <b>\$ 402,600.00</b>   |
| <b>Total</b>                |                                                 |        |      |               | <b>\$ 4,831,000.00</b> |

| Useful Life | Salvage | SLA | O&M |
|-------------|---------|-----|-----|
|-------------|---------|-----|-----|

|       |             |          |             |
|-------|-------------|----------|-------------|
|       |             |          |             |
| 50    | \$320,979   | \$0      |             |
| 50    | \$340,909   | \$0      |             |
| 50    | \$1,174,825 | \$0      |             |
| 40    | \$56,294    | \$0      |             |
| 40    | \$27,972    | \$0      |             |
| 40    | \$26,224    | \$0      |             |
| 40    | \$31,469    | \$0      |             |
| 40    | \$10,490    | \$0      |             |
|       |             |          |             |
| 40    | \$63,636    | \$0      |             |
| 40    | \$14,685    | \$0      |             |
| 40    | \$14,685    | \$0      |             |
| 40    | \$24,476    | \$0      |             |
| 15    | \$0         | \$13,333 | \$ 1,650.00 |
| 50    | \$5,035     | \$0      |             |
| 50    | \$41,958    | \$0      |             |
| 40    | \$524       | \$0      |             |
|       |             |          |             |
|       |             |          |             |
|       |             |          |             |
|       |             |          |             |
|       |             |          |             |
| Total | \$2,154,161 | \$13,333 | \$1,650     |

**Scott's Addition LPS Cost Estimate**

| Item No.                    | Item                                           | Qty   | Unit | Unit Cost     | Cost                   |
|-----------------------------|------------------------------------------------|-------|------|---------------|------------------------|
| 1                           | Mobilization and Demobilization                | 1     | LS   | \$ 161,400.00 | \$ 161,400.00          |
| 2                           | 2" HDPE Pressure Main (HDD)                    | 7,000 | LF   | \$ 25.00      | \$ 175,000.00          |
| 3                           | 3" HDPE Pressure Main (HDD)                    | 1,400 | LF   | \$ 30.00      | \$ 42,000.00           |
| 4                           | 4" HDPE Pressure Main (HDD)                    | 1,700 | LF   | \$ 35.00      | \$ 59,500.00           |
| 5                           | Terminal Flushing Connections                  | 8     | EA   | \$ 10,000.00  | \$ 80,000.00           |
| 6                           | 1.5" LPS Service Laterals and Curb Boxes       | 1     | LS   | \$ 175,000.00 | \$ 175,000.00          |
| 7                           | Simplex Grinder Pump Station and Control Panel | 118   | EA   | \$ 7,500.00   | \$ 885,000.00          |
| 8                           | 1.5" LPS Service Lateral and Connection        | 118   | EA   | \$ 3,000.00   | \$ 354,000.00          |
| 9                           | Existing Septic System Abandonment             | 1     | LS   | \$ 250,000.00 | \$ 250,000.00          |
| 10                          | Lift Station and Generator                     | 1     | LS   | \$ 486,000.00 | \$ 486,000.00          |
| 12                          | 6" Force Main, Directionally Drilled           | 3,000 | LF   | \$ 130.00     | \$ 390,000.00          |
| 11                          | 6" Force Main, Jack and Bore                   | 220   | LF   | \$ 60.00      | \$ 13,200.00           |
| 13                          | 12" Casing Pipe for Jack and Bore              | 220   | LF   | \$ 500.00     | \$ 110,000.00          |
| 14                          | Force Main Locate Box and Marker               | 6     | EA   | \$ 1,500.00   | \$ 9,000.00            |
| 15                          | New FM Connection to Gravity Sewer             | 1     | LS   | \$ 4,000.00   | \$ 4,000.00            |
| 16                          | HMA, Surface, Type B, 9.5 mm                   | 130   | TON  | \$ 110.00     | \$ 14,300.00           |
| 17                          | Asphalt for Tack Coat                          | 5,830 | SY   | \$ 0.75       | \$ 4,400.00            |
| 18                          | Utility Coordination and Potholing Allowance   | 1     | ALW  | \$ 25,000.00  | \$ 25,000.00           |
| 19                          | Local Electric Utility Allowance               | 1     | ALW  | \$ 50,000.00  | \$ 50,000.00           |
| 20                          | Dewatering                                     | 1     | LS   | \$ 100,000.00 | \$ 100,000.00          |
| 21                          | Erosion Control                                | 1     | LS   | \$ 96,800.00  | \$ 96,800.00           |
| 22                          | Final Grading and Seeding                      | 1     | LS   | \$ 64,600.00  | \$ 64,600.00           |
| 23                          | Construction Engineering                       | 1     | LS   | \$ 96,800.00  | \$ 96,800.00           |
| <b>Subtotal</b>             |                                                |       |      |               | <b>\$ 3,646,000.00</b> |
| <b>Contingency (10%)</b>    |                                                |       |      |               | <b>\$ 364,600.00</b>   |
| <b>BABA Allowance (10%)</b> |                                                |       |      |               | <b>\$ 364,600.00</b>   |
| <b>Total</b>                |                                                |       |      |               | <b>\$ 4,376,000.00</b> |

| Useful Life | Salvage   | SLA      | O&M         |
|-------------|-----------|----------|-------------|
| 50          | \$73,427  | \$0      |             |
| 50          | \$17,622  | \$0      |             |
| 50          | \$24,965  | \$0      |             |
| 40          | \$27,972  | \$0      |             |
| 40          | \$61,189  | \$0      |             |
| 15          | \$0       | \$0      |             |
| 50          | \$148,531 | \$0      |             |
|             |           |          |             |
| 15          | \$0       | \$21,600 | \$ 2,650.00 |
| 50          | \$163,636 | \$0      |             |
| 50          | \$5,538   | \$0      |             |
| 50          | \$46,154  | \$0      |             |
| 40          | \$3,147   | \$0      |             |
|             |           |          |             |
|             |           |          |             |
|             |           |          |             |
|             |           |          |             |
|             |           |          |             |
|             |           |          |             |
| Total       | \$572,182 | \$21,600 | \$2,650     |



**Phillip's Addition LPS Cost Estimate**

| Item No.                    | Item                                           | Qty    | Unit | Unit Cost     | Cost                   |
|-----------------------------|------------------------------------------------|--------|------|---------------|------------------------|
| 1                           | Mobilization and Demobilization                | 1      | LS   | \$ 128,700.00 | \$ 128,700.00          |
| 2                           | 2" HDPE Pressure Main (HDD)                    | 13,600 | LF   | \$ 25.00      | \$ 340,000.00          |
| 3                           | 3" HDPE Pressure Main (HDD)                    | 1,200  | LF   | \$ 30.00      | \$ 36,000.00           |
| 4                           | Terminal Flushing Connections                  | 8      | EA   | \$ 10,000.00  | \$ 80,000.00           |
| 5                           | 1.5" LPS Service Laterals and Curb Boxes       | 1      | LS   | \$ 175,000.00 | \$ 175,000.00          |
| 6                           | Simplex Grinder Pump Station and Control Panel | 140    | EA   | \$ 7,500.00   | \$ 1,050,000.00        |
| 7                           | 1.5" LPS Service Lateral and Connection        | 140    | EA   | \$ 3,000.00   | \$ 420,000.00          |
| 8                           | Existing Septic System Abandonment             | 1      | LS   | \$ 300,000.00 | \$ 300,000.00          |
| 9                           | 8" Casing Pipe for Jack and Bore               | 200    | LF   | \$ 450.00     | \$ 90,000.00           |
| 10                          | Force Main Locate Box and Marker               | 1      | EA   | \$ 1,500.00   | \$ 1,500.00            |
| 11                          | New FM Connection to Gravity Sewer             | 1      | LS   | \$ 4,000.00   | \$ 4,000.00            |
| 12                          | HMA, Surface, Type B, 9.5 mm                   | 150    | TON  | \$ 110.00     | \$ 16,500.00           |
| 13                          | Asphalt for Tack Coat                          | 6,890  | SY   | \$ 0.75       | \$ 5,200.00            |
| 14                          | Utility Coordination and Potholing Allowance   | 1      | ALW  | \$ 40,000.00  | \$ 40,000.00           |
| 15                          | Dewatering                                     | 1      | LS   | \$ 15,000.00  | \$ 15,000.00           |
| 16                          | Erosion Control                                | 1      | LS   | \$ 77,200.00  | \$ 77,200.00           |
| 17                          | Final Grading and Seeding                      | 1      | LS   | \$ 51,500.00  | \$ 51,500.00           |
| 18                          | Construction Engineering                       | 1      | LS   | \$ 77,200.00  | \$ 77,200.00           |
| <b>Subtotal</b>             |                                                |        |      |               | <b>\$ 2,907,800.00</b> |
| <b>Contingency (10%)</b>    |                                                |        |      |               | <b>\$ 290,800.00</b>   |
| <b>BABA Allowance (10%)</b> |                                                |        |      |               | <b>\$ 290,800.00</b>   |
| <b>Total</b>                |                                                |        |      |               | <b>\$ 3,490,000.00</b> |

| Useful Life | Salvage   | SLA | O&M |
|-------------|-----------|-----|-----|
| 50          | \$142,657 | \$0 |     |
| 50          | \$15,105  | \$0 |     |
| 40          | \$27,972  | \$0 |     |
| 40          | \$61,189  | \$0 |     |
| 15          | \$0       | \$0 |     |
| 50          | \$176,224 | \$0 |     |
|             |           |     |     |
| 50          | \$37,762  | \$0 |     |
| 40          | \$524     | \$0 |     |
|             |           |     |     |
|             |           |     |     |
|             |           |     |     |
|             |           |     |     |
| Total       | \$461,434 | \$0 | \$0 |

**Appendix C**  
**OMB Circular No. A-94**

**APPENDIX C**  
**(Revised December 28, 2023)**

**DISCOUNT RATES FOR COST-EFFECTIVENESS, LEASE PURCHASE,  
AND RELATED ANALYSES**

**Effective Dates.** This appendix is updated annually. This version of the appendix is valid for calendar year 2024. A copy of the updated appendix can be obtained in electronic form through the OMB home page at <https://www.whitehouse.gov/wp-content/uploads/2023/12/CircularA-94AppendixC.pdf>. The text of the Circular is found at <https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-94.pdf>, and a table of past years' rates is located at <https://www.whitehouse.gov/wp-content/uploads/2023/12/CircularA-94DiscountHistory.pdf>. Updates of the appendix are also available upon request from OMB's Office of Economic Policy ([a94@omb.eop.gov](mailto:a94@omb.eop.gov)).

**Nominal Discount Rates.** A forecast of nominal or market interest rates for calendar year 2024 based on the economic assumptions for the 2025 Budget is presented below. These nominal rates are to be used for discounting nominal flows, which are often encountered in lease-purchase analysis.

**Nominal Interest Rates on Treasury Notes and Bonds  
of Specified Maturities (in percent)**

| <u>3-Year</u> | <u>5-Year</u> | <u>7-Year</u> | <u>10-Year</u> | <u>20-Year</u> | <u>30-Year</u> |
|---------------|---------------|---------------|----------------|----------------|----------------|
| 4.5           | 4.4           | 4.4           | 4.4            | 4.7            | 4.7            |

**Real Discount Rates.** A forecast of real interest rates from which the inflation premium has been removed and based on the economic assumptions from the 2025 Budget is presented below. These real rates are to be used for discounting constant-dollar flows, as is often required in cost-effectiveness analysis.

**Real Interest Rates on Treasury Notes and Bonds  
of Specified Maturities (in percent)**

| <u>3-Year</u> | <u>5-Year</u> | <u>7-Year</u> | <u>10-Year</u> | <u>20-Year</u> | <u>30-Year</u> |
|---------------|---------------|---------------|----------------|----------------|----------------|
| 2.2           | 2.2           | 2.2           | 2.3            | 2.5            | 2.5            |

Analyses of projects with terms different from those presented above may use a linear interpolation. For example, a four-year project can be evaluated with a rate equal to the average of the three-year and five-year rates. Projects with durations longer than 30 years may use the 30-year interest rate.





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