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Adams County Regional Sewer District

ACRSD—2018 Sanitary Sewer Improvements
Preliminary Engineering Report
August 2018

A Wealth of Resources to Master a Common Goal

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CHAPTER I – PROJECT LOCATION & SERVICE AREA

In this Chapter, we define the proposed project location and service area. Also, we review background information and the current characteristics of the service area. This information is important for use in the engineering analyses and the decision-making process that we develop in subsequent sections.

A. GENERAL INFORMATION

Adams County is currently investigating the sewage disposal issues associated with concentrations of homes in unincorporated areas of the county in relatively proximity to established existing treatment entities. The solutions and recommendations with respect to sewage collection and treatment are based upon sound engineering judgement and accepted industry technologies.

The areas being considered for sanitary sewer improvements are located within St. Mary's Township, Hartford Township, Root Township, Preble Township, Kirkland Township, and Union Township within Adams County. The predominant land use within the areas consists of low and medium density residential properties.

In **Table 1**, we have outlined the median incomes of those persons living within the various places (census areas) included in the Service Area according to the 2012-2016 American Community Survey 5-Year Estimates.

Table 1 - Service Area Places Median Incomes

Place	Median Household Income (1)
Adams County	\$47,572
St. Mary's Township	\$44,417
Hartford Township	\$42,132
Root Township	\$61,813
Preble Township	\$61,042
Kirkland Township	\$62,440

⁽¹⁾ From 2012-2016 American Community Survey 5-Year Estimates

Figure 1, located in **Appendix "A"**, depicts each of the District's existing service areas within Adams County. **Figure 2**, located in **Appendix "A"**, depicts each of the

proposed service areas with respect to their location within the District's service area or Adams County.

B. LOCATION & SERVICE AREA

1. Existing Service Area

The Adams County Regional Sewer District encompasses an area that incorporates all of Adams County except for the corporate limits of existing cities and towns and those areas serviced by other utilities.

2. Twenty Year Study Area & Service Area

The 20-year Study Area and Service Area are the current unincorporated areas of Adams County. The primary topographic features that dominates the area are the Wabash River, which through the southern part of the county, and the St. Mary's River, which runs through the northern part of the county. The elevations within the Planning Areas vary approximately 40' and are as follows, (a) from 818 feet above mean sea level ('msl') to 835' msl in the Linn Grove service area; (b) from 820' msl to 835' msl in the Rivare service area; (c) from 785' msl to 800' msl in the Barrington Woods service area; (d) from 810' msl to 820' msl in the Preble service area; (e) from 800' msl to 815' msl in the Peterson service area; and (f) from 793' msl to 830' msl in the Monmouth Extended service area.

3. Project Area

The Project Area consists of seven (7) separate geographic locations within the county, as described below:

a. **Linn Grove Service Area**

The project area is located in Hartford Township, T 25N R 13E, Sections 1, 2, 3 & 11 and in Wabash Township, T 25N R 14E, Sections 5, 6 & 7, Linn Grove & Berne Quadrangles. The service area contains approximately 70 structures, is centered at the intersection of C.R. 700 S. and Water Street and lies on the west bank of the Wabash River.

b. **Rivare (Bobo) Service Area**

The project area is located in St. Mary's Township, T 27N R 15E, Sections 6, 7, 8 & 9 and in Washington Township, T 27N R 14E, Sections 1 & 12, Wren & Decatur Quadrangles. The service area

contains approximately 31-56 structures (dependent on transmission route) and is centered at the intersection of S.R. 101 and C.R. 450 N in the eastern portion of the county, north of the Pleasant Mills and east of Decatur.

c. Barrington Woods Service Area

The project area is located in Root Township, T 28N R 14E, Sections 28 & 29, Decatur Quadrangle. The service area contains approximately 37-42 structures, including the Barrington Woods housing addition and Prestress Services Industries, LLC. The service area is in the northwestern portion of the county, directly northwest of Decatur along Winchester Road.

d. Preble Service Area

The project area is located in Preble Township, T 27N R 13E, Sections 35 & 36, in Kirkland Township, T 28N R 13E, Sections 1 & 2, and in Root Township, T 28N R 14E, Sections 31, 32 & 33, Preble & Decatur Quadrangles. The service area contains approximately 59 structures and is centered at the intersection of U.S. 224 and N 400 W, west of Decatur.

e. Peterson Service Area

The project area is located in Kirkland Township, T 27N R 13E, Sections 1, 2, 11 & 12, Preble Quadrangle. The service area contains approximately 33 structures and is centered at the intersection of N 400 W and W 500 N, west of Decatur.

f. Monmouth Extended Service Area

The project area is located in Root Township, T 28N R 14E, Sections 14, 15, 16, 22 & 23, Hoagland Quadrangle. The service area contains approximately 38 structures and is centered at the intersection of W 900 N and N 100 E, directly north of Decatur.

g. Clem's Lake Service Area

The project area is located in Root Township, T 28N R 14E, Sections 24, 25, 26, 35 & 36, Decatur Quadrangle. The service area contains approximately 55 structures and is centered at the intersection of N 200 E and E Lakeside Drive, directly northeast of Decatur.

The proposed sanitary sewer projects consist of extending municipal sanitary sewer service to unincorporated areas within Adams County to affect the relief of failed or failing septic systems. Each area is described in further detail in Chapters III, IV & VI. All projects will be constructed within existing road right-of-way and existing easements where possible. There will be a need for some mainline easements and grinder pump station easements for individual services.

CHAPTER II – CURRENT SITUATION & EXISTING FACILITIES

In this chapter, we provide a description of the Adams County Regional Sewer District existing service areas. The purpose of this chapter is the description of the current situation of the existing facilities throughout the District with a concentration on the existing sanitary sewage collection systems within the District service areas.

A. DESCRIPTION/CONDITION OF EXISTING COLLECTION SYSTEM

1. Existing Service Areas

The Adams County Regional Sewer District's service area includes all of the unincorporated areas of Adams County not being served by other utilities. Currently, the existing service areas can best be broken down into the regions where the District currently provides sewer service to customers. At this time, these regions consist of three (3) separate areas within the county. These areas are known as Monmouth – Roe Acres Service Area, Arcadia Village Service Area, and Pleasant Mills Service Area. **Figure 1 in Appendix "A"** shows these areas.

2. System Components

The District's collection systems are approximately 50,000 feet long, with most of the area comprising of commercial, industrial and residential land use. The following is a summary of the inventory of the District's existing sewer system:

Sanitary Sewers	
<u>Size</u>	<u>Length</u>
2"	8,997 L.F.
3"	2,306 L.F.
4"	33 L.F.
6"	23,418 L.F.
8"	14,795 L.F.
12"	42 L.F.

The collection system also consists of 61 grinder pump stations and three regional lift stations: Monmouth/Roe Acres Lift Station, Arcadia Village Lift Station and Pleasant Mills Lift Station.

3. Collection System Conditions

The collection system is currently in new condition. The sewers in the Monmouth – Roe Acres, Arcadia Village and Pleasant Mills Service Areas were constructed and put into service in 2017.

4. Proposed Service Areas

At the present time there are no municipal sewage collection systems serving the areas involved in this study. The only municipal sewer systems are located in the City of Decatur, the City of Berne and the Towns of Geneva and Monroe. Each property owner is responsible for their own individual septic system operation and maintenance as well as for the reconstruction of their system if it fails outside of these established sewer systems.

B. DESCRIPTION OF OPERATING PROBLEMS AND VIOLATIONS

Currently, there are no centralized or municipal wastewater collection and treatment systems located in the project planning areas. Each existing structure is currently served by an on-site, conventional septic tank with a soil absorption field or in some cases a direct tile connection to a local waterway or community/county field tile.

1. Health and Safety

Failing septic systems concentrated in clusters of homes throughout the county, primarily, discharging filter beds, no longer in compliance with current codes represent serious health and safety issues that the District intends to address. First and foremost, failing, individual on-site septic systems serving existing residential development represent a serious environmental concern to the impacted receiving waters. Secondly, the lack of appropriate separation between the failed systems and the structure's potable water wells creates concerns with respect to drinking water quality. The current problems generally associated with the presence of failing septic systems include the following:

- a. The potential for pollution of the receiving waters where outfalls from failed septic systems exist.
- b. The threat of disease-carrying pathogens from contact with polluted waters as a result of failed systems.
- c. Inability to sell property or make structural improvements due to a lack of properly functioning septic system.

- d. The potential for contamination of existing potable drinking water wells due to failed systems.

CHAPTER III – FUTURE SITUATIONS

A. HISTORICAL & PROJECTED POPULATION

The historical population of the county was reviewed as a basis for population projections during the planning period. The projection of population into the future is an important factor in the planning process.

1. Historical Population

Currently, the population of the customers serviced by the Adams County Regional Sewer District is estimated at approximately 649 persons according to current residential totals (approximately 227 residential customers at 2.86 persons per household – 34,387 Adams Co. 2010 Census/12,011 Occupied Households). The population of the areas to be served by the proposed sanitary sewer system improvements project is estimated at approximately 924 persons according to current residential totals using 323 new connections or 1,010 persons using 353 new connections.

Due to the changing demographics of the District with respect to service areas and the limited extent of the District's existing collection systems, it is difficult to gauge actual serviced population in the District as opposed to total statutory District area residents, although it can easily be assumed that the current population is a tiny fraction of the total unserved area within the county. It is safe to assume that the District's growth will come in the form of new residential connections as the District will primarily be involved in septic elimination projects. Growth associated with the connection of additional service areas and the subsequent financing of capital costs associated with the new territories is expected to follow a steady rate of expansion in the next 20+ years.

Table 2 shows the historical population in the study area during the planning period.

Table 2 - Historical Population of Adams County

Year	Population (Persons)⁽¹⁾	Change (Annual %)
1940	21,254	
1950	22,393	0.54%
1960	24,643	1.00%
1970	26,871	0.90%
1980	29,619	1.02%
1990	31,095	0.50%
2000	33,625	0.81%
2010	34,387	0.23%
Average		0.72%

⁽¹⁾U.S. Census Data – 2010 Census

2. Projected Population

The projection of the District’s future population is important to the planning and design of any improvements to the collection system. The future increase in wastewater flows is generally in direct proportion to the population growth (unless a major industry or other wastewater user unplanned at this time connects to the system). It should be noted that currently there exists very little growth within the service areas, by and large, the impetus behind providing sewer service to each of the regions was driven by failing septic systems. Based on historical growth rates, the projected growth rate of the county is approximately 0.72% per year.

Table 3 shows the projected population in the county during the Planning Period.

Table 3 - Projected Population

Year	Change (Annual %) ⁽¹⁾	Population (Persons)
2018	0.72%	36,404
2023	0.72%	37,725
2028	0.72%	39,093
2033	0.72%	40,511
2038	0.72%	41,981

⁽¹⁾ Based on average historical change from 1940 to 2010

This table shows that the growth rate of the county is anticipated to be low. The growth of the District will be controlled by need to service areas that have failing septic systems and the ability to service the area.

B. CURRENT & PROJECTED FLOWS AND LOADINGS

1. Current Customer Base

The Adams County Regional Sewer District currently serves approximately 227 residential connections. Theoretically, the residential customers of the District contribute 70,370 gallons in terms of total daily flow to their ultimate treatment provider based upon the general average flow rate per residential service connection derived from state tables. In reality, flows from the area range from about 150 to 200 gallons per day per connection or 34,050 gallons to 45,400 gallons of total daily flow. Each of the District's service areas flow through master meters for billing purposes.

2. Projected Customer Base

Preliminary design flow data from each of the proposed new service areas is as follows:

(1) Linn Grove Service Area (Figure 3), 70 Connections with total estimated average flow of 21,700 GPD and total estimated peak flows of 86,800 GPD;

(2) Rivare (Bobo) Service Area (Figure 4), 31-56 Connections with total average flow of 9,920 to 17,360 GPD and total estimated peak flows of 39,680 to 69,400 GPD.

(3) Barrington Woods Service Area (Figure 5), 37-42 Connections with total average flow of 18,160 to 19,710 GPD and total estimated peak flows of 72,640 to 78,840 GPD.

(4) Preble Service Area (Figure 6), 59 Connections with total average flow of 18,290 GPD and total estimated peak flows of 73,160 GPD.

(5) Peterson Service Area (Figure 7), 33 Connections with total average flow of 10,230 GPD and total estimated peak flows of 40,920 GPD.

(6) Monmouth Extended Service Area (Figure 8), 30 Connections with total average flow of 9,300 GPD and total estimated peak flows of 37,200 GPD.

(7) Clem’s Lake Service Area (Figure 9), 55 Connections with total average flow of 9,300 GPD and total estimated peak flows of 37,200 GPD.

Table 4 provides the organic loading summary for the new project areas.

Table 4 - Wastewater Loading for Project Areas

Project Area	Flow (gpd)	Concentration (mg/l) ⁽¹⁾				Loadings (lbs/day)			
		BOD5	TSS	Ammonia	P	BOD5	TSS	Ammonia	P
Linn Grove									
Residential (70)	21700	220	220	25	8	39.82	39.82	4.52	1.45
Rivare (Bobo)									
Residential (31)	9610	220	220	25	8	17.63	17.63	2.00	0.64
Residential (56)	17360	220	220	25	8	31.85	31.85	3.62	1.16
Barrington Woods									
Residential (36)	11160	220	220	25	8	20.48	20.48	2.33	0.74
Residential (41)	12710	220	220	25	8	23.32	20.48	2.65	0.85
Industrial	7000	400	350	50	15	23.35	20.43	2.92	0.88
Preble									
Residential (59)	18290	220	220	25	8	33.56	33.56	3.81	1.22
Peterson									
Residential (33)	10230	220	220	25	8	18.77	18.77	2.13	0.68
Monmouth Ext.									
Residential (38)	11780	220	220	25	8	21.61	21.61	2.46	0.79
Clem’s Lake									
Residential (55)	17050	220	220	25	8	31.28	31.28	3.55	1.14

⁽¹⁾Residential – Medium Concentrations – *Metcalf & Eddy, Inc. 3rd Edition*

⁽²⁾Industrial – Strong Concentrations – *Metcalf & Eddy, Inc. 3rd Edition*

CHAPTER IV – EVALUATION OF ALTERNATIVES

A. COLLECTION SYSTEM ALTERNATIVES

The following alternatives/potential projects with respect to the ongoing mission of the Adams County Regional Sewer District to eliminate failing septic systems and provide rural residents with municipal sanitary sewer service have been considered and investigated. In addition, due to the District's desire to continue to provide a financing mechanism to residents outside of established municipal service areas, the need to correct the health hazards with respect to failing septic systems and the desire of the residents in these areas to achieve municipal sewer service, the District has elected to pursue options to remedy the current situation. The following alternatives represent the District's options:

1. No Action Alternative

This option would require the District to do nothing or take a course of 'No Action' and continue to maintain their existing collection systems and pump stations and pursue no new regions which are currently in need of sewer service. This option is not realistic due to the pressing needs of many of the area's residents, nor is it in line with the District's philosophy with respect to unsewered areas, not to mention the increased pressure for action in many areas from the Adams County Department of Health. Failure to act in many cases would lead to enforcement actions by the AC DOH with respect to individual properties, costly septic system replacements, pump and haul decrees or in some cases the abandonment of homes where no solution exists.

2. Linn Grove

a. Option 1 - Gravity w/ Force Main to Berne

This alternative consists of a gravity collection system to serve Linn Grove, a lift station and a transmission force main to the City of Berne for treatment. **Figures 3A-1 – 3A-6 in Appendix "A"** show this option. This option's planning level estimate of project costs is detailed in a cost estimate found in **Appendix "D"**.

b. Option 2 - Gravity w/ Force Main to Vera Cruz

This alternative consists of a gravity collection system to serve Linn Grove, a lift station and a transmission force main to Vera Cruz. The wastewater would then be re-pumped to the City of Bluffton for treatment. **Figures 3A-7 – 3A-15 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

c. Option 3 - Low Pressure w/ Force Main to Berne

This alternative consists of a low-pressure collection system to serve Linn Grove, a lift station and a transmission force main to the City of Berne for treatment. **Figures 3A-16 – 3A-17 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

3. Rivare (Bobo)

a. Option 1 - Gravity w/ Force Main to Decatur

This alternative consists of a gravity collection system to serve Rivare, a lift station and a transmission force main to the City of Decatur for treatment. Simplex grinder pump stations will be incorporated along the force main to serve individual properties. **Figures 4A-1 – 4A-6 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

b. Option 2 - Gravity w/ Force Main to Pleasant Mills

This alternative consists of a gravity/low-pressure collection system for Rivare, a lift station and a transmission force main to Pleasant Mills. The wastewater would then be re-pumped to Arcadia Village and then to the City of Decatur for treatment. **Figures 4A-7 – 4A-12 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

c. Option 3 – Low Pressure w/ Force Main to Decatur

This alternative consists of a low-pressure collection system to serve Rivare, a lift station and a transmission force main to the City of Decatur for treatment. Simplex grinder pump stations will be incorporated along the force main to serve individual properties. **Figures 4A-13 – 4A-14 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

4. Barrington Woods

a. Gravity and Low Pressure w/ Force Main to Decatur

This alternative consists of a gravity/low-pressure collection system to serve the Barrington Woods Addition and Prestress Services Industries, a lift station and a transmission force main to the City of Decatur for treatment. Simplex grinder pump stations will be incorporated along the low pressure main to serve individual properties. **Figures 5A-1 – 5A-4** in **Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

b. Gravity and Low Pressure w/ Force Main to Decatur

This alternative consists of a gravity/low-pressure collection system to serve the Barrington Woods Addition and Prestress Services Industries, a lift station and a transmission force main to the City of Decatur for treatment. Simplex grinder pump stations will be incorporated along the low pressure main to serve individual properties. **Figures 5A-5 – 5A-8** in **Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

c. Low Pressure to Decatur

This alternative consists of a low-pressure collection system coupled with grinder pump stations to serve Barrington Woods. The low-pressure system will be connected to the City of Decatur for treatment. **Figures 5A-9 – 5A-12** in **Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

5. Preble

a. Gravity w/ Force Main to Decatur

This alternative consists of a gravity collection system to serve Preble, a lift station and a transmission force main to the City of Decatur for treatment. **Figures 6A-1 – 6A-5** in **Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

b. Gravity and Low Pressure w/ Force Main to Decatur

This alternative consists of a gravity/low-pressure collection system to serve Preble, a lift station and a transmission force main to the City of Decatur for treatment. Simplex grinder pump stations will be incorporated along the low pressure main to serve individual properties. **Figures 6A-6 – 6A-10 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

c. Low Pressure w/ Force Main to Decatur

This alternative consists of a low-pressure collection system to serve Preble, a lift station and a transmission force main to the City of Decatur for treatment. Simplex grinder pump stations will be incorporated along the low pressure main to serve individual properties. **Figures 6A-11 – 6A-13 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

6. Peterson

a. Gravity and Low Pressure w/ Force Main to Preble

This alternative consists of a gravity/low-pressure collection system to serve Peterson, a lift station and a transmission force main to Preble. The wastewater will then be pumped to the City of Decatur for treatment. Simplex grinder pump stations will be incorporated along the low pressure main to serve individual properties. **Figure 7A-1 – 7A-2 in Appendix “A”** shows this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

b. Low Pressure to Preble

This alternative consists of a low-pressure collection system coupled with grinder pump stations to serve Peterson. The low-pressure system will be connected to the Preble collection system and then pumped to the City of Decatur for treatment. **Figures 7A-3 – 7A-4 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

7. Monmouth Extended

a. Low Pressure to Monmouth

This alternative consists of a low-pressure collection system coupled with

grinder pump stations to serve properties along CR E 900 N. The low-pressure system will be connected to the Monmouth collection system and then pumped to the City of Decatur for treatment. **Figures 8A-1 – 8A-3 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

8. Clem’s Lake

a. Low Pressure to Decatur

This alternative consists of a low-pressure collection system coupled with grinder pump stations to serve properties along CR E 800 N, N 200 E, E Lakeside Drive and E Belmont Road. The low-pressure system will connect to the City of Decatur for treatment. **Figures 9A-1 – 9A-3 in Appendix “A”** show this option. This option’s planning level estimate of project costs is detailed in a cost estimate found in **Appendix “D”**.

Table 5 shows the construction costs, non-construction costs, total project costs and present worth cost for option. Please see **Appendix “D”** for more details and the Life Cycle Cost Analysis for each option.

Table 5 - Cost Comparison

Alternate	Construction Cost in 2018 Dollars	Non-Construction Cost in 2018 Dollars	Total Cost in 2018 Dollars	20-Year Life-Cycle Present Worth Cost in 2018 Dollars
Linn Grove - Option 1	\$2,169,000	\$542,000	\$2,711,000	\$2,261,339
Linn Grove - Option 2	\$2,311,000	\$577,000	\$2,888,000	\$2,398,257
Linn Grove - Option 3	\$2,123,000	\$530,000	\$2,653,000	\$2,387,374
Rivare - Option 1	\$1,843,000	\$276,000	\$2,119,000	\$1,876,069
Rivare - Option 2	\$1,456,000	\$145,000	\$1,601,000	\$1,355,645
Rivare - Option 3	\$1,728,000	\$432,000	\$2,160,000	\$1,984,587
Barrington Woods - Option 1	\$1,069,000	\$267,000	\$1,336,000	\$1,207,448
Barrington Woods - Option 2	\$1,039,000	\$259,000	\$1,298,000	\$1,185,537
Barrington Woods - Option 3	\$722,000	\$180,000	\$902,000	\$826,631
Preble - Option 1	\$1,934,000	\$483,000	\$2,417,000	\$2,043,252
Preble - Option 2	\$1,866,000	\$466,000	\$2,332,000	\$2,065,810

Preble - Option 3	\$1,714,000	\$428,000	\$2,142,000	\$1,952,248
Peterson - Option 1	\$937,000	\$234,000	\$1,171,000	\$1,079,030
Peterson - Option 2	\$561,000	\$140,000	\$701,000	\$658,882
Monmouth Extended	\$546,000	\$136,000	\$682,000	\$648,689
Clem's Lake	\$777,000	\$194,000	\$971,000	\$890,776

*The selected option for each alternative is bold. See Appendix "D" for more detail on each alternative option.

B. DESIGN CRITERIA

With regard to the District's proposed projects in the new service areas, options for transportation and treatment were evaluated with respect to the District's existing utility customers, however, due to the independent nature to date of the District's collection systems impacts to existing users will be minimal.

As a part of each of the District's sanitary sewer system improvement projects, all design criteria will be in accordance with 327 IAC 3 as well as the Ten States Standards for Sewage Works. The hydraulic calculations for each project of any pump stations, treatment facilities, etc. will be submitted as a part of the actual design of the individual service area improvements. The submission of the actual design calculations will accompany the submittal of the drawings and specifications for approval by IDEM.

Each of the proposed sanitary sewer system improvements projects represents a municipal sanitary sewer solution for existing development currently served by failing, onsite septic systems. The District will assume operation, billing and maintenance responsibilities for all areas and will pay for treatment by the City of Decatur and the City of Berne. With respect to the alternatives, the 'No Action' alternative was removed from consideration because of the District's desire to affect the relief of failing septic systems in new service areas. With respect to the potential projects, the District intends to implement municipal sewer service in each area.

C. PUMP STATIONS

The Linn Grove, Rivare (Bobo) and Preble areas will require the installation of a pump station (submersible) to convey the area's raw sewage to its ultimate treatment entity. The pumps will be sized to maintain minimum of 2 fps for scouring velocity.

The District intends to install simplex grinder pump stations coupled with small diameter force mains for select residential sewer service. Each of these stations will come equipped with one 30 gallon per minute (max.) pump coupled with 1-1/2", 2", and 3" diameter force mains.

D. LAND REQUIREMENTS

In order to keep project costs at a reasonable rate for the projected new users, the District's acquisition of various utility easements will be required to facilitate the installation of the proposed collection systems in select areas. A letter of intent indicating that the District will negotiate in good faith with the respective landowners for the purchase of the easement(s) is found in **Appendix "C"**.

Land acquisition may be required due to narrow right-of-ways and cost prohibitive installations along the existing roadway. The remaining utility installations will be installed within existing roadway right-of-way or existing utility easements previously disturbed by construction.

CHAPTER V – EVALUATION OF ENVIRONMENTAL IMPACTS

For the purposes of an environmental evaluation of the proposed projects, we will attempt to document negative impacts the projects may cause to the surrounding environment and environmental resources. It should be noted that the primary goal of the proposed sanitary sewer system projects is to eliminate individual, on-site septic systems which in many cases are currently discharging poorly treated sanitary sewage to local streams or ditches thereby creating environmental issues. The following environmental information will set forth mitigation measures outlined in similar responses to previous project's requests for environmental impacts documentation and will be implemented to minimize potential negative environmental impacts associated with the proposed sanitary sewer system improvements projects.

A. LAND & SOIL IMPACTS

1. Soils & Geology

The soils and geology of the various project areas will not be adversely impacted by the proposed sanitary sewer improvements project. In **Figures 3C, 4C, 5C, 6C, 7C, 8C & 9C**, located in **Appendix "A"**, we set forth the project area on appropriate USDA Soils Map.

Sewer construction is set to occur within existing roadway right-of-way or within existing utility corridors previously disturbed by construction.

The project areas will comply with IDEM's Rule 5 requirements with respect to the mitigation of soil erosion and a detailed plan will be submitted for approval with the completed construction plans and specifications. Mitigation measures cited in typical comment letters from the Indiana Department of Environment Management concerning the use of straw bale barriers, silt fencing or earthen berms to prevent soil erosion will be incorporated into the erosion control plans and specifications and implemented during construction. Careful preparation of the plans and specifications will ensure that soil erosion is kept to a minimum.

2. Prime Agricultural Farmland

Farmland Conversion Impact Rating Form AD – 1006 has been completed and sent to the State Conservationist for evaluation. See **Appendix "F"** for the completed Farmland Conversion Form sent for review to the State Conservationist and the response received.

3. Disturbed – Undisturbed Land

The Sanitary Sewer Improvements project will be constructed on previously disturbed land. The transmission force main, pressure sewer collection system and the pressure sewer service laterals will be installed via directional drilling so there will be minimal impacts in these areas. The gravity sewer collection system will be open cut in existing road right-of-way and utility easements.

4. Topography & Elevations

The topography of the proposed project areas is primarily flat to gently rolling with elevations ranging from the upper 700s to low 800s. The following is a description of the topography and elevations at each location of project service areas:

Linn Grove

The topography of this service area is flat to gently rolling with elevations ranging from 818 to 835. The lots in the area are flat with moderate slopes to the Wabash River.

Rivare (Bobo)

The topography of this service area is flat to gently rolling with elevations ranging from 820 to 835 feet. The lots in the area are flat with moderate slopes to the Cleaver #2 Branch #1 Ditch and Death #2 Ditch.

Barrington Woods

The topography of this service area is flat to gently rolling with elevations ranging from 785 to 800 feet. The lots in the area are flat with moderate slopes to the St. Mary's River.

Preble

The topography of this service area is fairly flat with elevations ranging from 810 to 820 feet. The lots in the area are flat with moderate slopes to the Scheery Ditch.

Peterson

The topography of this service area is flat to gently rolling with elevations ranging from 800 to 815 feet. The lots in the area are flat with moderate slopes to Holthouse Ditch.

Monmouth Extended

The topography of this service area is flat to gently rolling with elevations ranging from 800 to 848 feet. The lots in the area are flat with moderate slopes to Gerke Ditch.

Clem's Lake

The topography of this service area is flat to gently rolling with elevations ranging from 793 to 830 feet. The lots in the area are flat with moderate slopes to Caffee Branch #1 and the Bell Drain.

B. SURFACE WATER HYDROLOGY

1. Outstanding State Resources Waters, Exceptional Use Streams, Natural & Scenic Rivers

The Wabash River constitutes an outstanding state resources waterway in Adams County. There are no exceptional use streams, natural or scenic rivers in Adams County near the proposed project site. There are no waters of high quality in Adams County near the proposed project site. The Sanitary Sewer Improvements project will not adversely affect any outstanding state resources waters, limited or exceptional use streams, or natural and scenic rivers.

2. Wetlands

The Federal government defines wetlands as areas:

- a. with hydric soil (soil formed in the presence of water), and
- b. water at or near the ground surface long enough in the growing season to support hydrophytic vegetation.

We reviewed the National Wetlands Inventory Maps of the service areas to identify wetlands that might be affected by the Sanitary Sewer Improvements project. No structures associated with the proposed project will be constructed on Wetlands identified on the NWI maps. Mitigation measures to lessen impacts to wetlands during construction typically cited in comment letters from the Indiana Department of Environment Management, the Indiana Department of Natural Resources and the U.S. Fish & Wildlife Service will be implemented. Permits will be solicited, if necessary, from the Army Corps of Engineers and the IDNR.

Figures 3D, 4D, 5D, 6D, 7D, 8D & 9D in **Appendix “A”**, depict the proposed project on the National Wetlands Inventory Maps.

3. Floodways

The Federal Emergency Management Agency (FEMA) completes comprehensive flood studies for the service areas. 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 increasing the water surface elevation of the 100-year flood. We need to take floodways into consideration in the planning of any project. Due to accessibility, operations, maintenance and safety issues, new facilities should avoid floodways where possible. In the service areas, floodways, as defined by FEMA, exist along the Wabash River in the Linn Grove Project Area. Floodplains exist in the Peterson Project Area, Barrington Woods Project Area, and Monmouth Extended Service Area.

Figures 3E, 4E, 5E, 6E, 7E, 8E & 9E located in **Appendix “A”**, depict the proposed project on the FEMA Floodway Maps. All critical facilities and controls with respect to the operation and maintenance associated with the Sanitary Sewer Improvements project will have final elevations above the 100-year floodplain.

Special precautions will be required to protect the Wabash River from soil erosion during the construction phase of the project. The contractor will comply with all of the provisions of IDEM's Rule 5 with respect to erosion control measures. Mitigation measures concerning soil erosion cited in typical comment letters from IDEM and the Indiana Department of Natural Resources will be implemented during construction.

C. GROUNDWATER HYDROLOGY

Groundwater in the project service area will not be impacted by the proposed project. Impacts from a high groundwater table with respect to the proposed Sanitary Sewer

Improvements project may require the need for dewatering during excavation for the installation of the sewers. No sole source aquifers will be affected by the proposed project.

D. AIR QUALITY

Generally, air quality will be impacted during the construction phase by exhaust from construction equipment, in addition to dust and particulate matter from the exposed soil primarily resulting from vehicle traffic. Open burning of construction debris will not be permitted. Mitigation measures typically cited in comment letters from the Indiana Department of Environment Management, the Indiana Department of Natural Resources and the U.S. Fish & Wildlife Service will be implemented. We evaluated air quality impacts based upon conformance with applicable rules under Title 326 Articles 1, 2, 6, 7 & 8 which are the Federal 1990 Clean Air Act Amendments.

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, wetting, sweeping streets and/or chemical stabilizers (calcium chloride) will be used to control dust generated during all phases of the proposed projects. Please note that 326 IAC 6-4-6(3) provides for an exception of 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 I – Nonattainment

Adams County, Indiana is not considered a Nonattainment, Maintenance or At Risk Area as defined under the 1990 Clean Air Act Amendments and is not subject to a State Implementation Plan (SIP) to inventory VOC emission sources and establish requirements of Reasonable Available Control Technology (RACT). The project area does not lie within an air quality maintenance area, therefore, there is no monitoring of the air and topographical or meteorological conditions will not hinder the dispersal of any air emissions.

3. Clean Air Act Title III – Hazardous Air Pollutants

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

4. Clean Air Act Title V - Permits

Title V creates a new operating permit program that applies to all major sources under Title I and III. The Sanitary Sewer Improvements project is not a major source under these regulations.

E. BIOTA

1. Endangered Plants & Animals

The construction and operation of the proposed Sanitary Sewer Improvements project will not negatively impact state or federally-listed endangered species or their habitat. The projects will be implemented to minimize impact to non-endangered species and their habitat. All bare and disturbed areas will be re-vegetated with a mixture of grasses and legumes upon completion of construction. Mitigation measures set forth by the IDNR and the U.S. Fish & Wildlife Service will be implemented during construction. No planned tree removal is scheduled to occur as a part of this project; however, should tree removal be necessary the removal will be mitigated per recommendations typically set forth by the IDNR. **Table 6** lists the species of environmental concern in the Planning area.

Table 6 - List of Species of Environmental Concern in the Planning Area

Category	Common Name
Mussels	Snuffbox
	Round Hickorynut
	Clubshell
	Kidneyshell
	Purple Lilliput
	Rayed Bean
Reptile	Kirtland's Snake

Bird	Bald Eagle
	Loggerhead Shrike
Mammal	Least Weasel
High Quality Natural Community	Central Till Plain Flatwoods

We have included a detailed report of the various rare and endangered species in the county in **Appendix “H”**. Any utility construction would be located on previously developed areas. The rare and endangered plants and animals would be undisturbed by utility construction due to the location of their isolated living environment. Typically, the most significant adverse effect on endangered species occurs as development disturbs areas that harbor these species.

F. ARCHAEOLOGICAL/HISTORIC SITES

1. Historic, Architectural & Archaeological Sites

a. Historic & Architectural Sites

According to Indiana Department of Natural Resources' (DNR's) Division of Historic Preservation and Archaeology, Adams County currently has many documented archaeological sites.

We reviewed the DNR's list of Federal and State registered properties in Wells County to identify listed structures within the Planning Area. Also, information was investigated at the Wells County Library on historic sites or districts near the proposed project area. In **Table 7** we show the listed historic sites or districts in the Planning Area.

Table 7 - Historic & Architecturally Significant Sites

IHSSI (County Survey) – SHAARD

001-155-05023/CR-01-43	Reynolds Cemetery	Contributing
001-280-05028	John Christian, Senior Farm	Notable
001-280-05030/CR-01-39	Alpha Cemetery	Contributing
001-523-15008	House	Contributing
001-523-10040	Werling Tile House	Contributing
001-523-15005	David Werling Farm	Notable
001-523-15006	Clarence Smith House	Contributing
001-523-10039	Grandstaff-Zeser House	Contributing
001-523-10038	Bridge	Contributing
001-523-10037	Indiana Pipeline Company	Notable

001-523-10036	Standard Oil Repair Shed	Contributing
001-523-10041	House	Contributing
001-523-15014	Farm	Contributing
001-523-15010	Miltbrown House	Contributing
001-523-15011	George Bright House	Contributing
001-361-51003	House	Contributing
001-361-51004	Commercial Building	Contributing
001-361-51001	House	Contributing
001-361-51002	House	Contributing
001-361-51005	Commercial Building	Contributing
001-361-51006	Linn Grove Hardware	Contributing
001-361-51007	House	Contributing
001-361-51008	House	Contributing
001-361-51009	Commercial Building	Contributing
001-361-51010	Grain Elevator	Contributing
001-361-51011	House	Contributing
001-693-30010	Welker-Hower Farm	Contributing
001-693-30007	Rivarre Cemetery	Contributing
001-693-30005	Bobo Graded School District Number 4	Notable
001-693-30004	Mount Tabor Methodist Church	Notable
001-693-30006	House	Contributing
001-693-30011	House	Contributing
001-693-30008	Farm	Contributing
001-155-05037	Root Twsp Number 1 School	Contributing
001-155-05038	Commercial Block	Contributing

See attached documentation on the various historical structures located in **Appendix “E”**. This information was obtained from the Wells County Interim Report.

Figures 3F, 4F, 5F, 6F, 7F, 8F & 9F we present the SHARRD GIS Map of the Project Area, with respect to the proposed projects graphically.

b. Archaeological Sites

The proposed projects will be constructed on disturbed areas. We anticipate no archaeological concerns for those portions of the project elements in disturbed areas. Construction will halt in the event of a historical discovery or the unearthing of artifacts. Alluvial soils are one of the major indicators of possible archaeological resources.

2. National Natural Landmarks

The construction and operation of the proposed projects will not impact National Natural Landmarks due to the fact that none are known to exist within the project area.

3. Open Space & Recreational Opportunities

The proposed project's construction will neither create nor destroy open space and/or recreational opportunities.

4. Induced Impacts

The proposed sanitary sewer system projects will allow the District to provide sewer service to seven new regions outside of established municipal service areas. The new sanitary sewage systems will eliminate failing, on-site septic systems and provide users with municipal sanitary sewer service. It is unknown whether or not these sanitary sewer systems will create or attract new development. It is dependent more so on the location of the service area and the availability of undeveloped land adjacent to the sewers within the new service area. The District will ensure, through the authority of its Board and local zoning laws, that future development will not adversely impact environmentally sensitive areas by enforcing the requirements and guidelines of the IDNR, U.S. Fish & Wildlife Service, IDEM and the Adams County Drainage Board.

CHAPTER VI – SELECTED PLAN

A. RECOMMENDED SOLUTIONS

With regard to the proposed septic relief projects, the proposed plan is to provide municipal sanitary sewer service to the following areas:

1. Linn Grove – Option 1
2. Rivare (Bobo) – Option 1
3. Barrington Woods – Option 3
4. Preble – Option 2
5. Peterson – Option 2
6. Monmouth Extended
7. Clem's Lake

These improvements are estimated to cost \$10,418,000 based on construction starting in 2019.

B. COST ESTIMATES

The planning level estimated project costs for the Adams County Regional Sewer District Sanitary Sewer System Improvements are summarized in **Table 8** presented as follows:

Table 8 - Total Project Cost Estimate

Total Project Cost Estimate	
Construction	
Linn Grove	\$ 1,972,000
Rivare (Bobo)	\$ 1,676,000
Barrington Woods	\$ 657,000
Preble	\$ 1,697,000
Peterson	\$ 510,000
Monmouth Extended	\$ 497,000
Clem's Lake	\$ 707,000
Contingency	\$ 768,000
Total Construction	\$ 8,484,000
Non-Construction	
Financial	\$ 150,000

Legal	\$ 50,000
Planning	\$ 100,000
Design	\$ 810,000
Inspection & CE	\$ 774,000
Land Acquisition	\$ 50,000
Total Non-Construction	\$ 1,934,000
Total Project	\$ 10,418,000

C. PROJECT SCHEDULE

The above-mentioned projects will be designed for a traditional design/bid/build project. **Table 9** presents the estimated project schedule.

Table 9 - Estimated Project Schedule

Milestone	Estimated Date
PER Submittal	August, 2018
Anticipated PER Approval	October-November, 2018
Commence Sanitary Sewer System Extension Design	December, 2018
Submit Plans & Specifications to IDEM	May, 2019
Anticipated Issuance of IDEM Construction Permits	July, 2019
Advertise for Bids	July, 2019
Begin Bond Initiation Process	August, 2019
Receipt of Bids / SRF Funding Complete	August, 2019
Completion of Financing & Issuance of Notice to Proceed	September, 2019
Substantial Completion of Construction	June-July, 2020
Initiation of Operation	August, 2020
One Year Performance Certification Date	August, 2021

CHAPTER VII – LEGAL, FINANCIAL & MANAGERIAL CAPABILITIES

A. MANAGEMENT RESOLUTIONS

Enclosed herewith please find the required resolutions necessary for State Revolving Fund financing. The Preliminary Engineering Report Acceptance and the Signatory Authorization Resolution will be inserted in **Appendix “I”** respectively.

B. CURRENT RATE SCHEDULE

There are 227 total sewer service connections to the existing District Wastewater Utility. The current sewer flat rate for all connections stands at \$93.30 per month.

The potential users of the Adams County Regional Sewer District had a median household income of \$47,572. In addition, the projected sewer rates in each of the areas are expected to exceed \$50 per month for a residential user. This qualifies the District to receive the SRF's Tier I - Poverty Interest Rate of 2.00% (July 2018). The proposed project may also qualify for an additional 0.50% interest rate reduction due to the nature of the sewer improvements (Nonpoint Source Project financed along with a Point Source Project). It should be noted that the SRF Program Interest rates are re-set on the first business day of each January, April, July and October and generally are 90 percent of the average 20-year AAA-rated, general obligation bond Municipal Market Data (“MMD”) composite index. In addition, SRF interest rates will vary based on three ranges of average monthly user rates for an equivalent dwelling unit (User Rates) within each of the three existing SRF MHI tiers, creating nine possible interest rates and as indicated above the ACRSD qualifies for the appropriate Tier I - Poverty Rate. With IDEM - SRF funding only, the District will receive no grant money, the term of the loan will be 20 years and the debt service reserve requirement will be 25%.

C. SRF PROJECT FINANCING INFORMATION

The State Revolving Loan Fund Financing Information form is also provided and is included, set forth in **Appendix “I”**. This financing form includes a completed project cost summary and breaks down the current and post-project operation and maintenance costs.

D. INTERLOCAL GOVERNMENT AGREEMENTS

The Adams County Regional Sewer District currently has an existing interlocal treatment agreement with the City of Decatur. They will also need to prepare a new agreement to cover the new service areas that will pump to Decatur for treatment. Furthermore, an interlocal agreement will be required with the City of Berne to treat sewage generated by the Linn Grove service area.

CHAPTER VIII – PUBLIC PARTICIPATION

A. ADVERTISED PUBLIC HEARING

In accordance with Indiana rule 327 IAC 13-8-13, the District is required to conduct at least one public hearing to discuss the completed Preliminary Engineering Report. The date of the hearing is yet to be determined. Discussion at the hearing will include project alternatives, project costs, environmental impacts and residential sewer charges. A legal notice for the public hearing will be published 10 days prior to the hearing in the local newspaper and will be inserted in **Appendix “J”**.

B. MINUTES OF THE HEARING

A copy of the minutes and sign-in sheet of the public hearing will be inserted in **Appendix “J”**.

C. WRITTEN COMMENTS FROM HEARING

A copy of the written comments, if any, will be inserted in **Appendix “J”**.

D. MAILING LIST

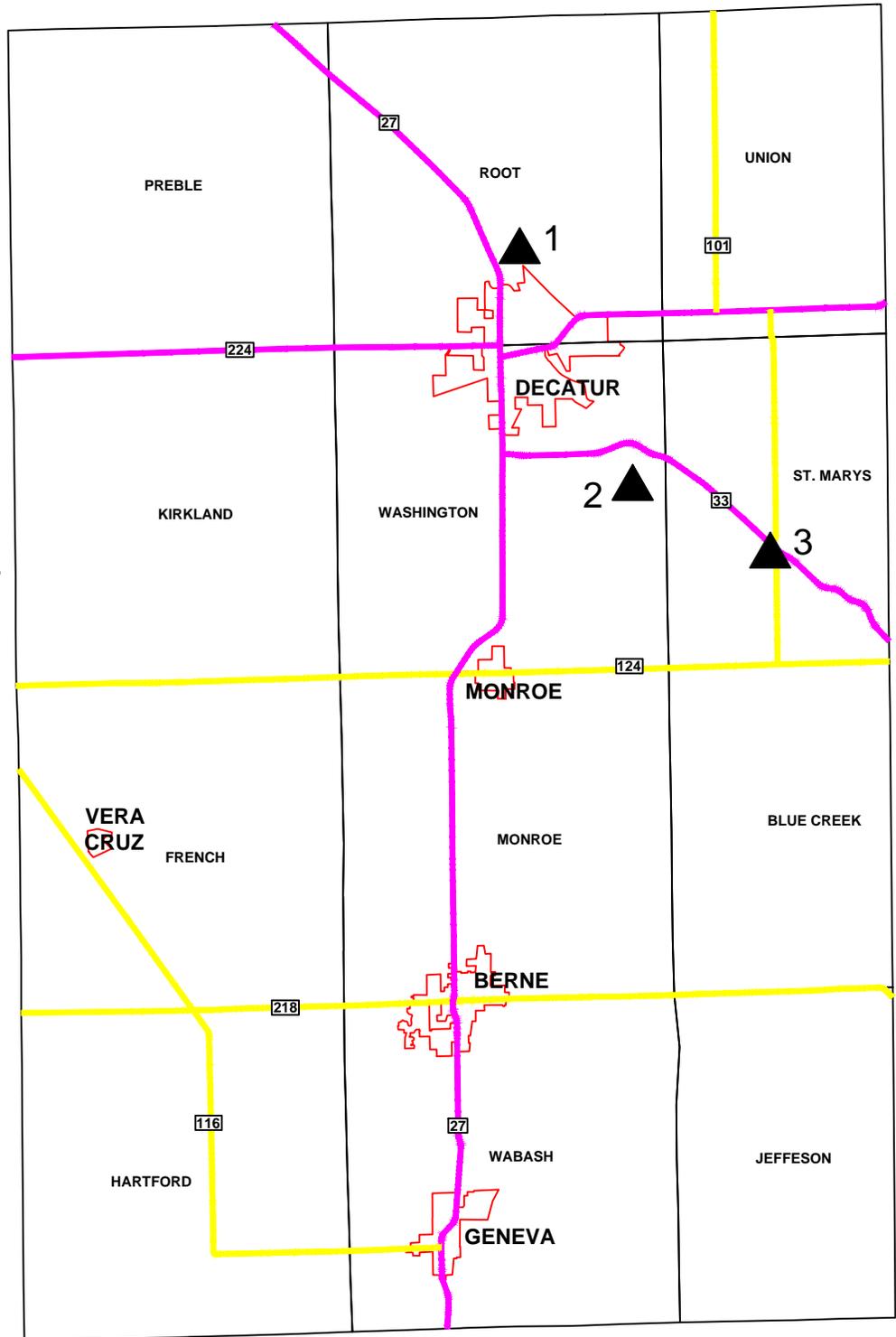
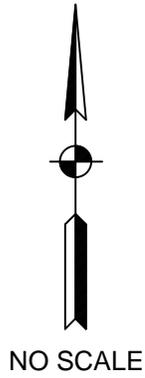
Interested parties who demonstrate an interest in the proposed project and would like to receive a copy of the Environmental Assessment and ‘Finding of No Significant Impact’ documentation will be inserted in **Appendix “J”**.



Appendix “A”

Figures

2018 Sanitary Sewer Improvements Preliminary Engineering Report (PER) For The Adams County Regional Sewer District Adams County, Indiana



▲ LOCATIONS

- 1 - MONMOUTH/ROE ACRES SERVICE AREA
- 2 - ARCADIA VILLAGE SERVICE AREA
- 3 - PLEASANT MILLS SERVICE AREA

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Suite 401
Evansville, IN 47710
(812) 474-1177

**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

**FIGURE 1 - GENERAL EXISTING
SERVICE AREAS - ADAMS COUNTY**

FIGURE

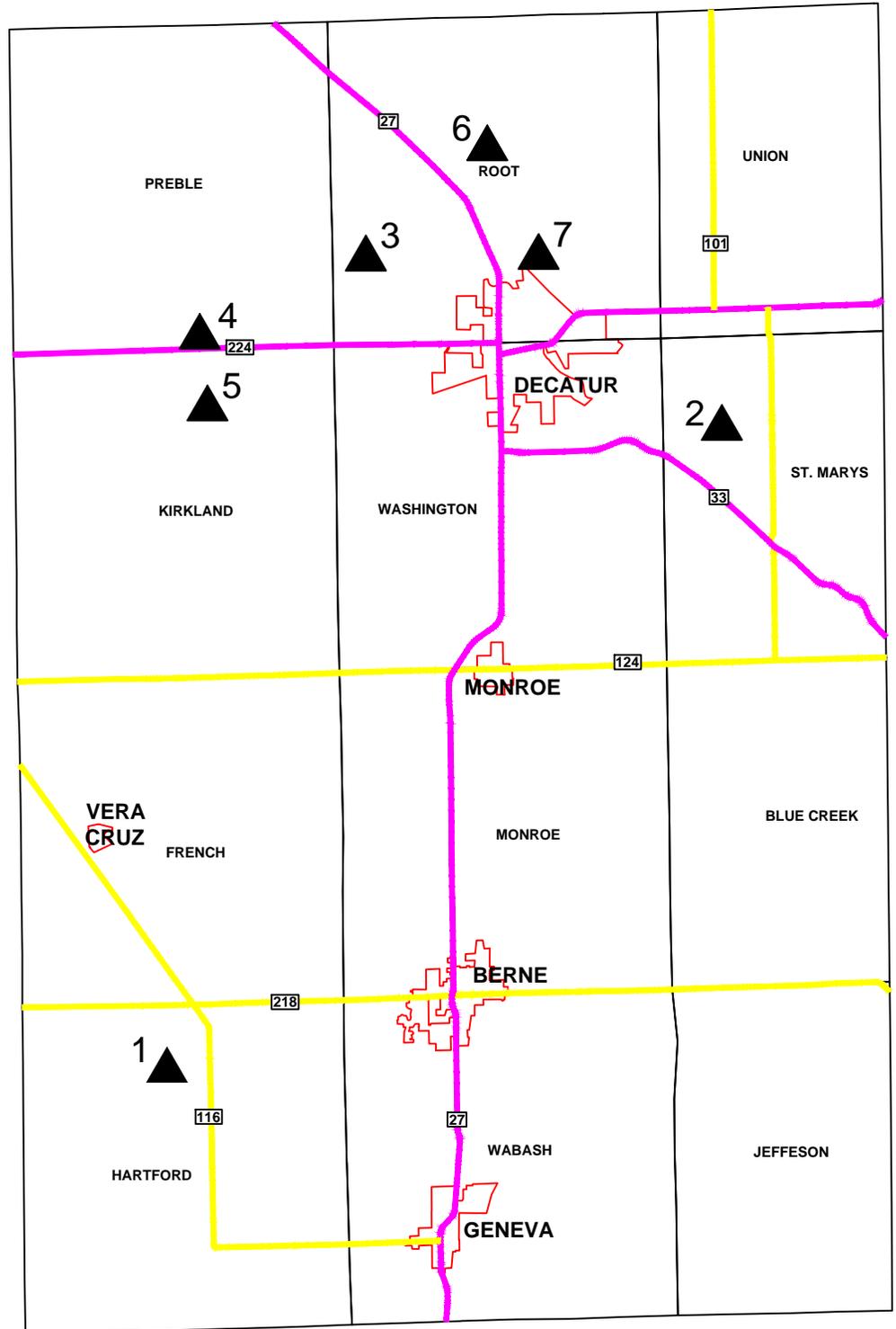
1



NO SCALE

▲ PROPOSED LOCATIONS

- 1 - LINN GROVE SERVICE AREA
- 2 - RIVARE (BOBO) SERVICE AREA
- 3 - BARRINGTON WOODS SERVICE AREA
- 4 - PREBLE SERVICE AREA
- 5 - PETERSON SERVICE AREA
- 6 - MONMOUTH EXTENSION SERVICE AREA
- 7 - CLEM'S LAKE SERVICE AREA



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ADAMS COUNTY REGIONAL SEWER DISTRICT
 ADAMS COUNTY, INDIANA

FIGURE 2 - GENERAL PROPOSED
 SERVICE AREAS - ADAMS COUNTY

FIGURE

2

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MATCHLINE (SEE LINN GROVE FIG. 3A-2)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION

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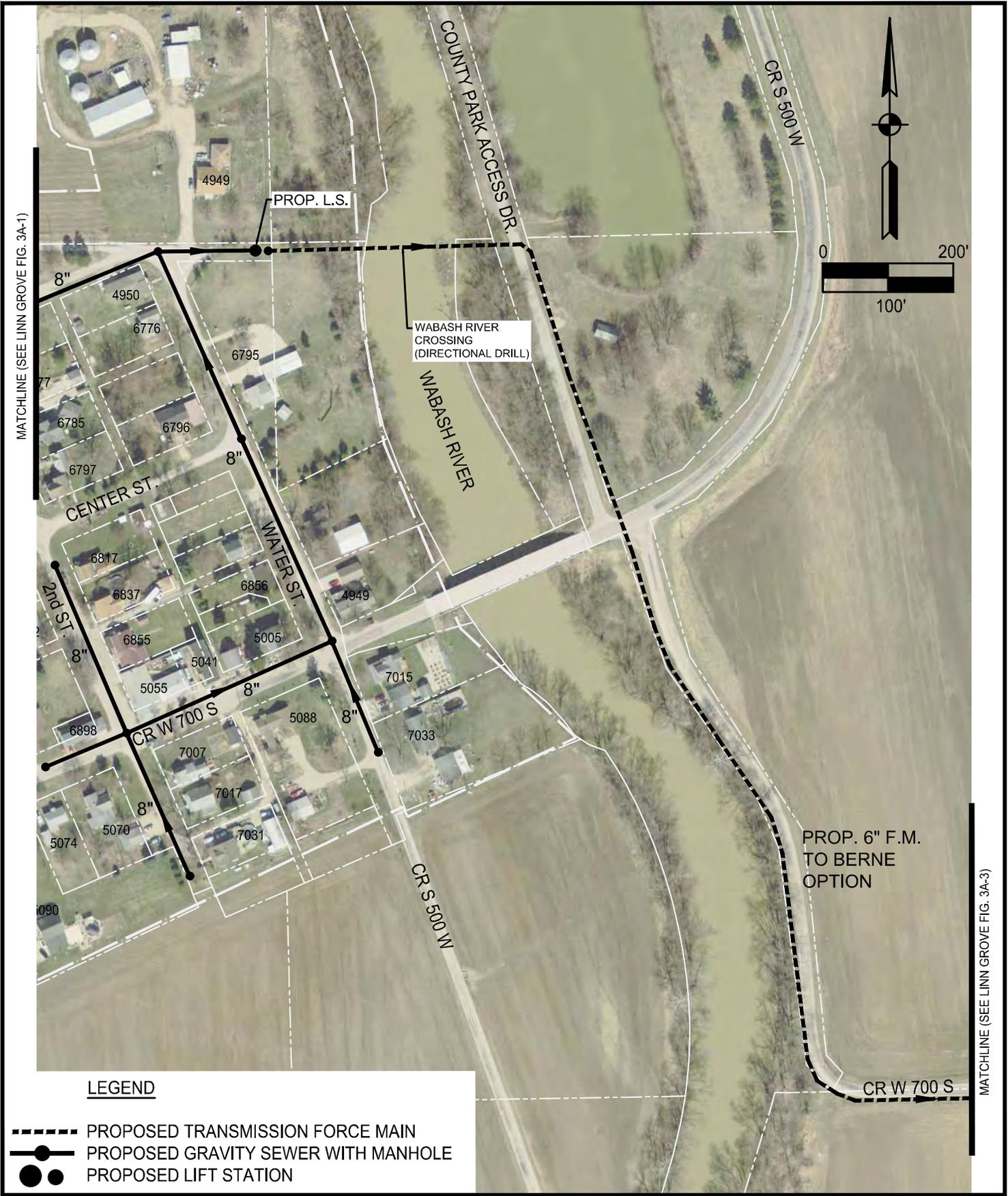
**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

**LINN GROVE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO BERNE**

FIGURE

3A-1

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LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION

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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

**LINN GROVE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO BERNE**

FIGURE

3A-2

MATCHLINE (SEE LINN GROVE FIG. 3A-1)

MATCHLINE (SEE LINN GROVE FIG. 3A-3)

MATCHLINE (SEE LINN GROVE FIG. 3A-2)

MATCHLINE (SEE BELOW LEFT)



MATCHLINE (SEE ABOVE RIGHT)

MATCHLINE (SEE LINN GROVE FIG. 3A-4)

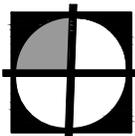


LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

LINN GROVE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO BERNE

FIGURE

3A-3

9604 Coldwater Road,
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(260) 494-3223

MATCHLINE (SEE LINN GROVE FIG. 3A-3)



MATCHLINE (SEE BELOW LEFT)

MATCHLINE (SEE ABOVE RIGHT)



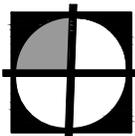
MATCHLINE (SEE LINN GROVE FIG. 3A-5)

LEGEND

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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**LINN GROVE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO BERNE**

FIGURE

3A-4

9604 Coldwater Road,
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MATCHLINE (SEE LINN GROVE FIG. 3A-4)



MATCHLINE (SEE BELOW LEFT)

MATCHLINE (SEE ABOVE RIGHT)



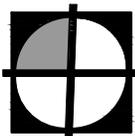
MATCHLINE (SEE LINN GROVE FIG. 3A-6)

LEGEND

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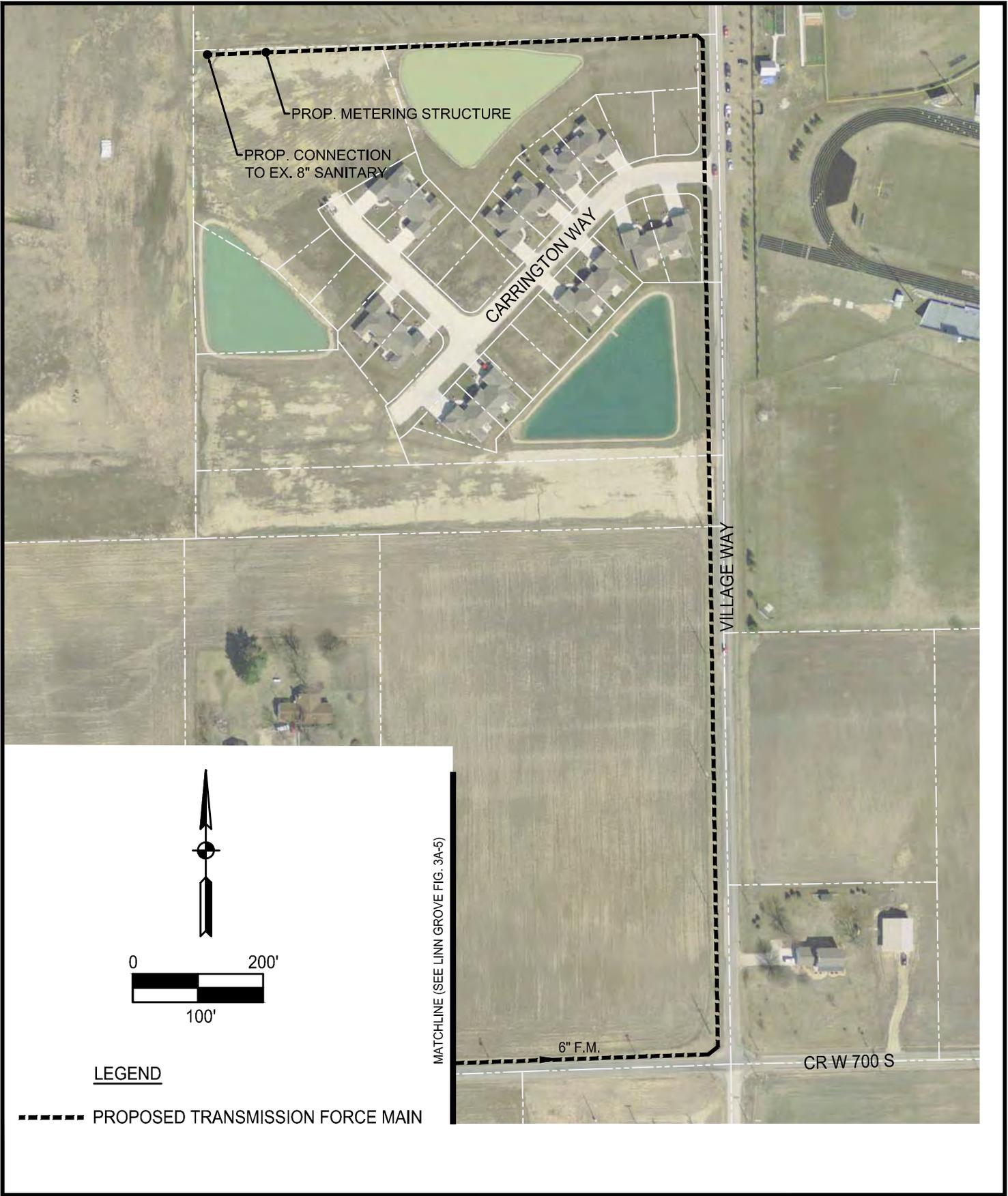
**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**LINN GROVE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO BERNE**

FIGURE

3A-5

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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**LINN GROVE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO BERNE**

FIGURE

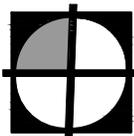
3A-6



LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION

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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

LINN GROVE - OPTION 2 - COLLECTION SYSTEM
WITH TRANSMISSION MAIN TO VERA CRUZ

FIGURE

3A-7

MATCHLINE (SEE LINN GROVE FIG. 3A-9)

PROP. 6" F.M.
TO VERA
CRUZ OPTION

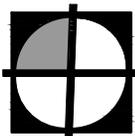


MATCHLINE (SEE LINN GROVE FIG. 3A-7)

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION

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**LINN GROVE - OPTION 2 - COLLECTION SYSTEM
WITH TRANSMISSION MAIN TO VERA CRUZ**

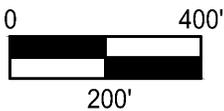
FIGURE

3A-8

MATCHLINE (SEE LINN GROVE FIG. 3A-10)



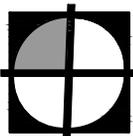
MATCHLINE (SEE LINN GROVE FIG. 3A-7)



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

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ADAMS COUNTY, INDIANA**

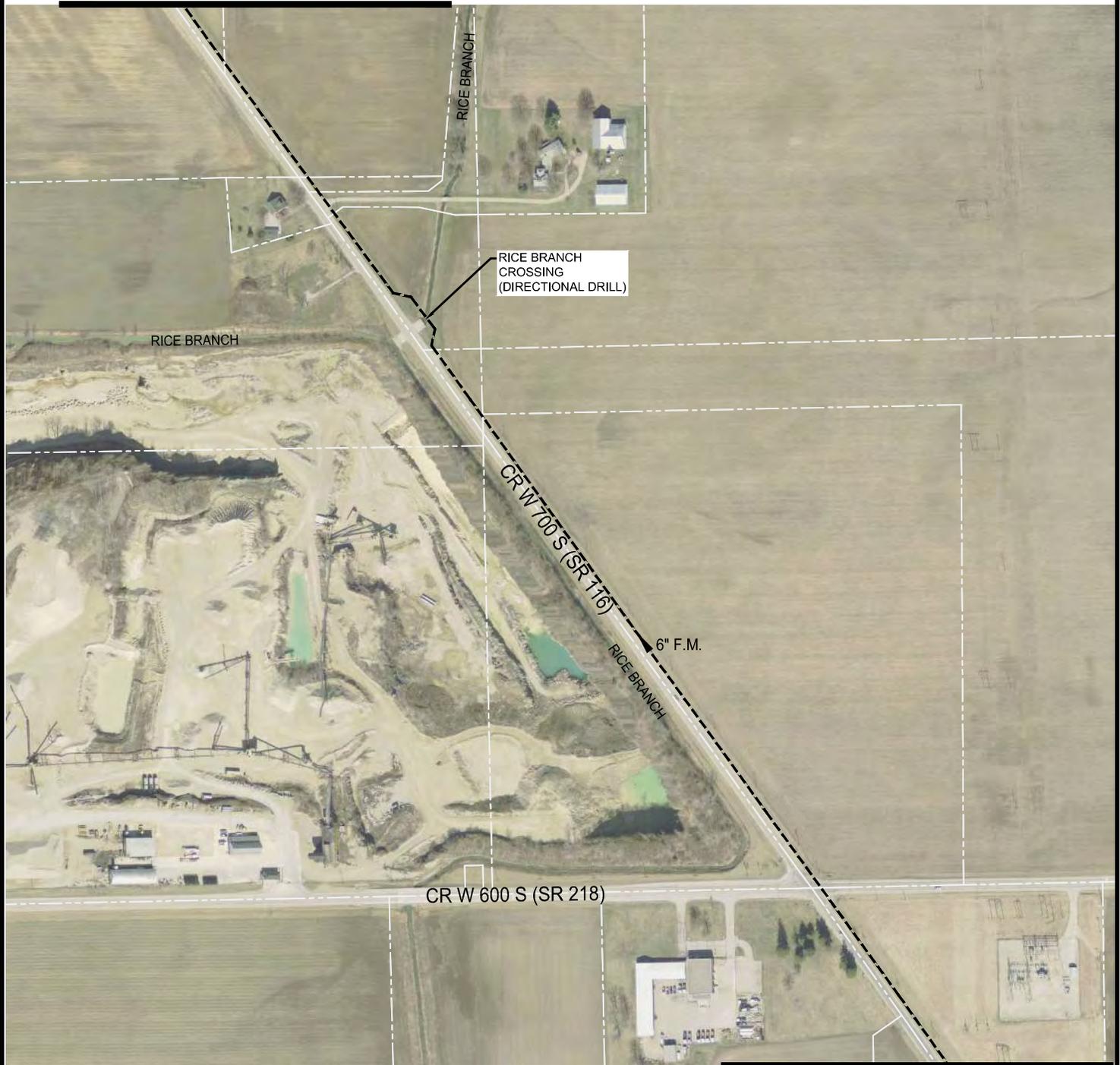
**LINN GROVE - OPTION 2 - COLLECTION SYSTEM
WITH TRANSMISSION MAIN TO VERA CRUZ**

FIGURE

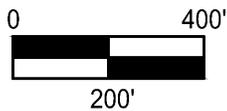
3A-9

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MATCHLINE (SEE LINN GROVE FIG. 3A-11)



MATCHLINE (SEE LINN GROVE FIG. 3A-9)



LEGEND

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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

**LINN GROVE - OPTION 2 - COLLECTION SYSTEM
WITH TRANSMISSION MAIN TO VERA CRUZ**

FIGURE

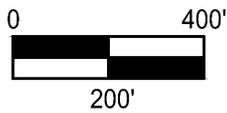
3A-10

9604 Coldwater Road,
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MATCHLINE (SEE LINN GROVE FIG. 3A-12)



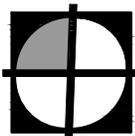
MATCHLINE (SEE LINN GROVE FIG. 3A-10)



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

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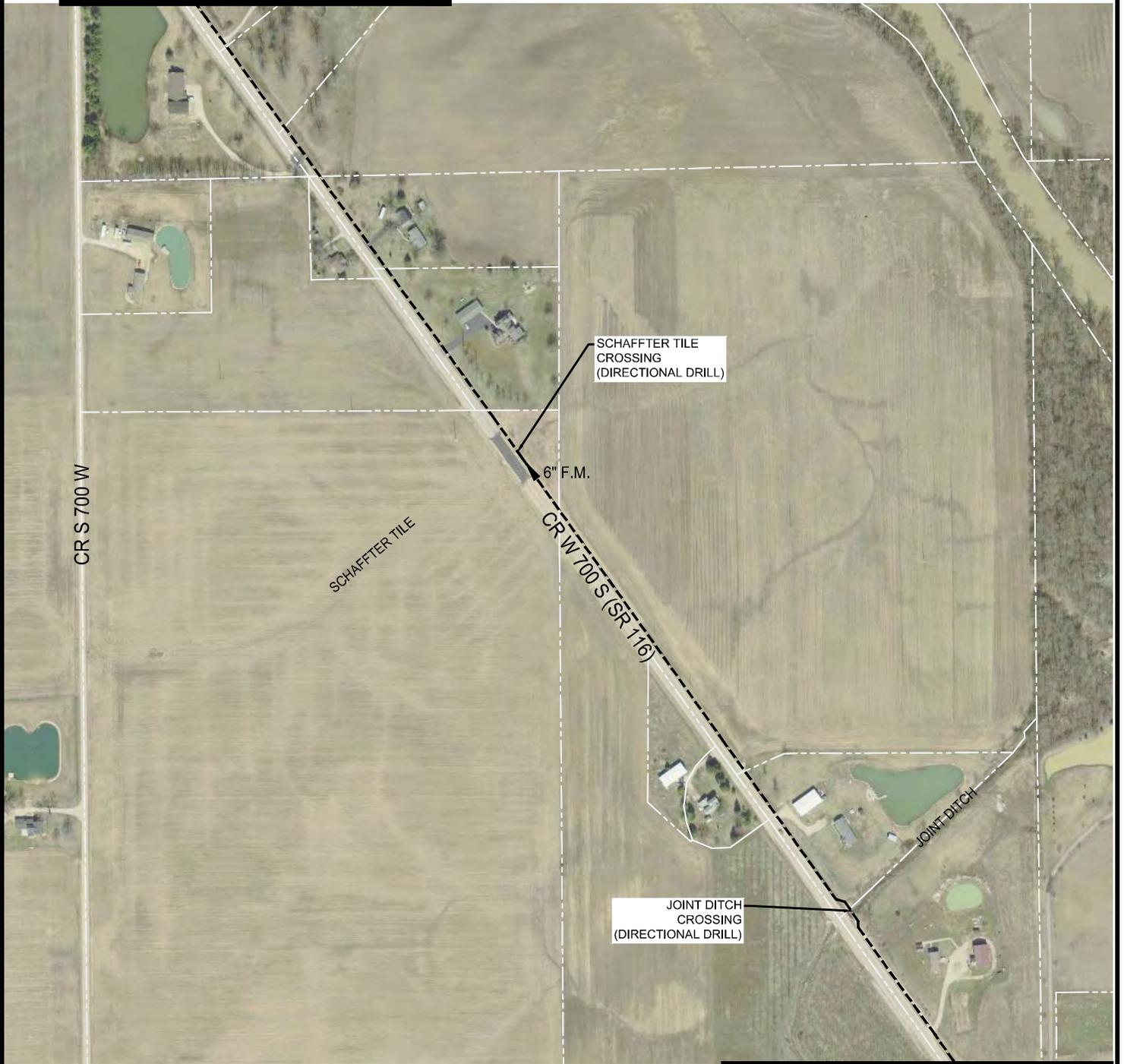
**LINN GROVE - OPTION 2 - COLLECTION SYSTEM
WITH TRANSMISSION MAIN TO VERA CRUZ**

FIGURE

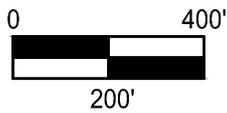
3A-11

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MATCHLINE (SEE LINN GROVE FIG. 3A-13)



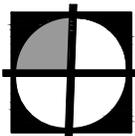
MATCHLINE (SEE LINN GROVE FIG. 3A-11)



LEGEND

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**LINN GROVE - OPTION 2 - COLLECTION SYSTEM
WITH TRANSMISSION MAIN TO VERA CRUZ**

FIGURE

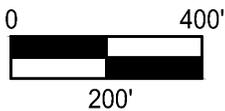
3A-12

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MATCHLINE (SEE LINN GROVE FIG. 3A-14)



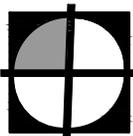
MATCHLINE (SEE LINN GROVE FIG. 3A-12)



LEGEND

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LINN GROVE - OPTION 2 - COLLECTION SYSTEM
WITH TRANSMISSION MAIN TO VERA CRUZ

FIGURE

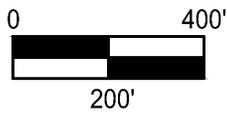
3A-13

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MATCHLINE (SEE LINN GROVE FIG. 3A-15)



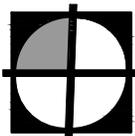
MATCHLINE (SEE LINN GROVE FIG. 3A-13)



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

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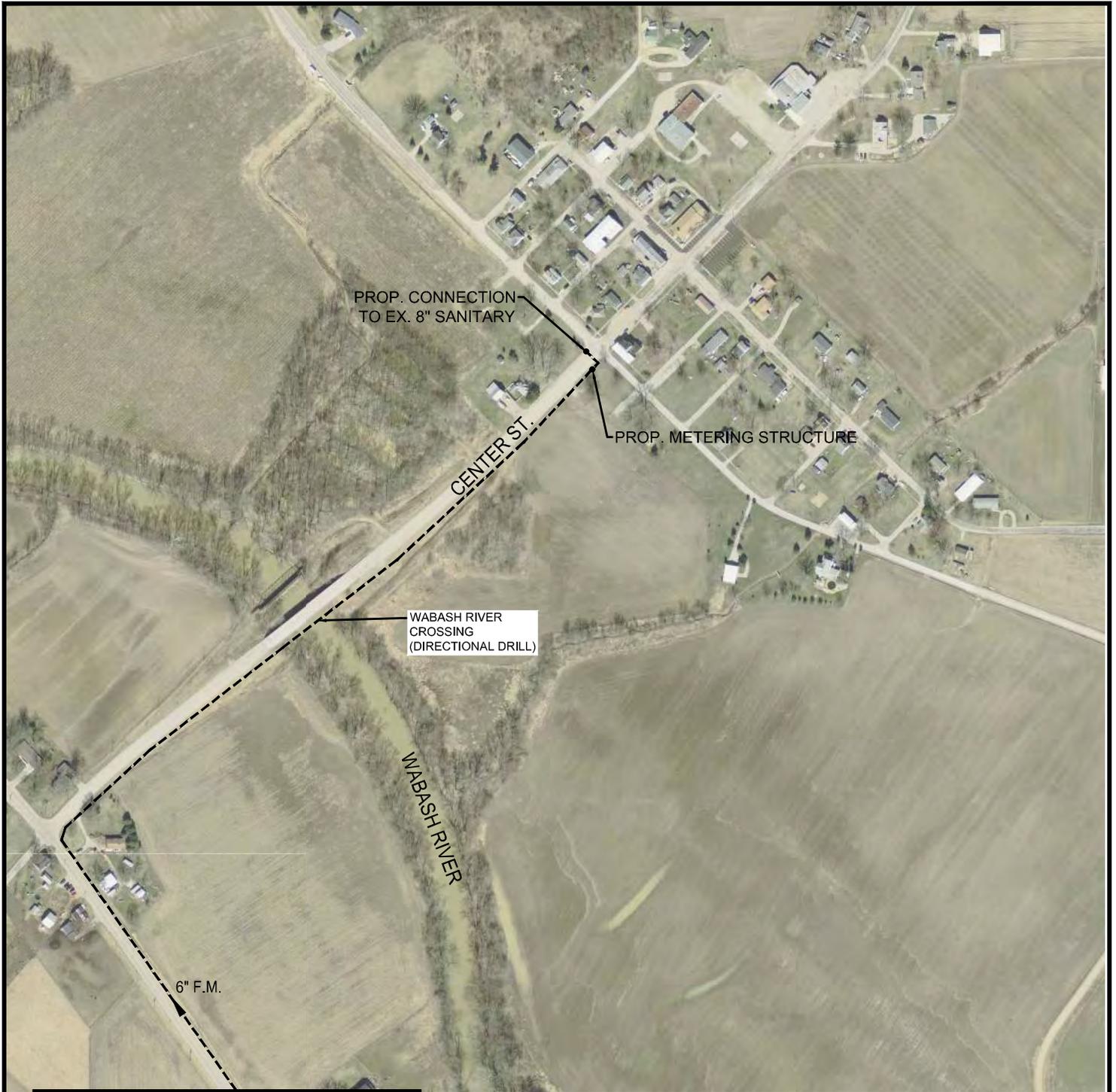
**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**LINN GROVE - OPTION 2 - COLLECTION SYSTEM
WITH TRANSMISSION MAIN TO VERA CRUZ**

FIGURE

3A-14

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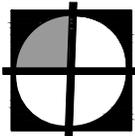
MATCHLINE (SEE LINN GROVE FIG. 3A-14)



LEGEND

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**LINN GROVE - OPTION 2 - COLLECTION SYSTEM
WITH TRANSMISSION MAIN TO VERA CRUZ**

FIGURE

3A-15

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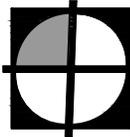
MATCHLINE (SEE LINN GROVE FIG. 3A-17)

LEGEND

PROPOSED TRANSMISSION FORCE MAIN

 PROPOSED FORCE MAIN WITH GRINDER PUMP STATION AND ISOLATION VALVE

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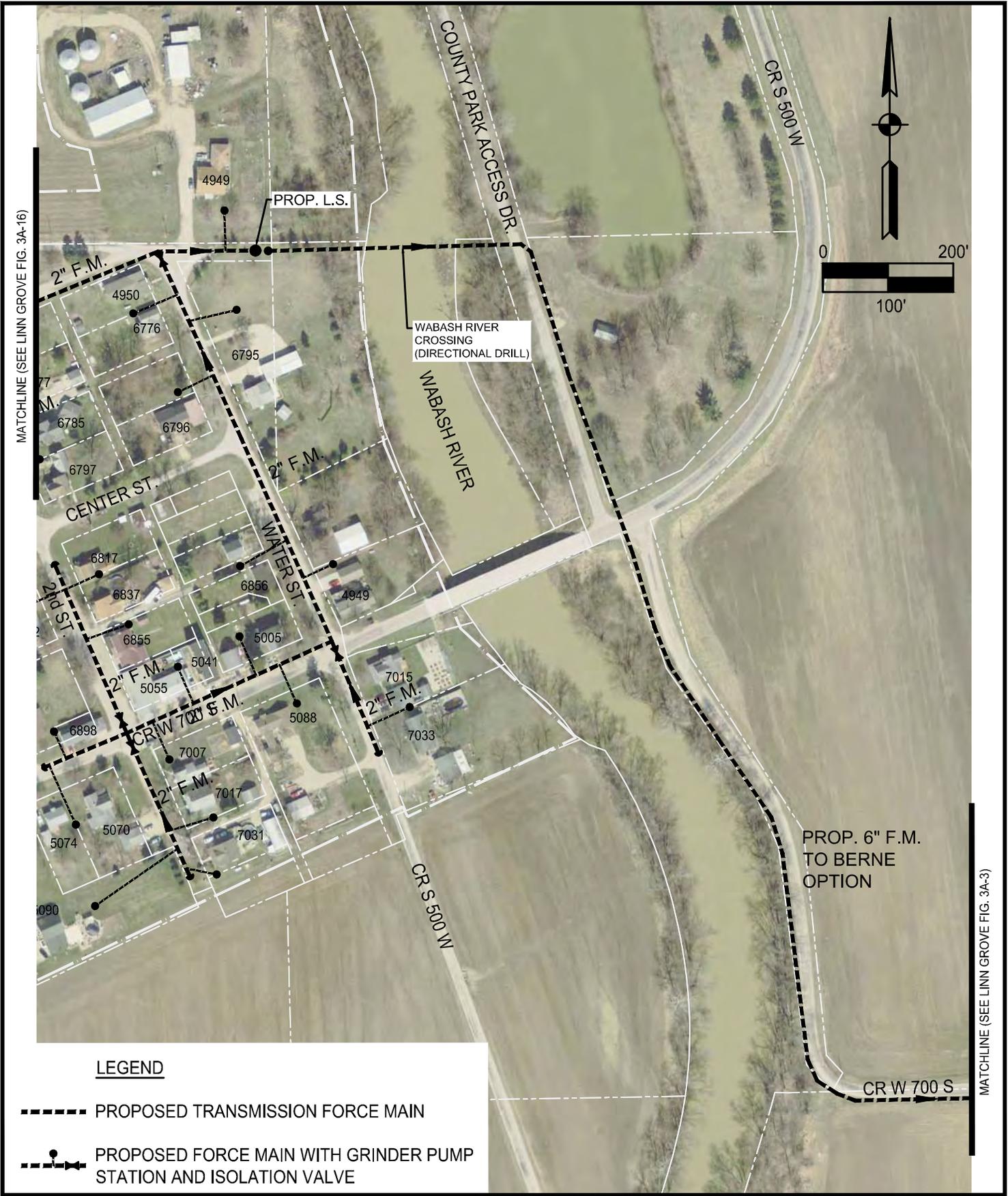
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**LINN GROVE - OPTION 3 - LOW PRESSURE
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO BERNE**

FIGURE

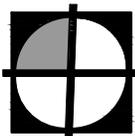
3A-16



LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED FORCE MAIN WITH GRINDER PUMP STATION AND ISOLATION VALVE

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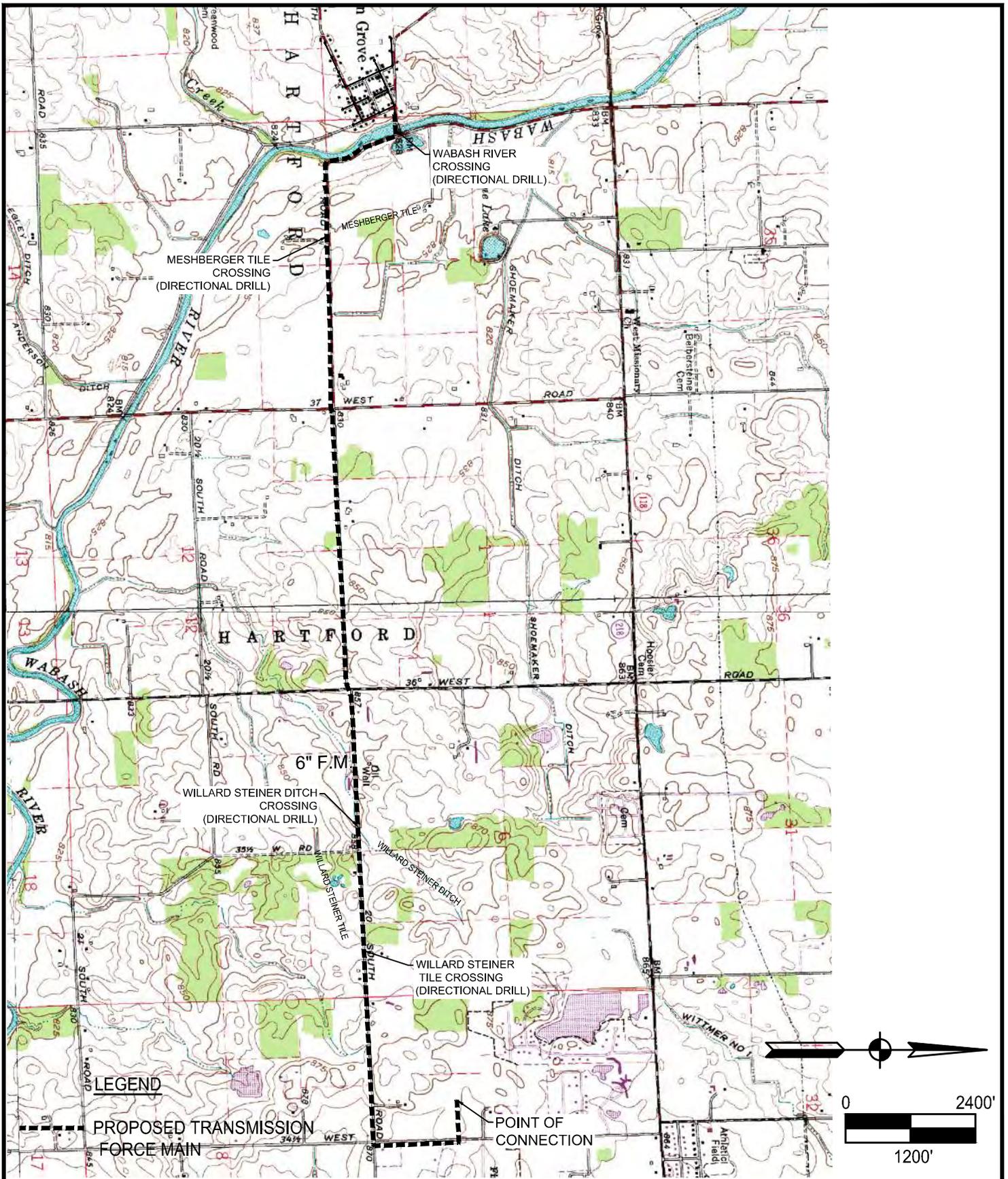
LINN GROVE - OPTION 3 - LOW PRESSURE
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO BERNE

FIGURE

3A-17

MATCHLINE (SEE LINN GROVE FIG. 3A-16)

MATCHLINE (SEE LINN GROVE FIG. 3A-3)



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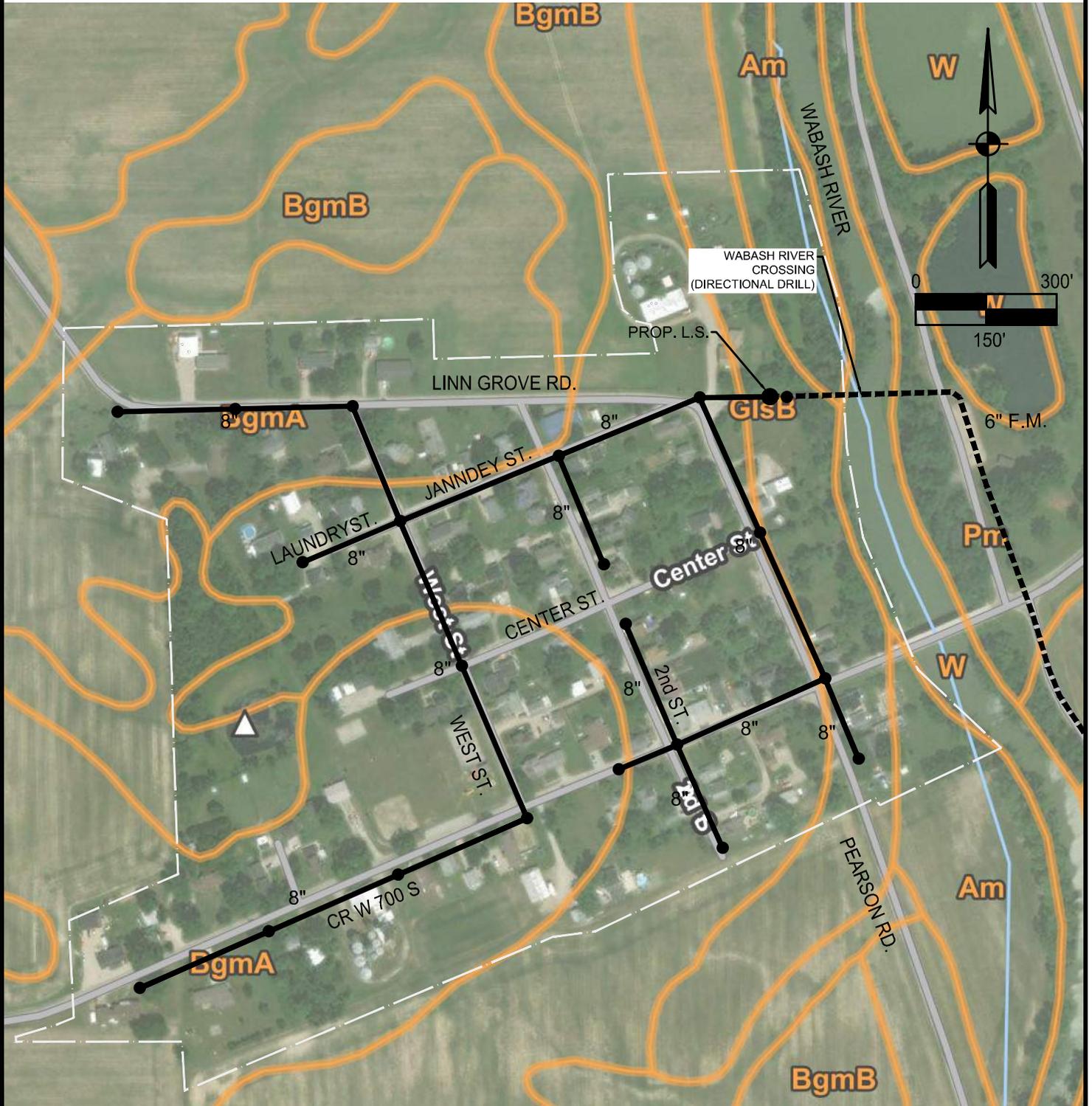
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LINN GROVE - TOPOGRAPHY MAP

**FIGURE
3B**

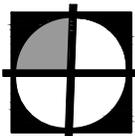
LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION



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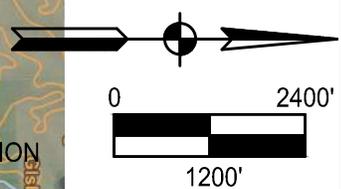
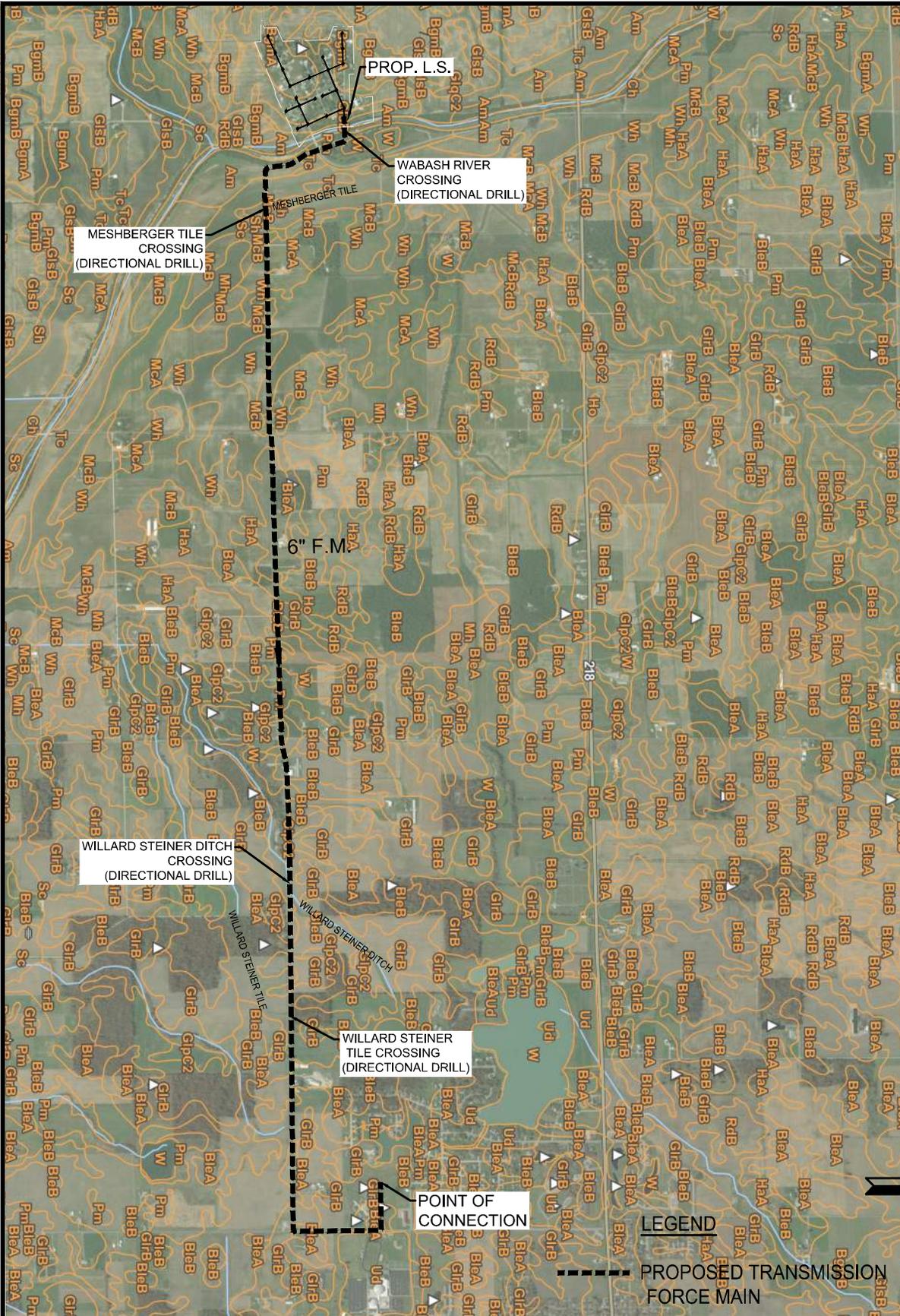
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

LINN GROVE - SOILS MAP

FIGURE

3C-1



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

LINN GROVE - SOILS MAP

FIGURE

3C-2

MAP LEGEND

Area of Interest (AOI)



Area of Interest (AOI)

Soils



Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads

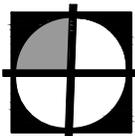


Local Roads

Background



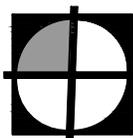
Aerial Photography



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Am	Armiesburg silty clay loam, frequently flooded	135.3	0.5%
BgmA	Blount silt loam, ground moraine, 0 to 2 percent slopes	2,923.1	11.7%
BgmB	Blount silt loam, ground moraine, 2 to 4 percent slopes	878.1	3.5%
BleA	Blount silt loam, end moraine, 0 to 2 percent slopes	2,297.1	9.2%
BleB	Blount silt loam, end moraine, 2 to 4 percent slopes	2,449.2	9.8%
Ch	Chagrin loam, frequently flooded	43.7	0.2%
GlpC2	Glynwood clay loam, 6 to 12 percent slopes, eroded	345.7	1.4%
GlqC2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	13.6	0.1%
GlrB	Glynwood silt loam, end moraine, 2 to 6 percent slopes	1,600.1	6.4%
GlsB	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	234.9	0.9%
HaA	Haskins loam, 1 to 3 percent slopes	274.2	1.1%
Ho	Houghton muck, drained	171.0	0.7%
McA	Martinsville loam, 0 to 2 percent slopes	109.9	0.4%
McB	Martinsville loam, 2 to 6 percent slopes	169.4	0.7%
Mh	Milford silty clay loam, 0 to 2 percent slopes	687.6	2.8%
MoD2	Morley silty clay loam, 12 to 18 percent slopes, eroded	45.2	0.2%
Pm	Pewamo silty clay, 0 to 2 percent slopes	6,926.9	27.8%
Pmg	Pits, Gravel	95.5	0.4%
RdB	Rawson loam, 2 to 6 percent slopes	233.4	0.9%
Sc	Saranac clay, frequently flooded	342.0	1.4%
Sh	Shoals clay loam, frequently flooded	21.7	0.1%
Sl	Sloan loam, frequently flooded	150.3	0.6%
Tc	Tice silty clay loam, frequently flooded	507.6	2.0%
Ud	Udorthents, loamy	120.1	0.5%
W	Water	216.1	0.9%
Wh	Whitaker silt loam	255.3	1.0%
Subtotals for Soil Survey Area		21,246.9	85.2%
Totals for Area of Interest		24,939.2	100.0%

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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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LINN GROVE - SOILS MAP

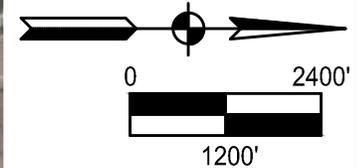
FIGURE

3C-4

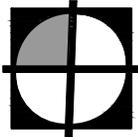


LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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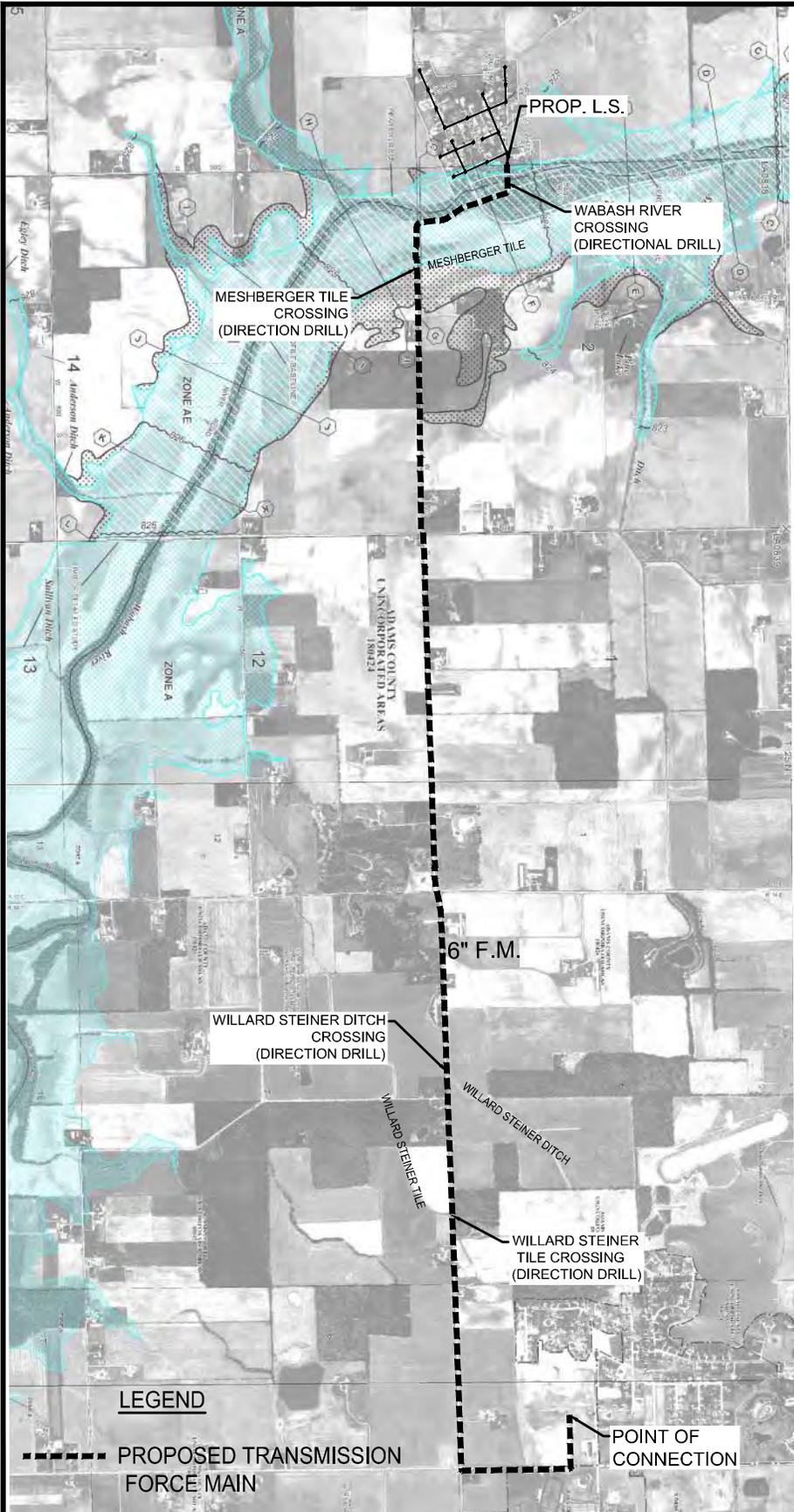
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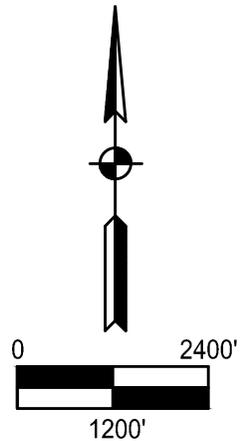
LINN GROVE - WETLANDS MAP

**FIGURE
3D**



LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- POINT OF CONNECTION



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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LINN GROVE - FLOODLAIN MAP

FIGURE

3E



MATCHLINE (SEE FIG. 3F-2)

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
 - PROPOSED GRAVITY SEWER WITH MANHOLE
 - PROPOSED LIFT STATION
- | | | | |
|----------------|--------------------|--------------------|---------------------------|
| ● Override 1 | ● Non-Contributing | ● Notable | ● Unknown |
| △ Cemeteries | ● Demolished | ● Contributing | ★ National Register Sites |
| ● Outstanding | ● Unknown | ■ Non-Contributing | ■ Historic Districts |
| ● Notable | ● Outstanding | ■ Demolished | ■ World Street Map |
| ● Contributing | | | |



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

LINN GROVE - HISTORICAL MAP

FIGURE

3F-1

MATCHLINE (SEE FIG. 3F-1)

MATCHLINE (SEE FIG. 3F-3)



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
| Contributing | | | |



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ADAMS COUNTY REGIONAL SEWER DISTRICT
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LINN GROVE - HISTORICAL MAP

FIGURE

3F-2

MATCHLINE (SEE FIG. 3F-2)

MATCHLINE (SEE FIG. 3F-4)



Indiana Department of

LEGEND

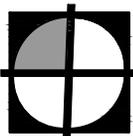
----- PROPOSED TRANSMISSION FORCE MAIN

- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
| Contributing | | | |



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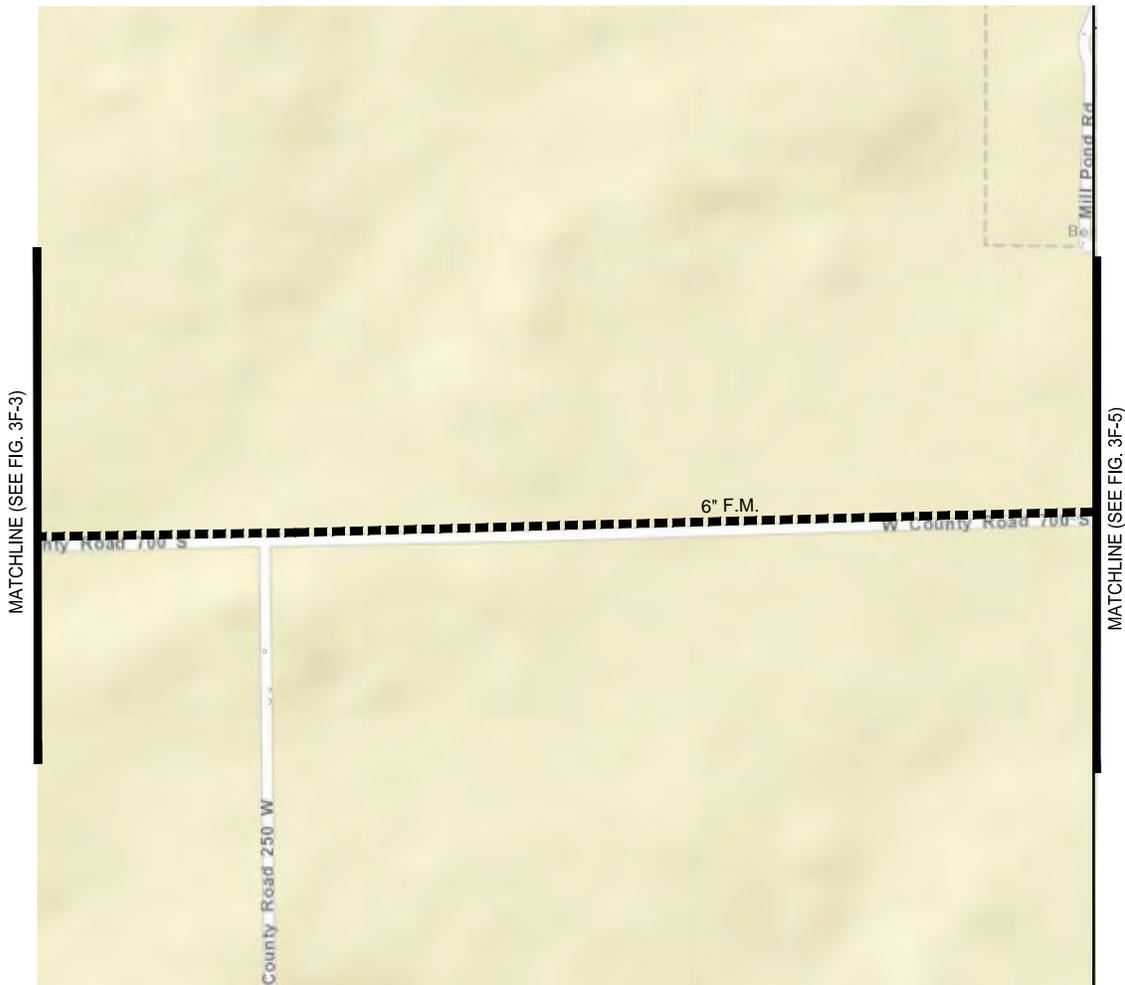
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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

LINN GROVE - HISTORICAL MAP

FIGURE

3F-3



MATCHLINE (SEE FIG. 3F-3)

MATCHLINE (SEE FIG. 3F-5)

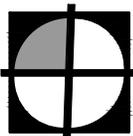
LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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ADAMS COUNTY REGIONAL SEWER DISTRICT
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LINN GROVE - HISTORICAL MAP

FIGURE

3F-4

MATCHLINE (SEE FIG. 3F-4)



LEGEND

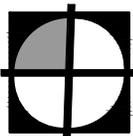
----- PROPOSED TRANSMISSION FORCE MAIN

	Override 1		Non-Contributing		Notable		Unknown
	Cemeteries		Demolished		Contributing		National Register Sites
	Outstanding		Unknown		Non-Contributing		Historic Districts
	Notable		Outstanding		Demolished		World Street Map
	Contributing						



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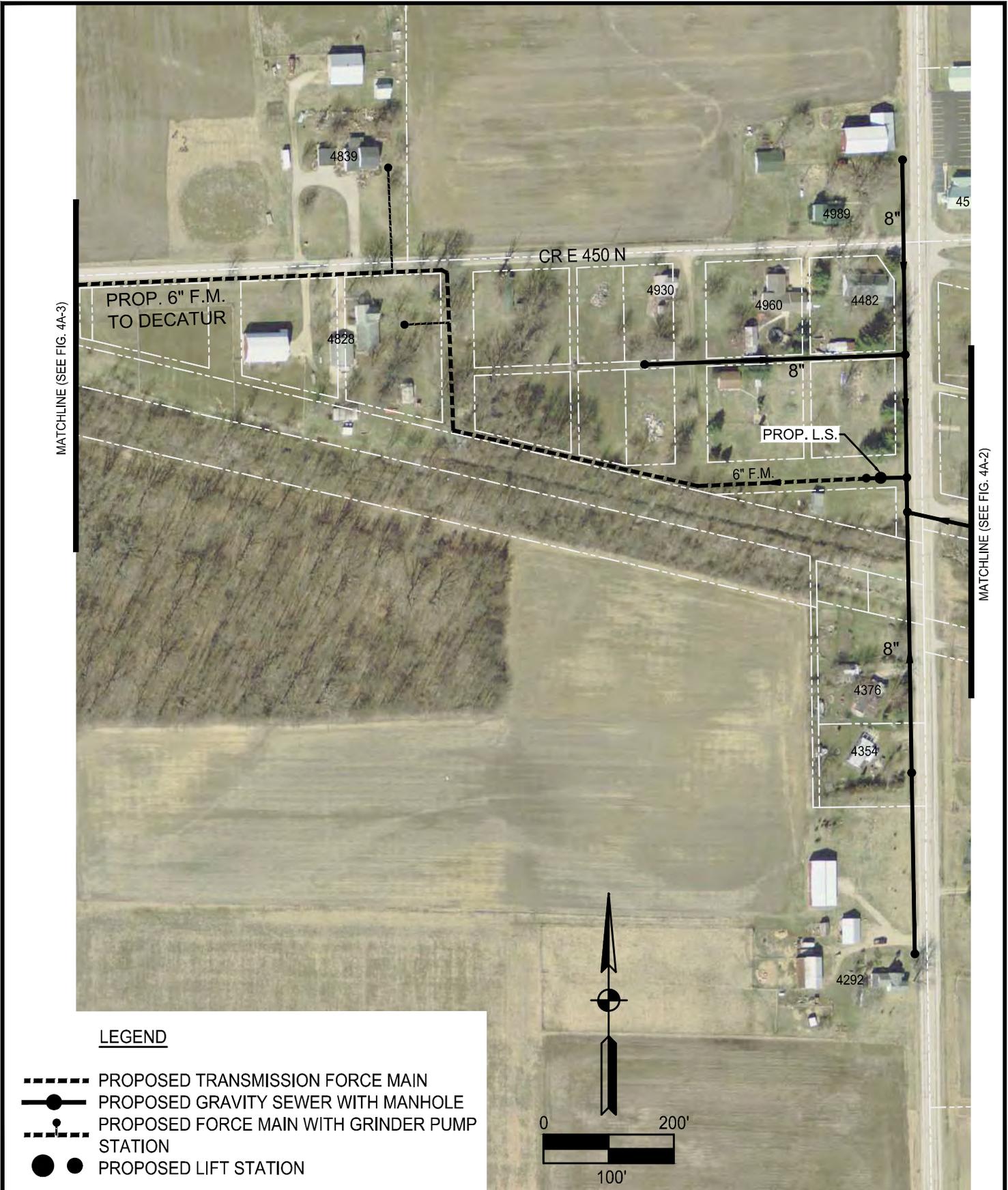
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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LINN GROVE - HISTORICAL MAP

FIGURE

3F-5



MATCHLINE (SEE FIG. 4A-3)

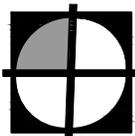
MATCHLINE (SEE FIG. 4A-2)

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION



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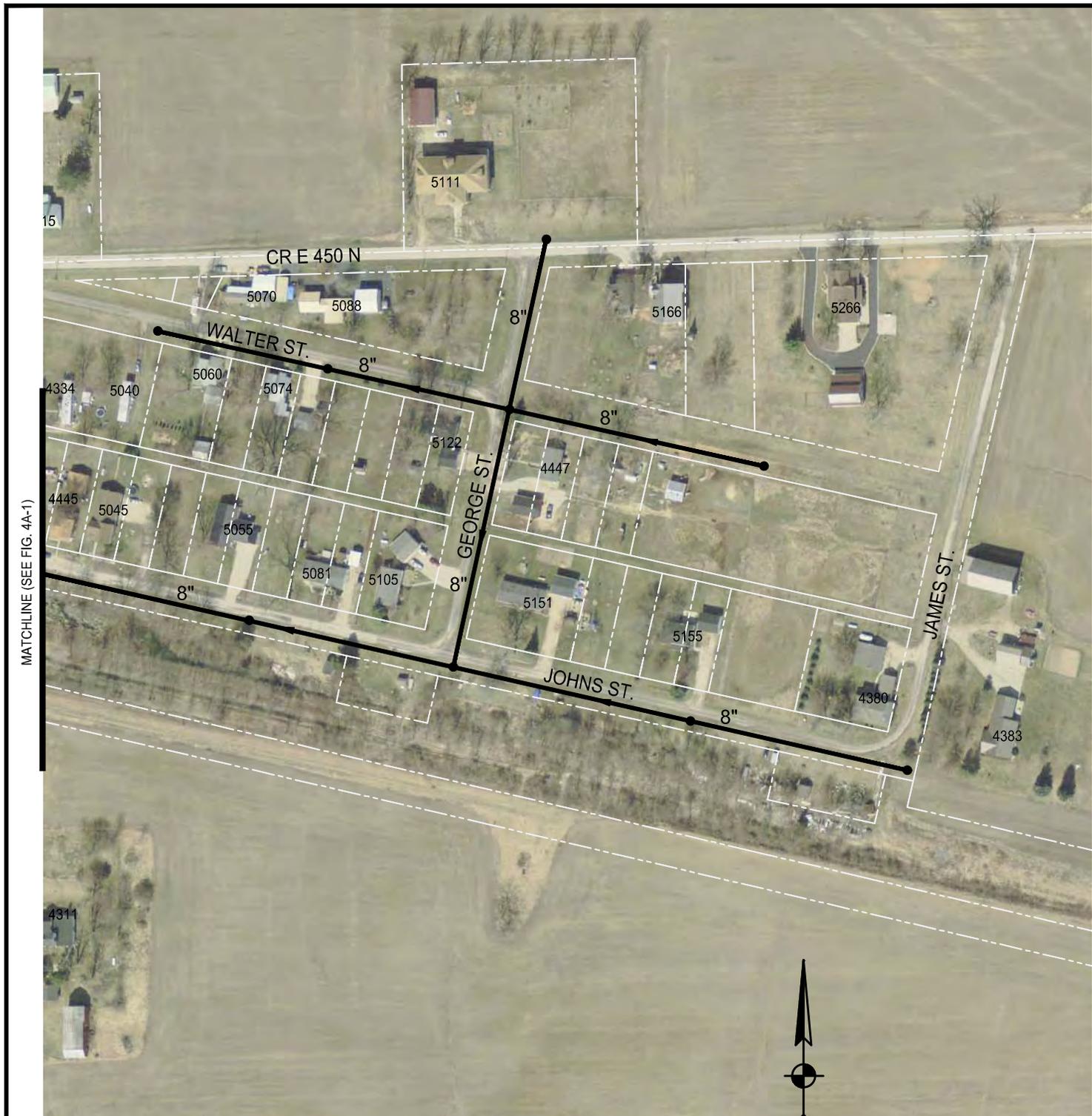
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**RIVARE (BOBO) - OPTION 1 - GRAVITY
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR**

FIGURE

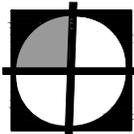
4A-1



LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
-  PROPOSED LIFT STATION

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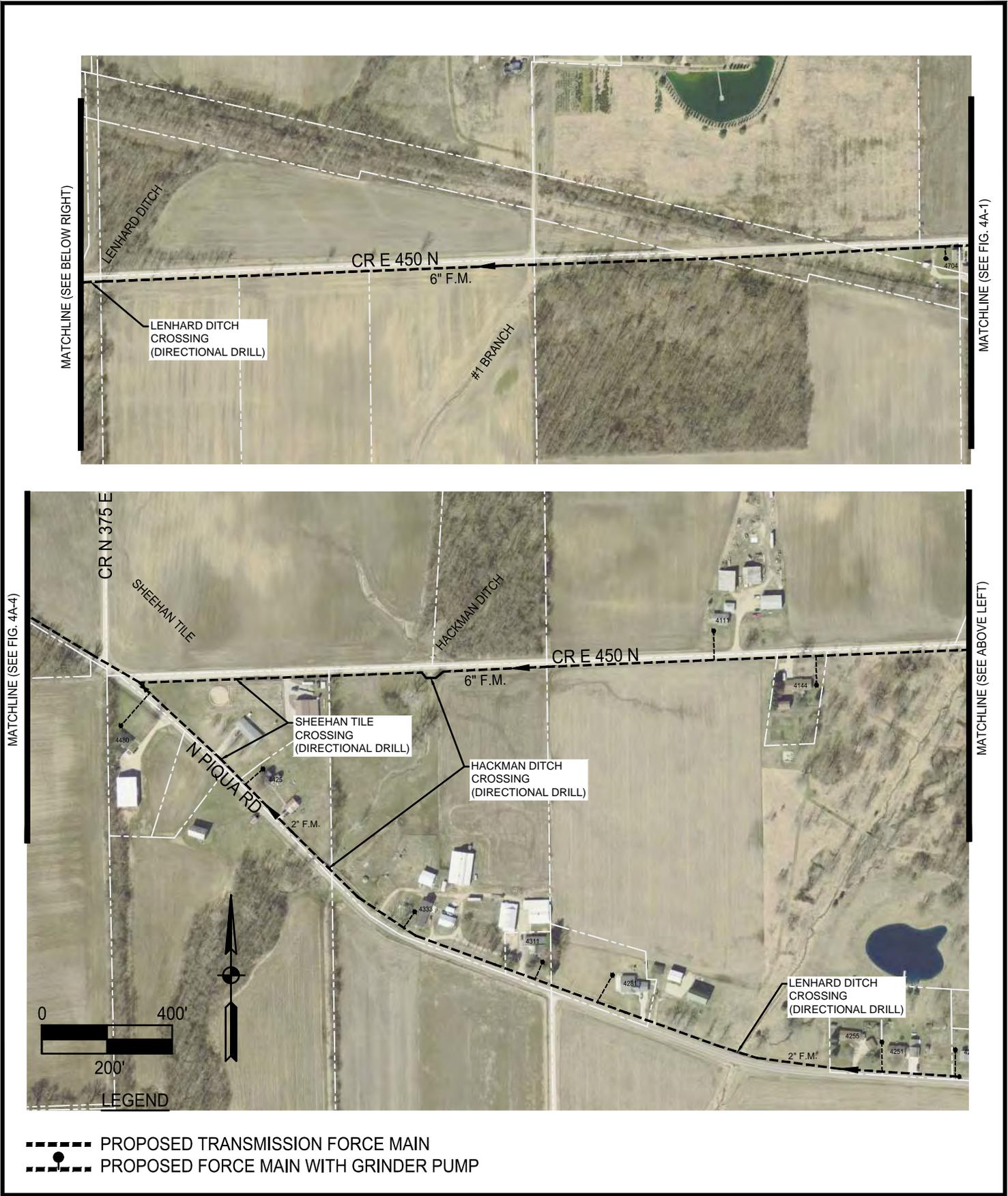
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RIVARE (BOBO) - OPTION 1 - GRAVITY
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR

FIGURE

4A-2



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RIVARE (BOBO) - OPTION 1 - GRAVITY
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR

FIGURE
4A-3

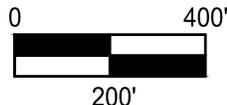


MATCHLINE (SEE FIG. 4A-5)

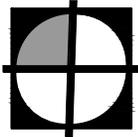
MATCHLINE (SEE FIG. 4A-3)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED FORCE MAIN WITH GRINDER PUMP



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**RIVARE (BOBO) - OPTION 1 - GRAVITY
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR**

**FIGURE
4A-4**

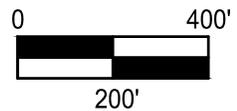
MATCHLINE (SEE FIG. 4A-6)



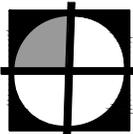
MATCHLINE (SEE FIG. 4A-4)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED FORCE MAIN WITH GRINDER PUMP



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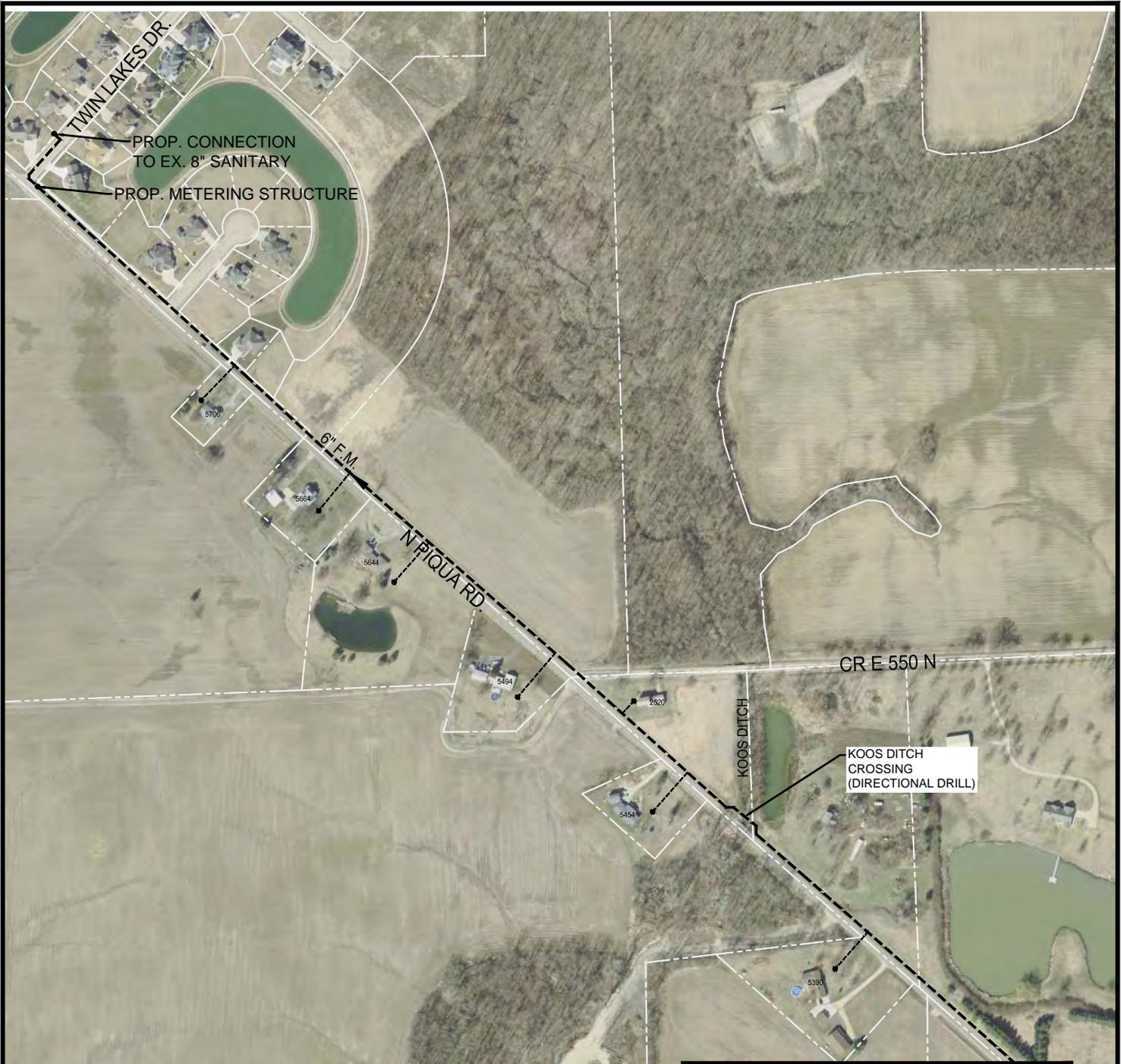
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**RIVARE (BOBO) - OPTION 1 - GRAVITY
 COLLECTION SYSTEM WITH
 TRANSMISSION MAIN TO DECATUR**

FIGURE

4A-5

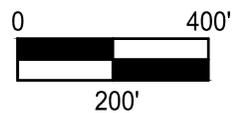
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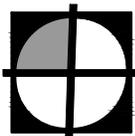
MATCHLINE (SEE FIG. 4A-5)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED FORCE MAIN WITH GRINDER PUMP



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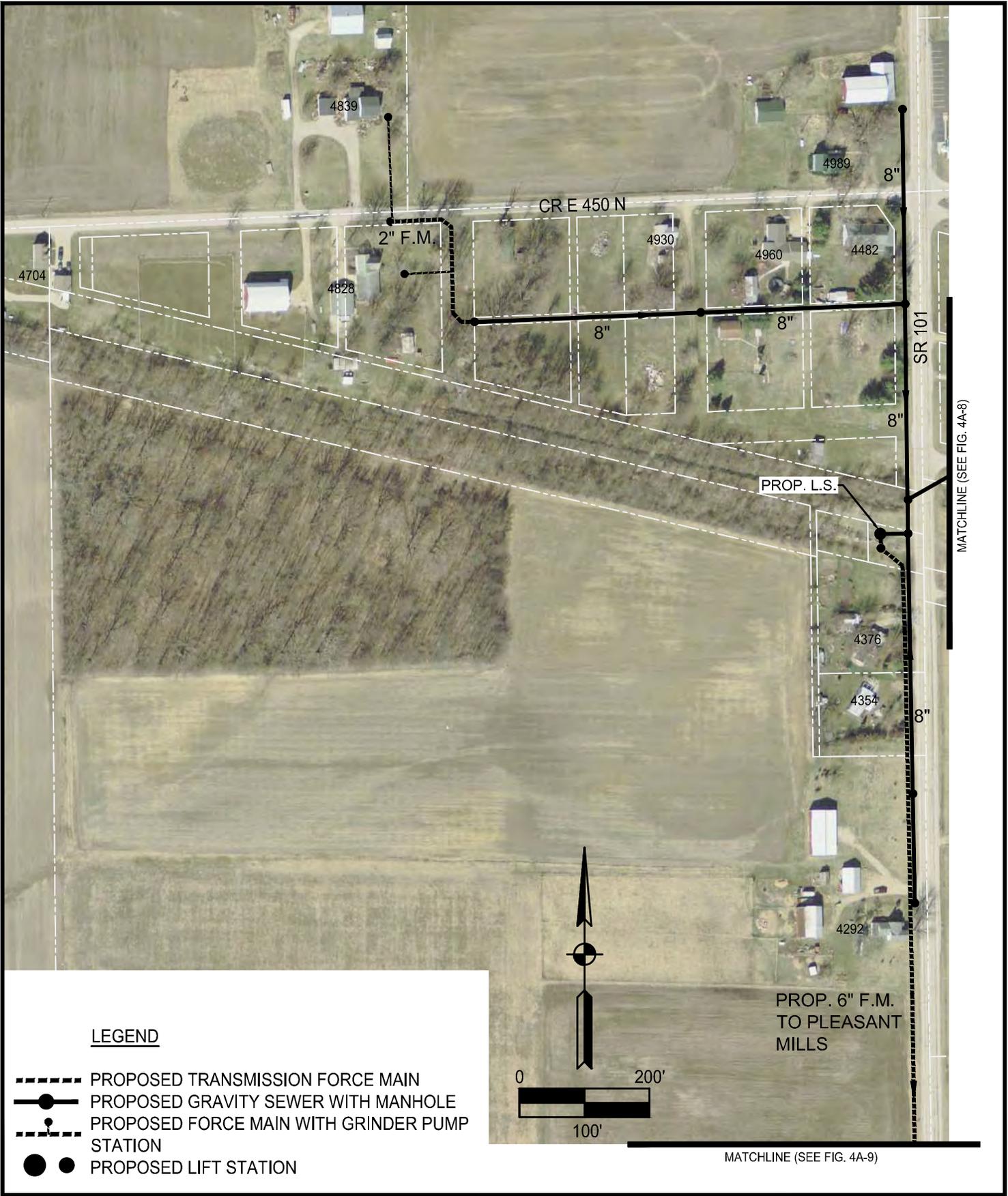
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RIVARE (BOBO) - OPTION 1 - GRAVITY
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR

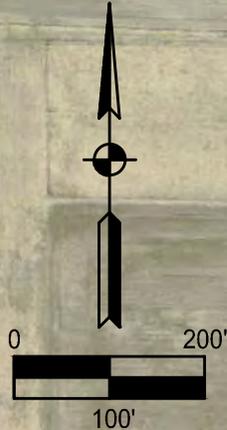
FIGURE

4A-6



LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION



PROP. 6" F.M. TO PLEASANT MILLS

MATCHLINE (SEE FIG. 4A-8)

MATCHLINE (SEE FIG. 4A-9)

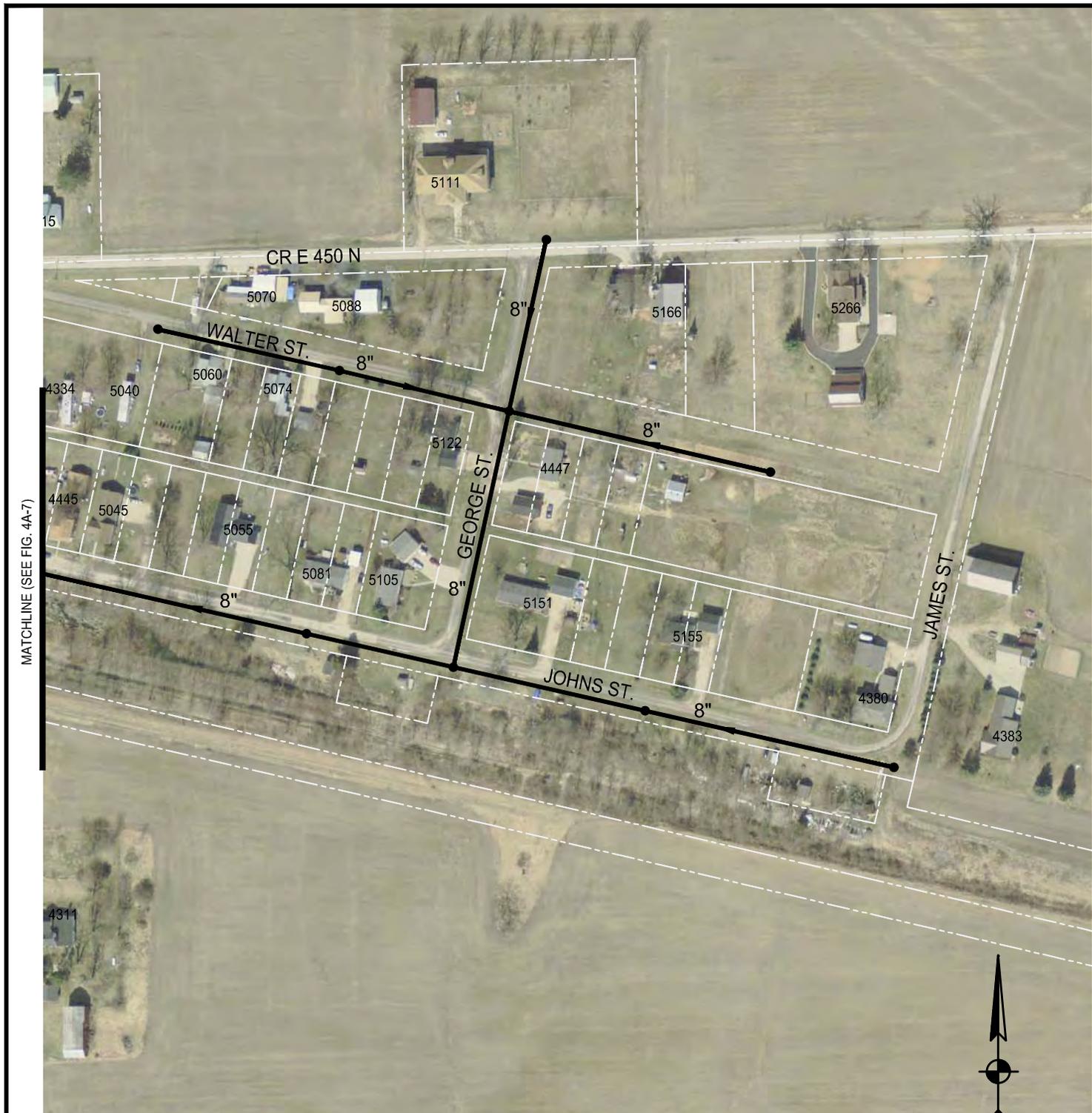
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**RIVARE (BOBO) - OPTION 2 - GRAVITY
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO PLEASANT MILLS**

FIGURE

4A-7



MATCHLINE (SEE FIG. 4A-7)

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION



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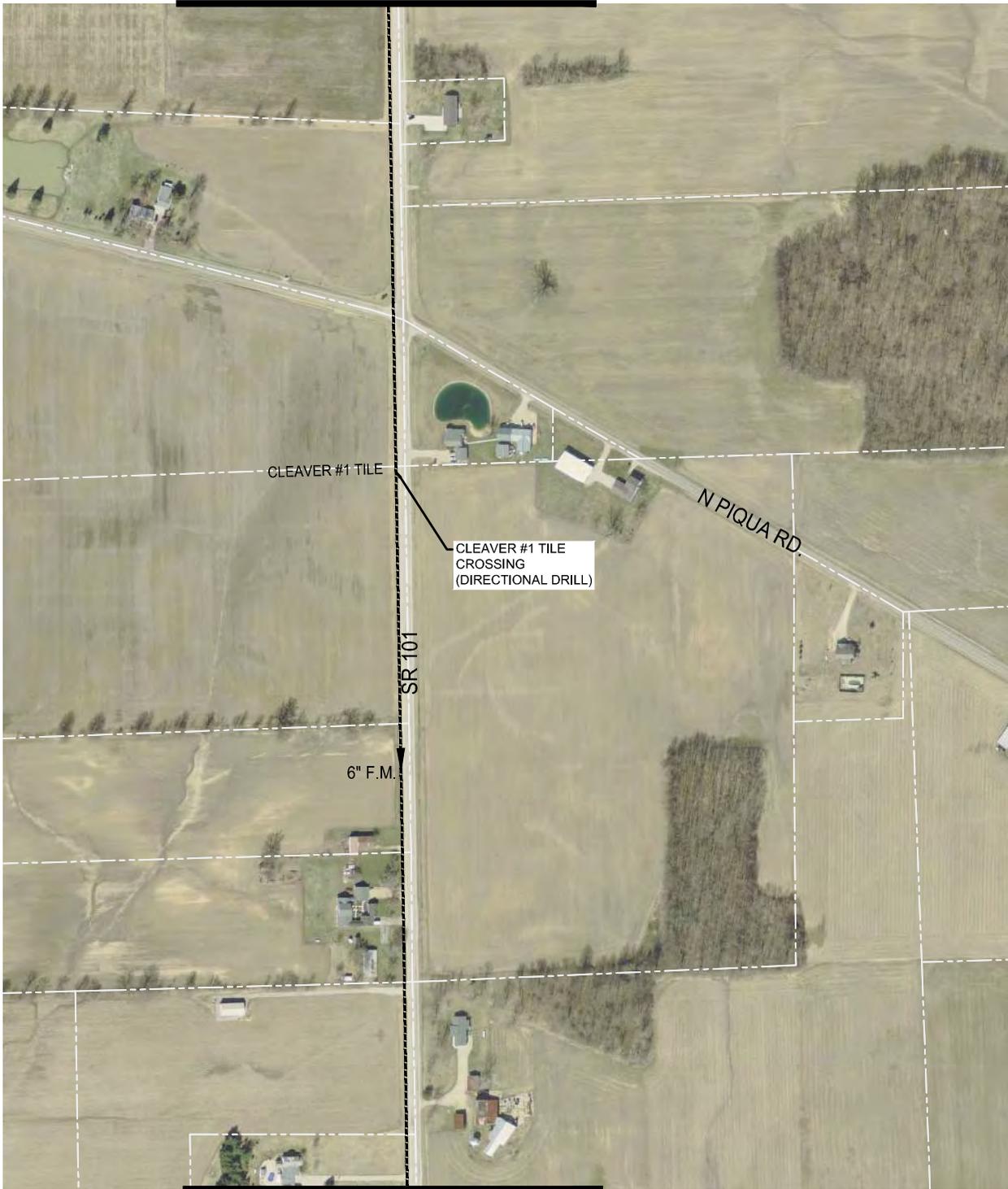
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**RIVARE (BOBO) - OPTION 2 - GRAVITY
 COLLECTION SYSTEM WITH
 TRANSMISSION MAIN TO PLEASANT MILLS**

FIGURE

4A-8

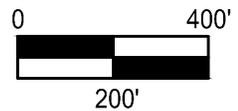
MATCHLINE (SEE FIG. 4A-7)



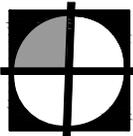
MATCHLINE (SEE FIG. 4A-10)

LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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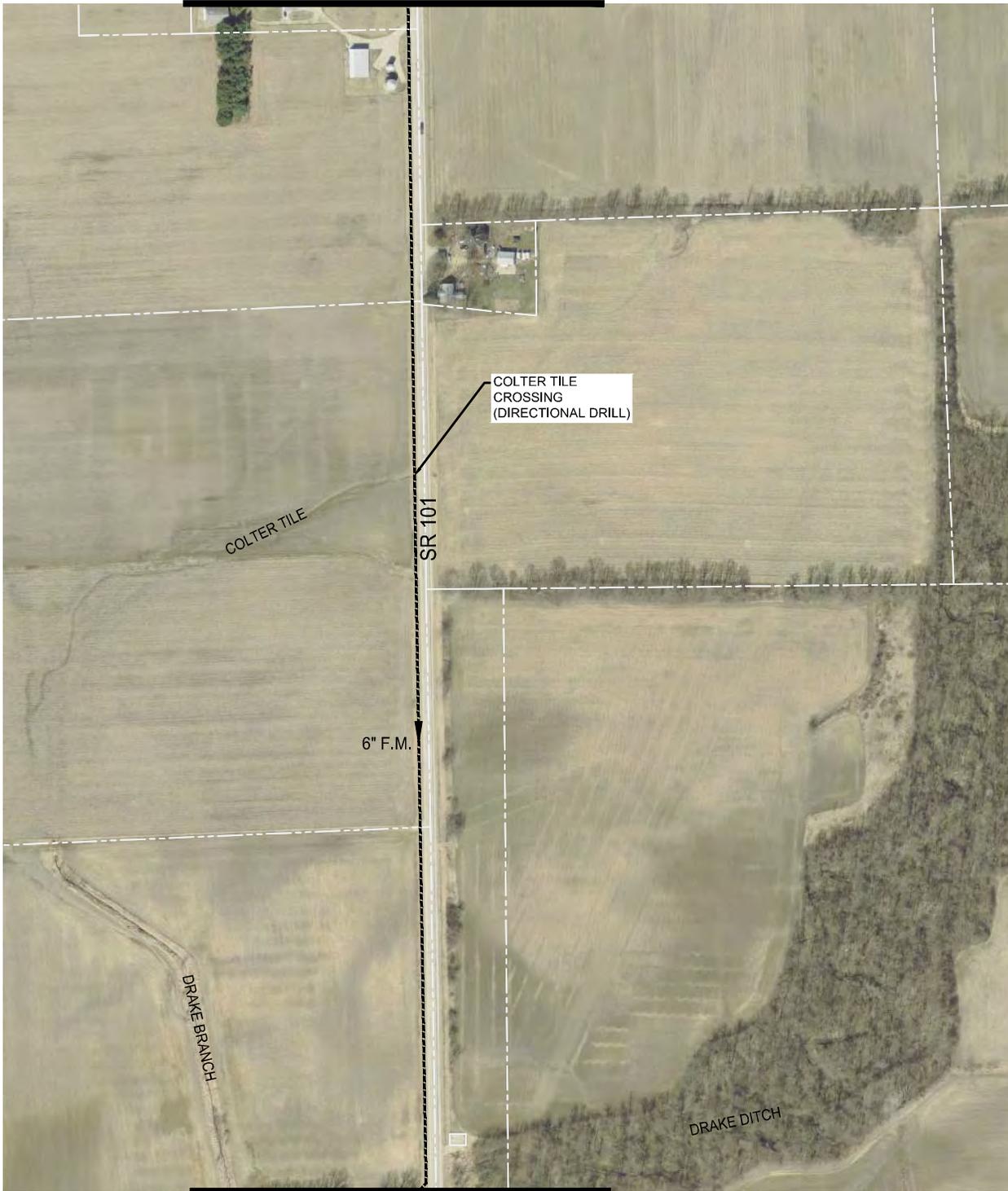
**RIVARE (BOBO) - OPTION 2 - GRAVITY
 COLLECTION SYSTEM WITH
 TRANSMISSION MAIN TO PLEASANT MILLS**

FIGURE

4A-9

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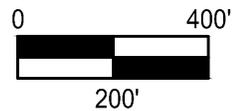
MATCHLINE (SEE FIG. 4A-9)



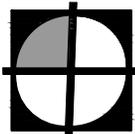
MATCHLINE (SEE FIG. 4A-11)

LEGEND

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**RIVARE (BOBO) - OPTION 2 - GRAVITY
 COLLECTION SYSTEM WITH
 TRANSMISSION MAIN TO PLEASANT MILLS**

FIGURE

4A-10

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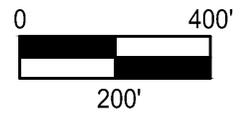
MATCHLINE (SEE FIG. 4A-10)



MATCHLINE (SEE FIG. 4A-12)

LEGEND

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RIVARE (BOBO) - OPTION 2 - GRAVITY
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO PLEASANT MILLS

FIGURE

4A-11

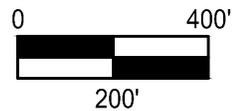
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MATCHLINE (SEE FIG. 4A-11)

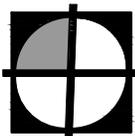


LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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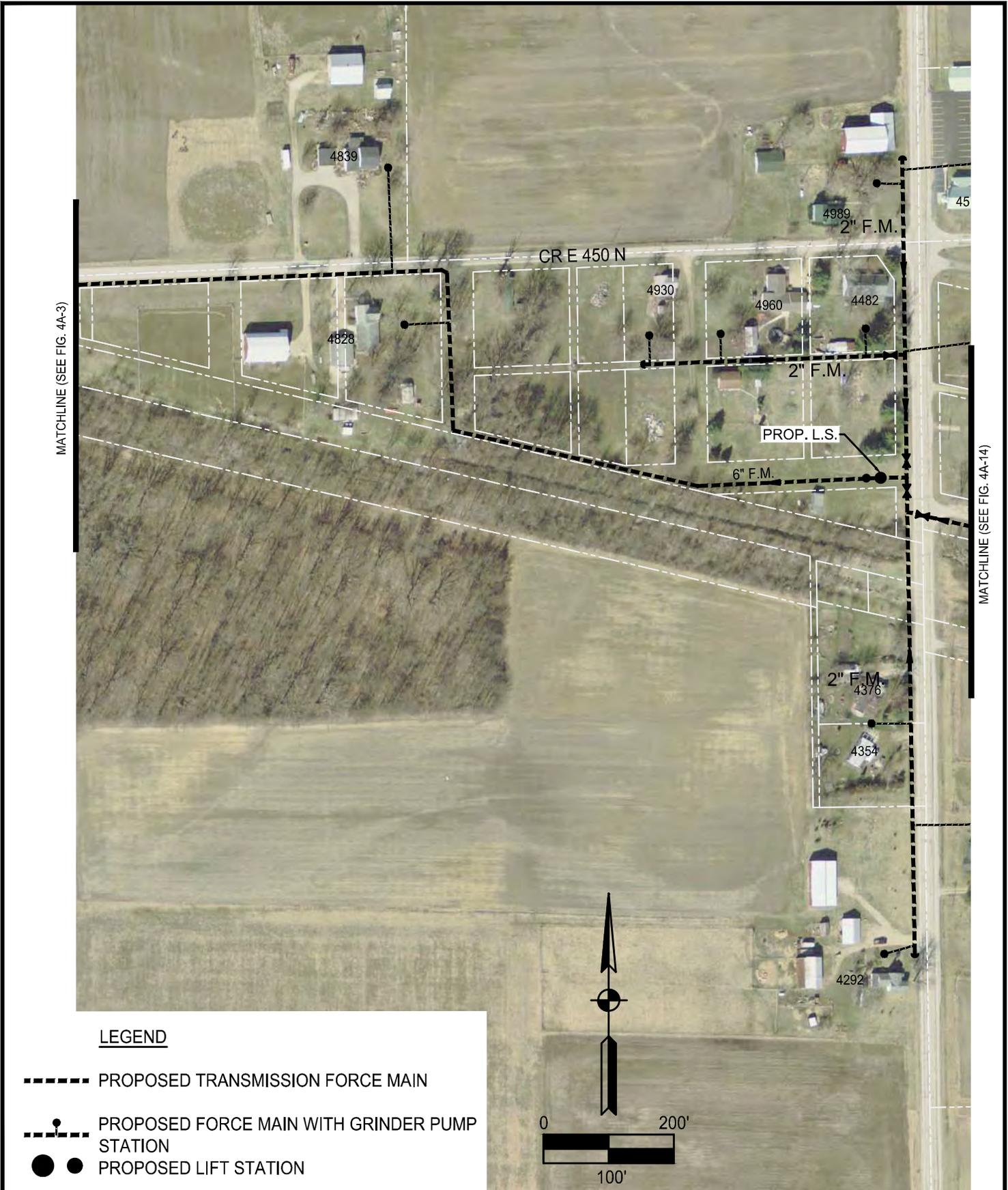
ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

RIVARE (BOBO) - OPTION 2 - GRAVITY
COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO PLEASANT MILLS

FIGURE

4A-12

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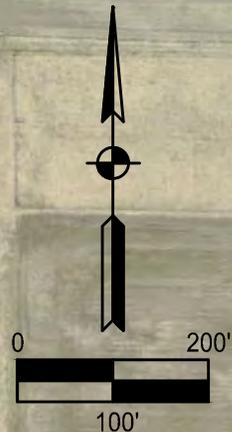


MATCHLINE (SEE FIG. 4A-3)

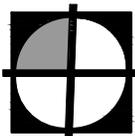
MATCHLINE (SEE FIG. 4A-14)

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION



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**RIVARE (BOBO) - OPTION 3 - LOW
PRESSURE COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR**

FIGURE

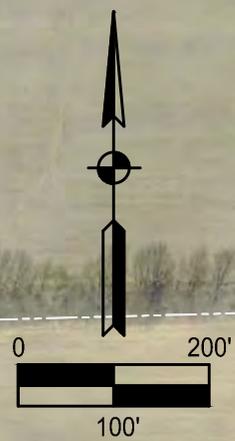
4A-13



MATCHLINE (SEE FIG. 4A-13)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
-  PROPOSED LIFT STATION



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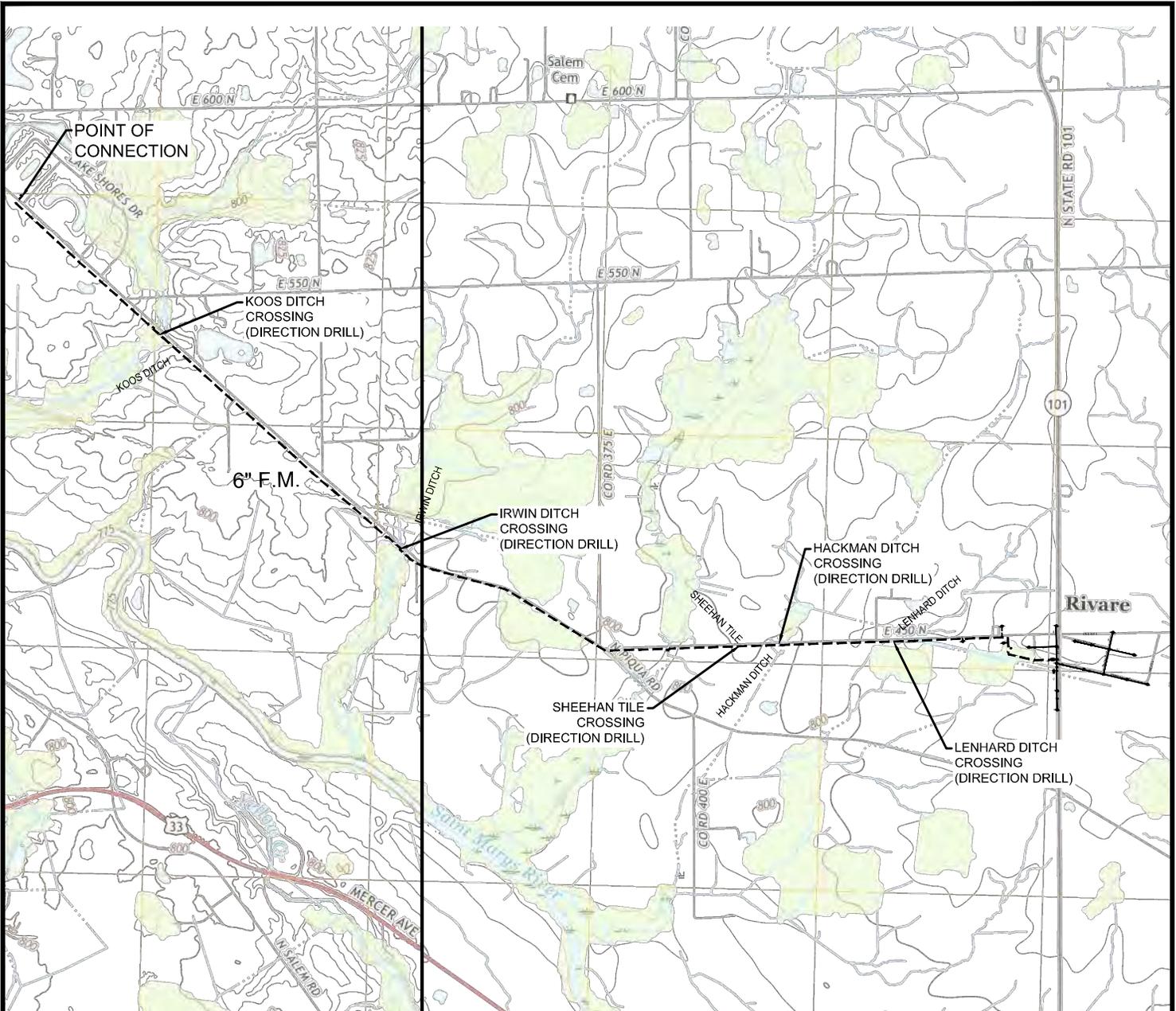
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**RIVARE (BOBO) - OPTION 3 - LOW
PRESSURE COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR**

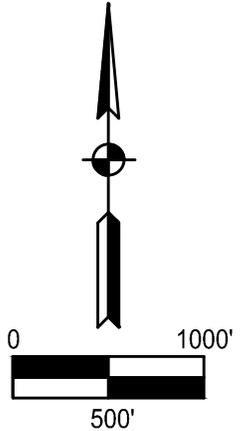
FIGURE

4A-14



LEGEND

----- PROPOSED TRANSMISSION
FORCE MAIN



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RIVARE (BOBO) - TOPOGRAPHY MAP

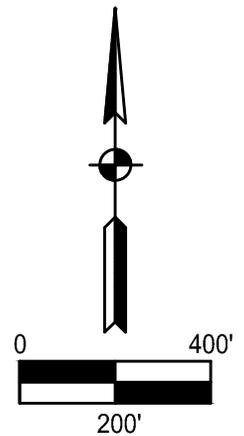
FIGURE

4B



LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION

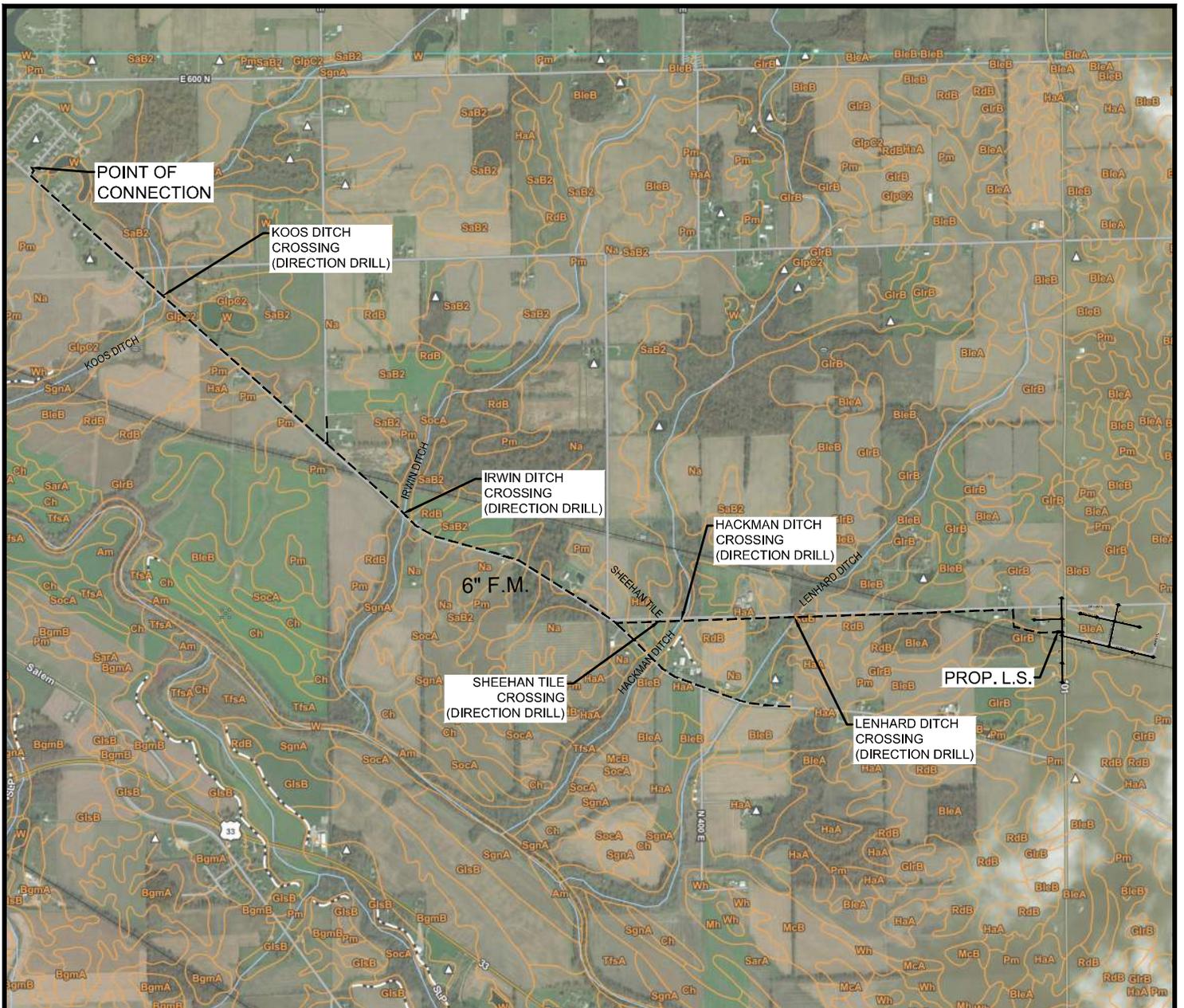


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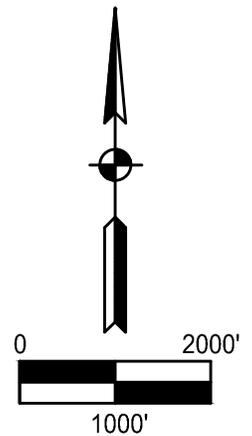
RIVARE (BOBO) - SOILS MAP

**FIGURE
4C-1**



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

RIVARE (BOBO) - SOILS MAP

**FIGURE
4C-2**

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

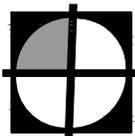
Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

RIVARE (BOBO) - SOILS MAP

FIGURE

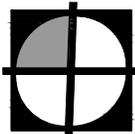
4C-3

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Am	Armiesburg silty clay loam, frequently flooded	66.3	0.6%
BgmA	Blount silt loam, ground moraine, 0 to 2 percent slopes	597.1	5.7%
BgmB	Blount silt loam, ground moraine, 2 to 4 percent slopes	1,303.7	12.4%
BleA	Blount silt loam, end moraine, 0 to 2 percent slopes	487.9	4.6%
BleB	Blount silt loam, end moraine, 2 to 4 percent slopes	1,024.0	9.7%
Ch	Chagrin loam, frequently flooded	212.7	2.0%
GlpC2	Glynwood clay loam, 6 to 12 percent slopes, eroded	44.0	0.4%
GlrB	Glynwood silt loam, end moraine, 2 to 6 percent slopes	513.6	4.9%
GlsB	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	397.5	3.8%
HaA	Haskins loam, 1 to 3 percent slopes	392.4	3.7%
McA	Martinsville loam, 0 to 2 percent slopes	30.9	0.3%
McB	Martinsville loam, 2 to 6 percent slopes	70.3	0.7%
Mh	Milford silty clay loam, 0 to 2 percent slopes	241.0	2.3%
Na	Nappanee silt loam, 0 to 3 percent slopes	1,029.9	9.8%
Pm	Pewamo silty clay, 0 to 2 percent slopes	2,002.1	19.0%
RdB	Rawson loam, 2 to 6 percent slopes	223.8	2.1%
SaB2	St. Clair clay loam, 3 to 8 percent slopes, eroded	437.7	4.2%
SarA	Saranac silty clay loam, 0 to 1 percent slopes, frequently flooded	170.0	1.6%
SgnA	Shoals silty clay loam, 0 to 1 percent slopes, frequently flooded	416.6	4.0%
SocA	Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded	375.3	3.6%
TfsA	Tice silty clay loam, 0 to 1 percent slopes, frequently flooded	279.1	2.6%
Ud	Udorthents, loamy	29.8	0.3%
W	Water	112.9	1.1%
Wh	Whitaker silt loam	84.7	0.8%
Totals for Area of Interest		10,543.1	100.0%

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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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RIVARE (BOBO) - SOILS MAP

FIGURE

4C-4

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POINT OF CONNECTION

KOOS DITCH CROSSING (DIRECTION DRILL)

6" F.M.

IRWIN DITCH CROSSING (DIRECTION DRILL)

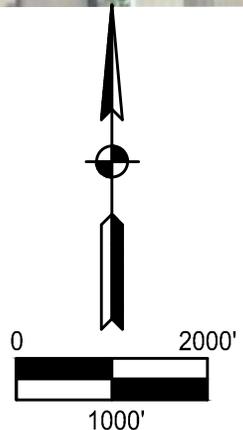
SHEEHAN TILE CROSSING (DIRECTION DRILL)

HACKMAN DITCH CROSSING (DIRECTION DRILL)

LENHARD DITCH CROSSING (DIRECTION DRILL)

LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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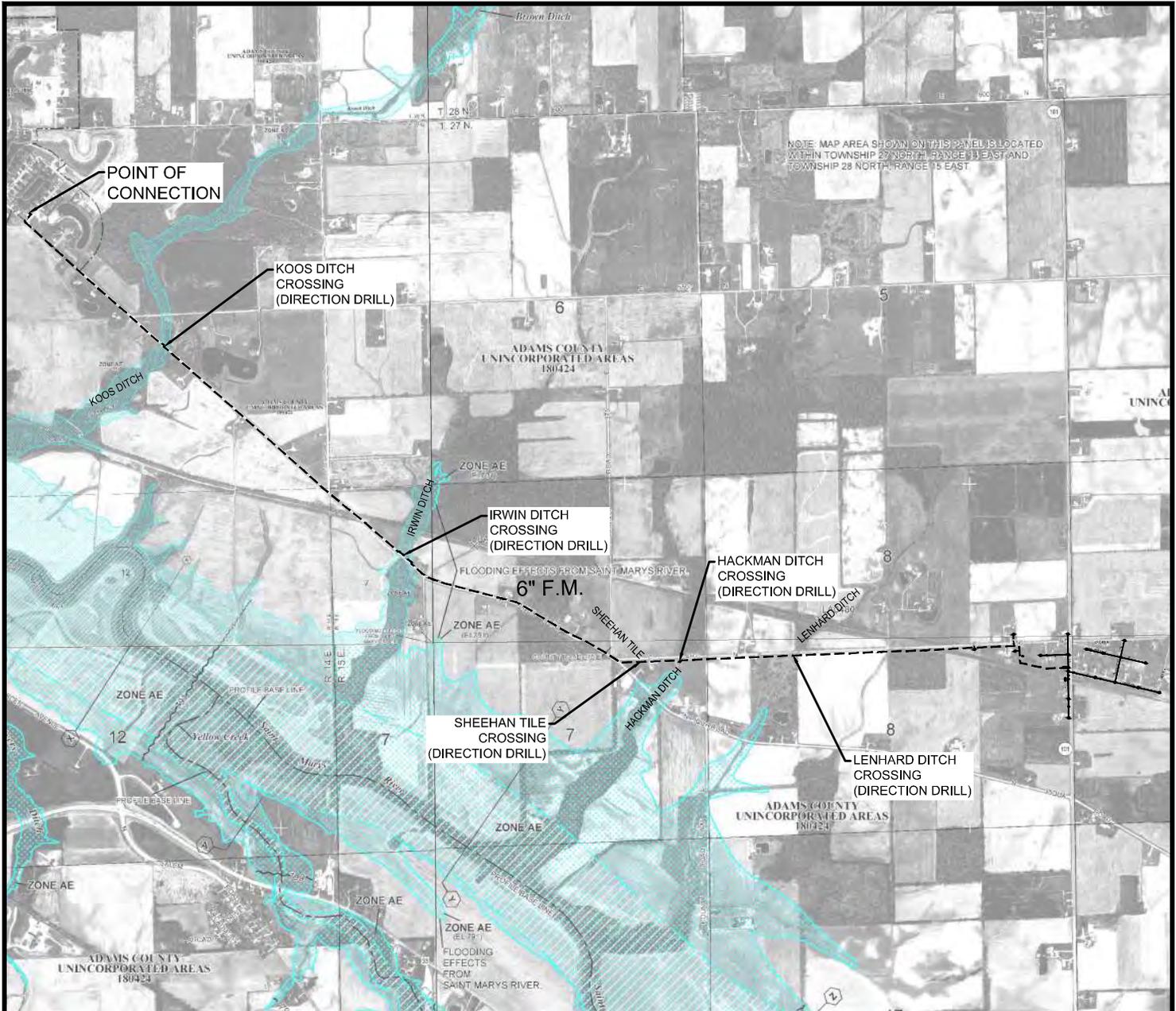
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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RIVARE (BOBO) - WETLANDS MAP

FIGURE

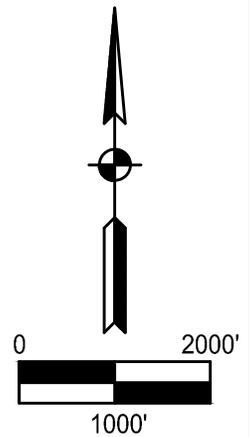
4D



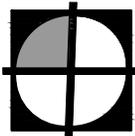
NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 27 NORTH, RANGE 13 EAST AND TOWNSHIP 28 NORTH, RANGE 15 EAST

LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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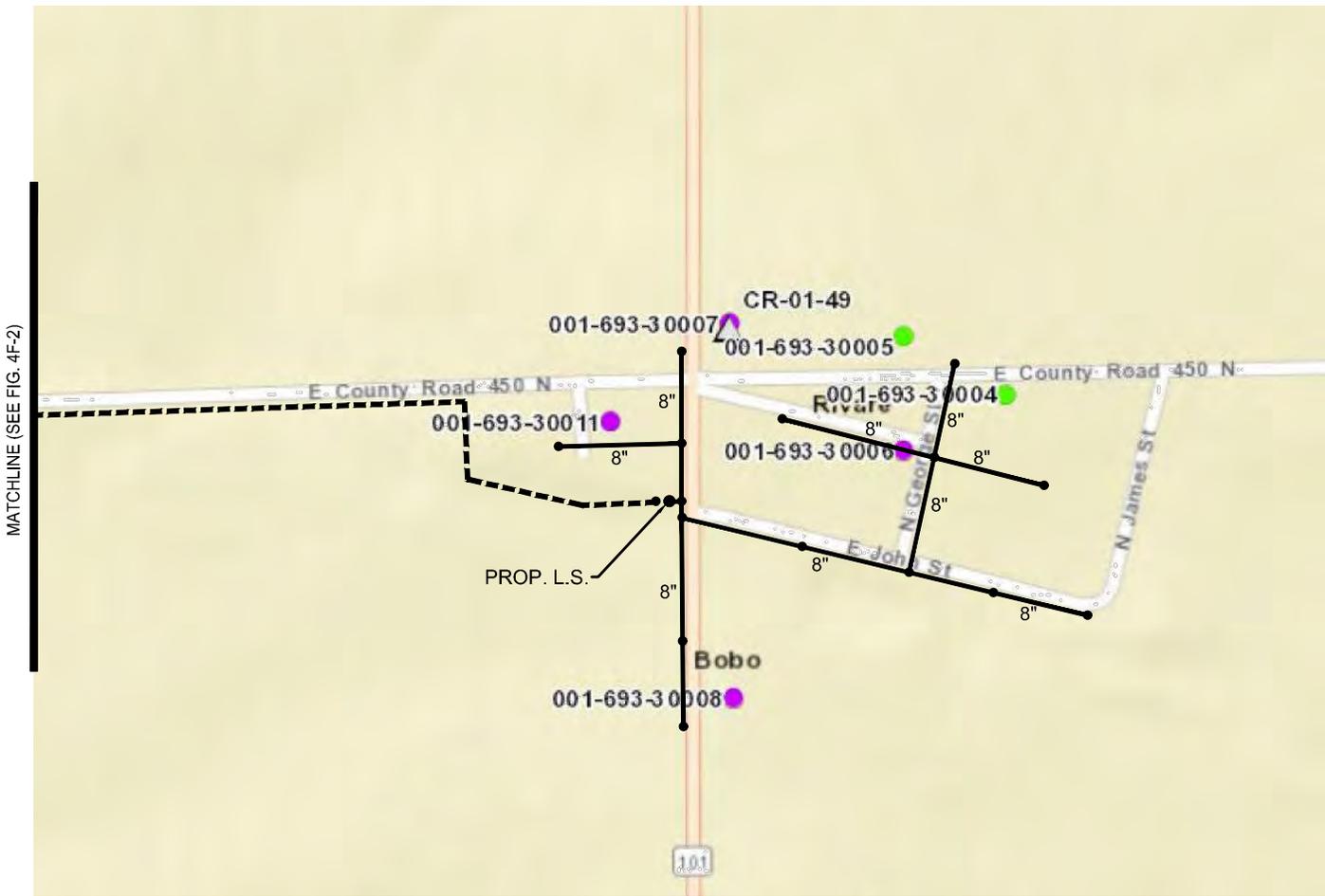
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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RIVARE (BOBO) - FLOODPLAIN MAP

FIGURE

4E



LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
 - PROPOSED GRAVITY SEWER WITH MANHOLE
 - PROPOSED LIFT STATION
- | | | | | | | | |
|------------|--------------|------------|------------------|------------|------------------|----------------|-------------------------|
| ● (Cyan) | Override 1 | ● (Blue) | Non-Contributing | ● (Green) | Notable | ● (Yellow) | Unknown |
| △ | Cemeteries | ● (Grey) | Demolished | ● (Purple) | Contributing | ★ | National Register Sites |
| ● (Red) | Outstanding | ● (Yellow) | Unknown | ■ (Blue) | Non-Contributing | ■ (Cyan) | Historic Districts |
| ● (Green) | Notable | ■ (Red) | Outstanding | ■ (Grey) | Demolished | ■ (Light Blue) | World Street Map |
| ● (Purple) | Contributing | | | | | | |



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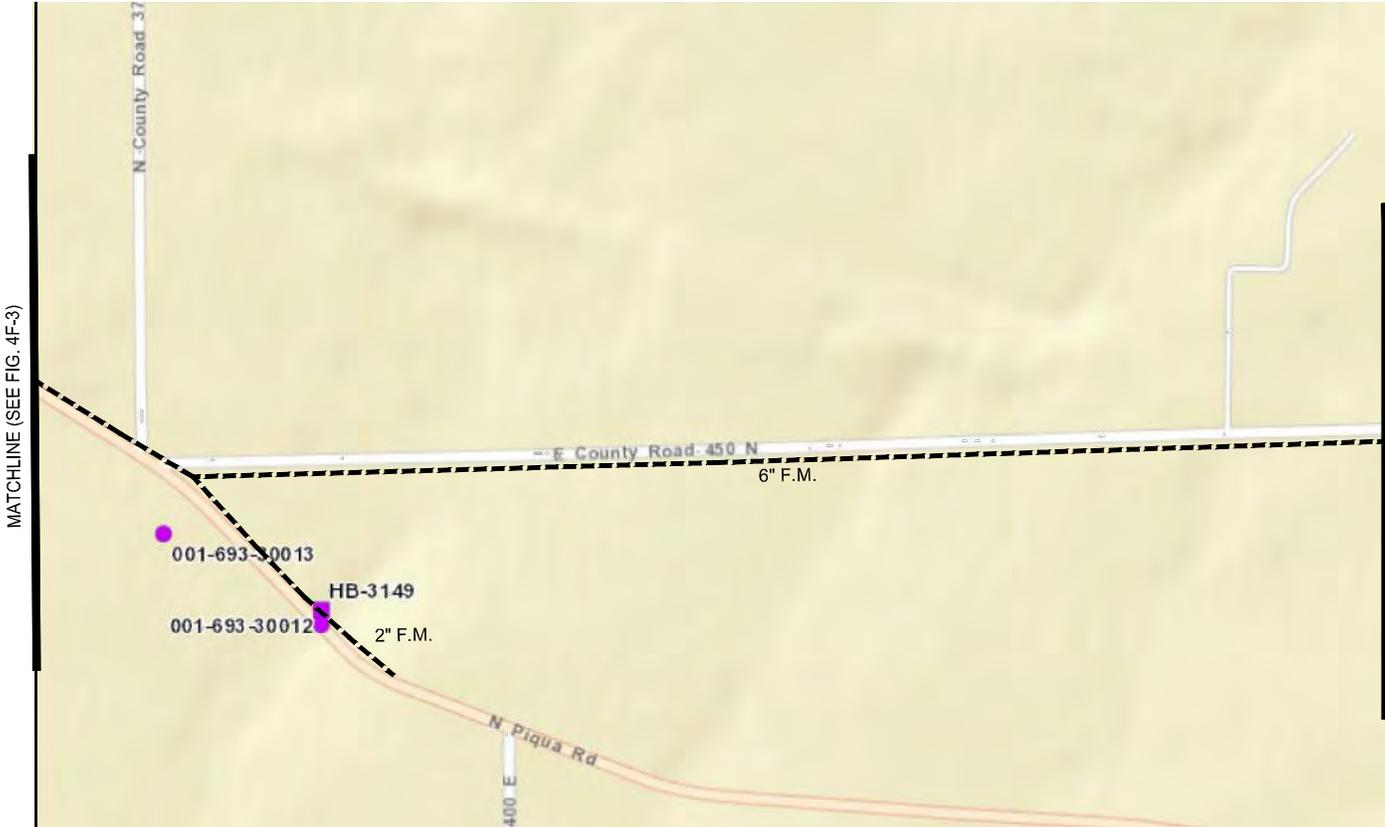
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RIVARE (BOBO) - HISTORICAL MAP

FIGURE

4F-1



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
| Contributing | | | |



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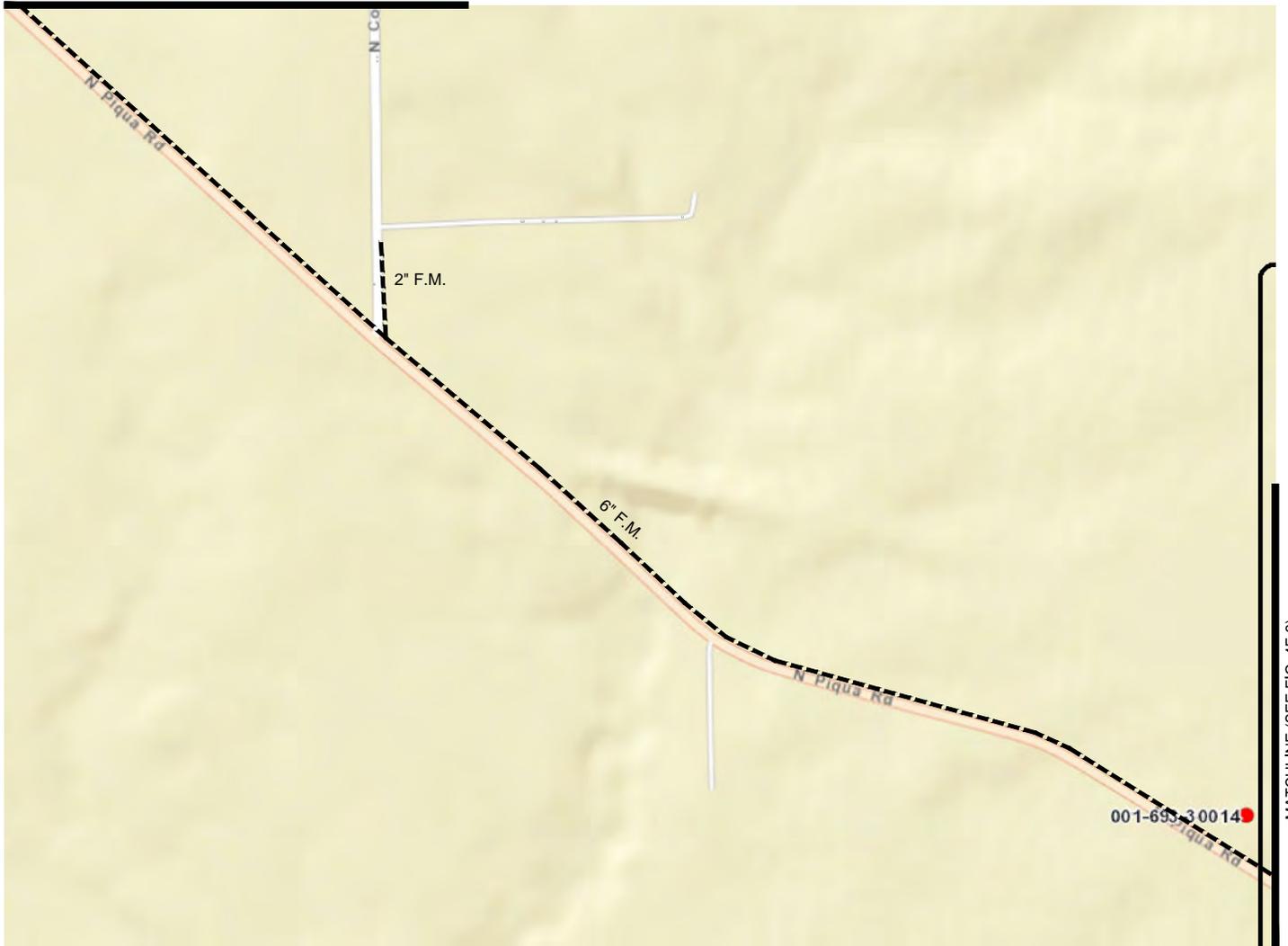
RIVARE (BOBO) - HISTORICAL MAP

FIGURE

4F-2

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MATCHLINE (SEE FIG. 4F-4)



MATCHLINE (SEE FIG. 4F-2)

LEGEND

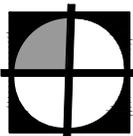
----- PROPOSED TRANSMISSION FORCE MAIN

- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
| Contributing | | | |



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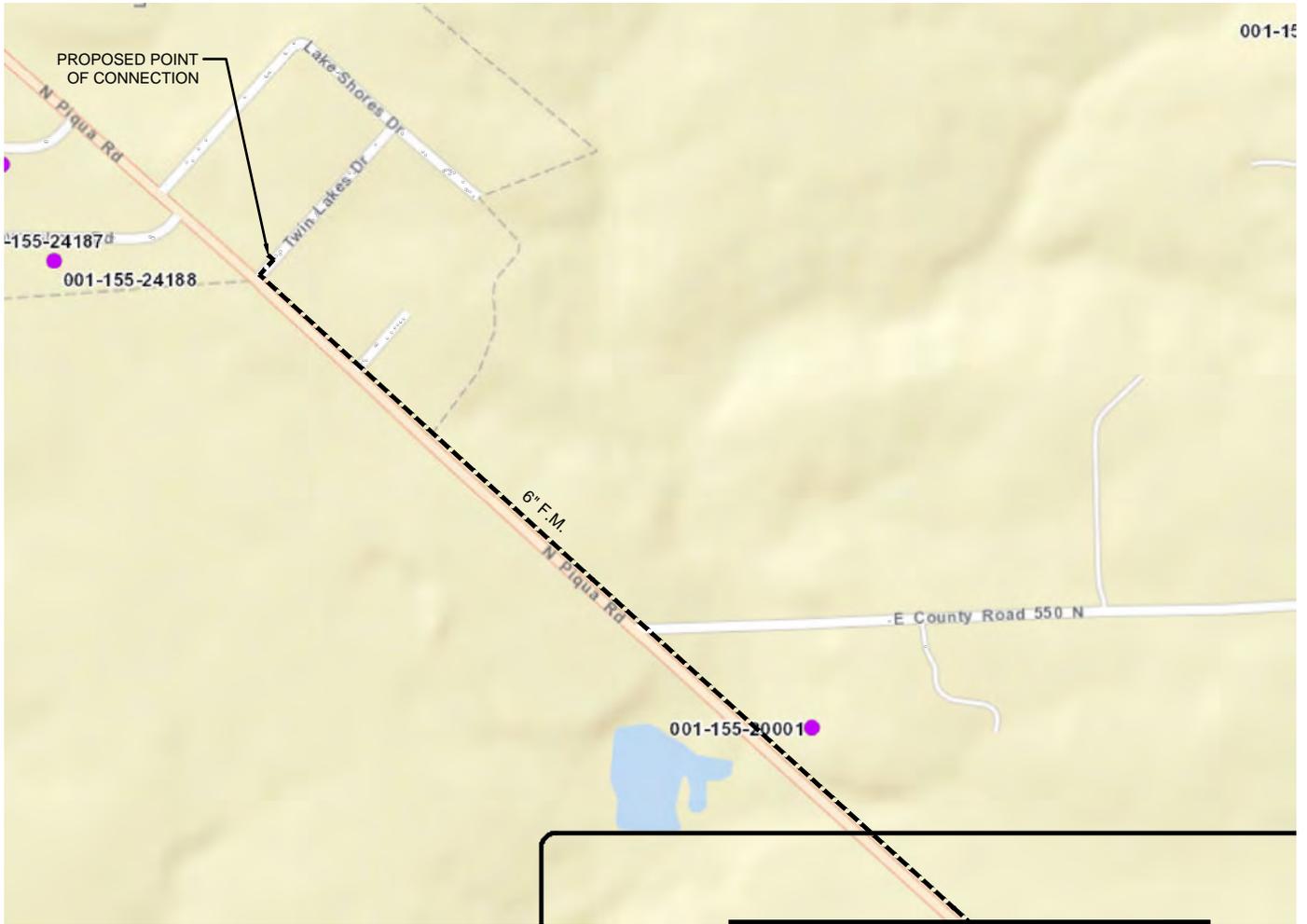
ADAMS COUNTY REGIONAL SEWER DISTRICT
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RIVARE (BOBO) - HISTORICAL MAP

FIGURE

4F-3

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MATCHLINE (SEE FIG. 4F-3)

LEGEND

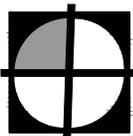
----- PROPOSED TRANSMISSION FORCE MAIN

- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
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RIVARE (BOBO) - HISTORICAL MAP

FIGURE

4F-4

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LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LOW PRESSURE WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION

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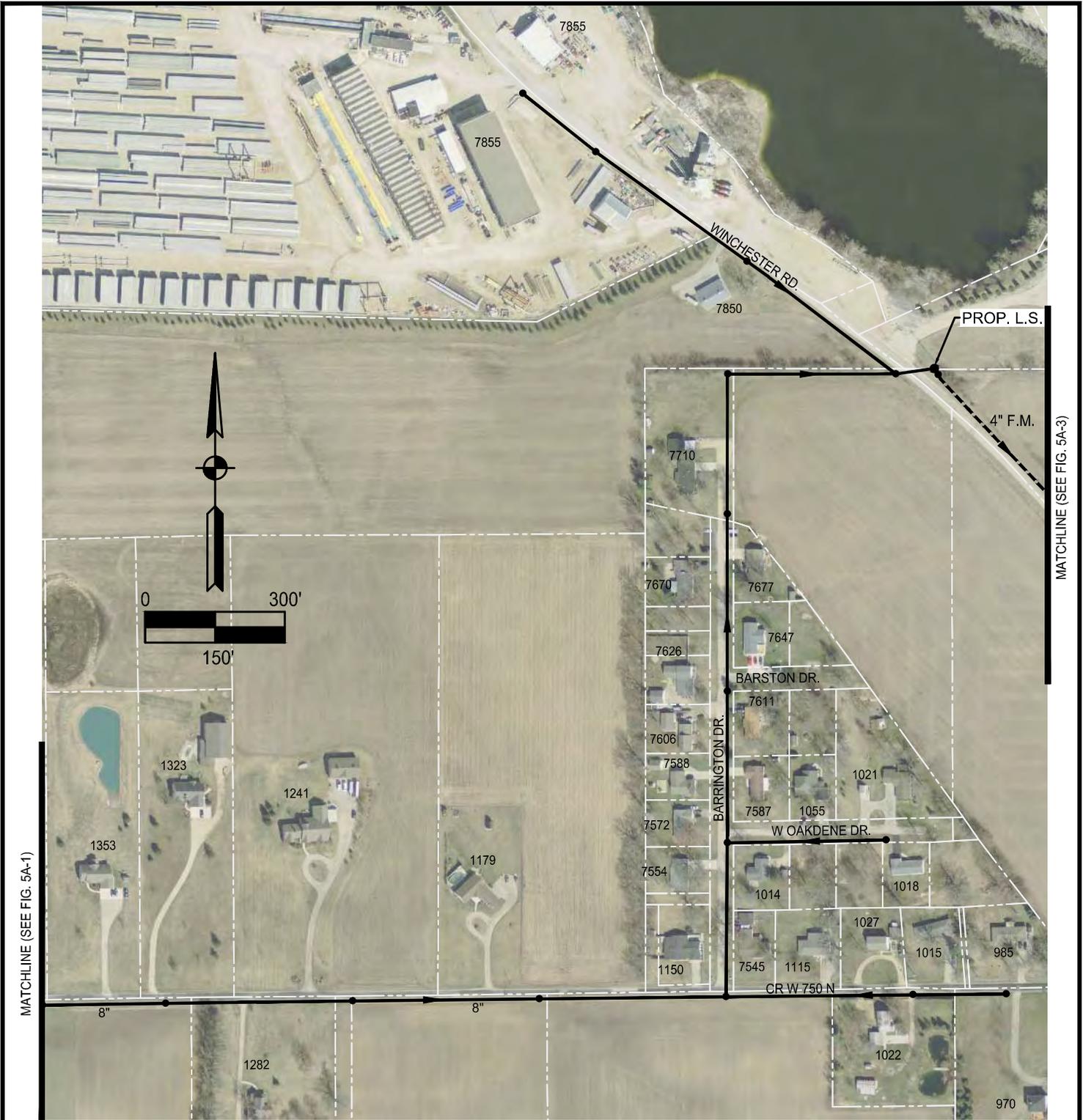
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**BARRINGTON WOODS - OPTION 1 - GRAVITY/LOW
PRESSURE COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR**

**FIGURE
5A-1**



LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LOW PRESSURE WITH GRINDER
- PUMP STATION
- PROPOSED LIFT STATION

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**BARRINGTON WOODS - OPTION 1 - GRAVITY/LOW
 PRESSURE COLLECTION SYSTEM WITH
 TRANSMISSION MAIN TO DECATUR**

**FIGURE
 5A-2**



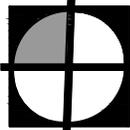
MATCHLINE (SEE FIG. 5A-2)

MATCHLINE (SEE FIG. 5A-4)

LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



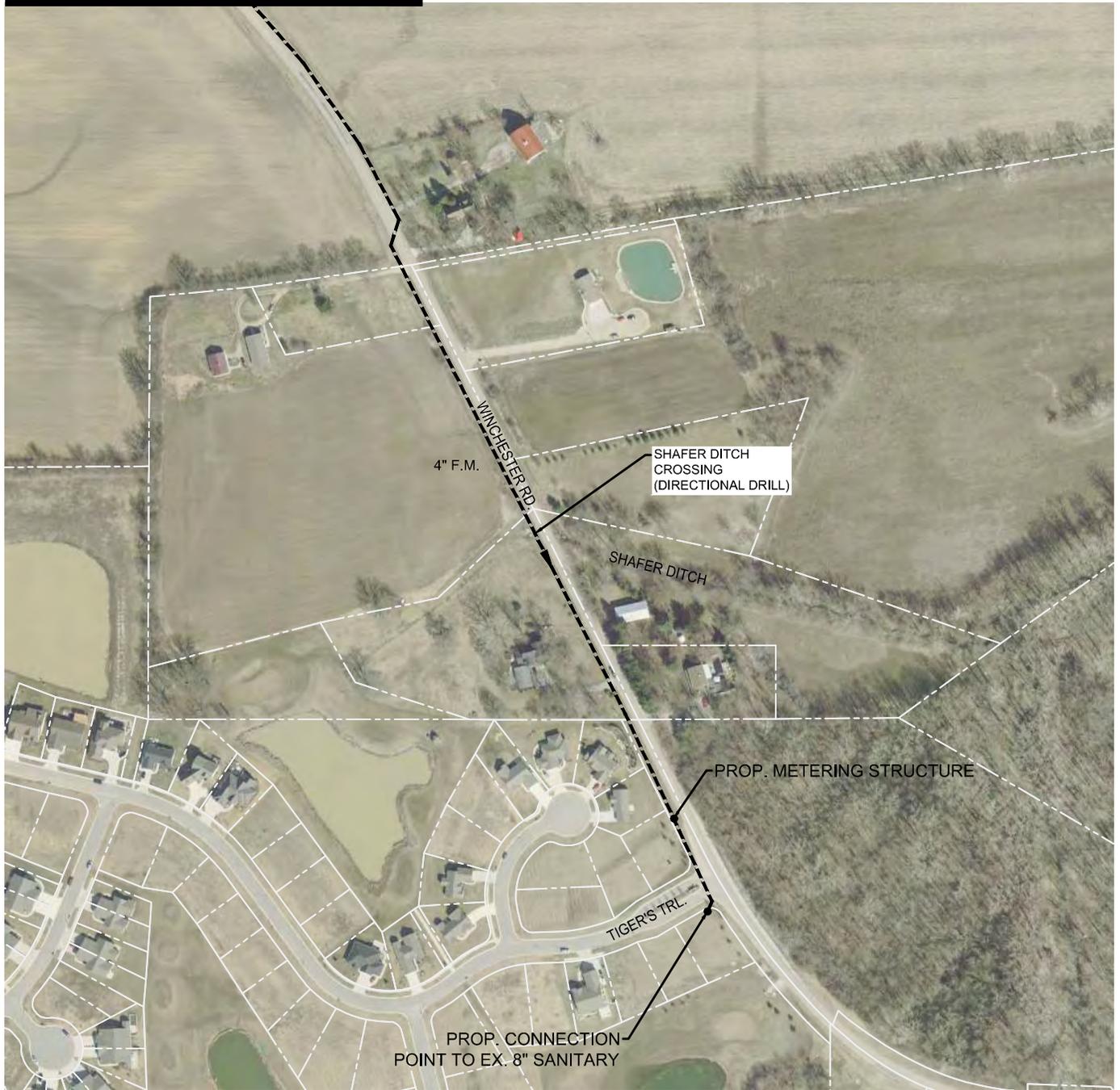
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**BARRINGTON WOODS - OPTION 1 - GRAVITY/LOW
PRESSURE COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR**

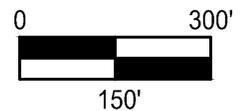
**FIGURE
5A-3**

MATCHLINE (SEE FIG. 5A-3)

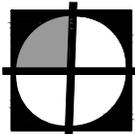


LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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BARRINGTON WOODS - OPTION 1 - GRAVITY/LOW
PRESSURE COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR

FIGURE

5A-4

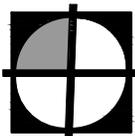
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LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION

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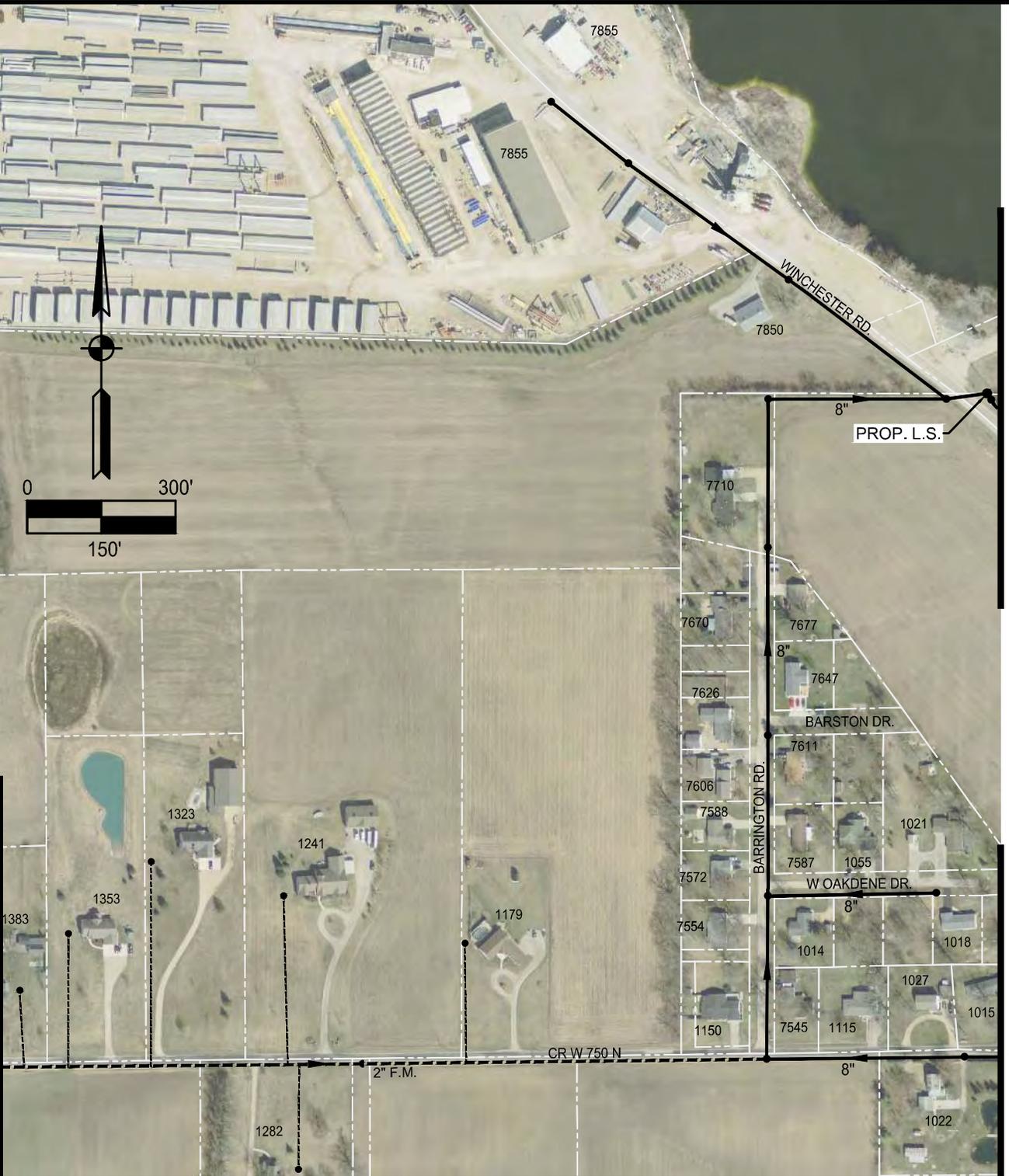
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**BARRINGTON WOODS - OPTION 2 - GRAVITY/LOW
PRESSURE COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR**

FIGURE

5A-5



LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION

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BARRINGTON WOODS - OPTION 2 - GRAVITY/LOW
PRESSURE COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR

FIGURE
5A-6



MATCHLINE (SEE FIG. 5A-6)

MATCHLINE (SEE FIG. 5A-6)

MATCHLINE (SEE FIG. 5A-8)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
-  PROPOSED LIFT STATION



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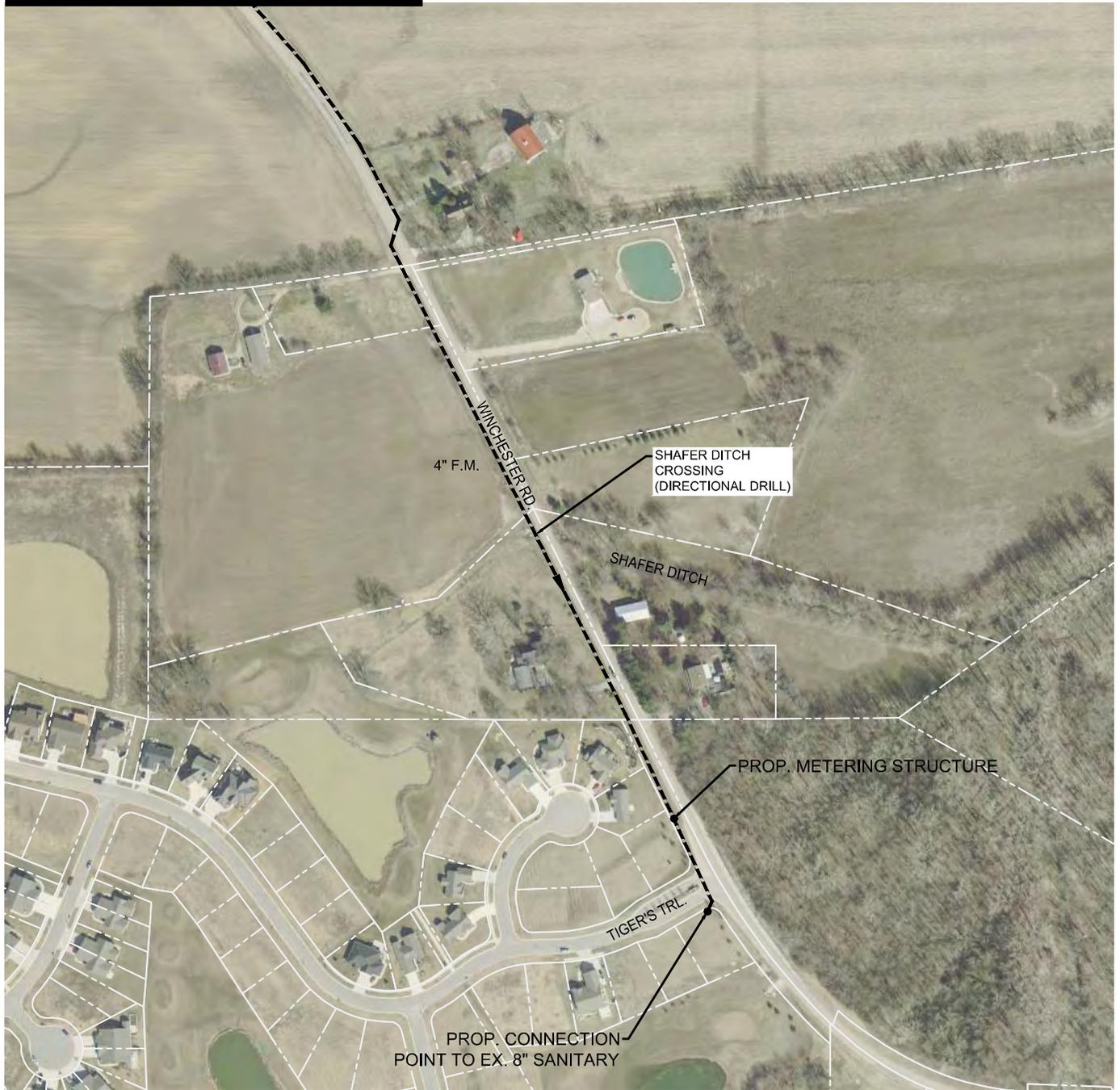
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 PRESSURE COLLECTION SYSTEM WITH
 TRANSMISSION MAIN TO DECATUR**

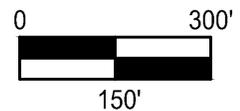
**FIGURE
 5A-7**

MATCHLINE (SEE FIG. 5A-7)

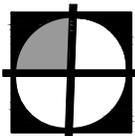


LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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BARRINGTON WOODS - OPTION 2 - GRAVITY/LOW
PRESSURE COLLECTION SYSTEM WITH
TRANSMISSION MAIN TO DECATUR

FIGURE

5A-8

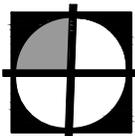
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LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION

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**BARRINGTON WOODS - OPTION 3 - LOW
 PRESSURE COLLECTION SYSTEM TO DECATUR**

FIGURE

5A-9



MATCHLINE (SEE FIG. 5A-9)

MATCHLINE (SEE FIG. 5A-11)

MATCHLINE (SEE FIG. 5A-11)

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION

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BARRINGTON WOODS - OPTION 3 - LOW
PRESSURE COLLECTION SYSTEM TO DECATUR

FIGURE

5A-10



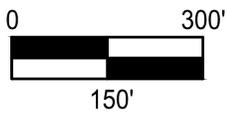
MATCHLINE (SEE FIG. 5A-10)

MATCHLINE (SEE FIG. 5A-10)

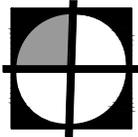
MATCHLINE (SEE FIG. 5A-12)

LEGEND

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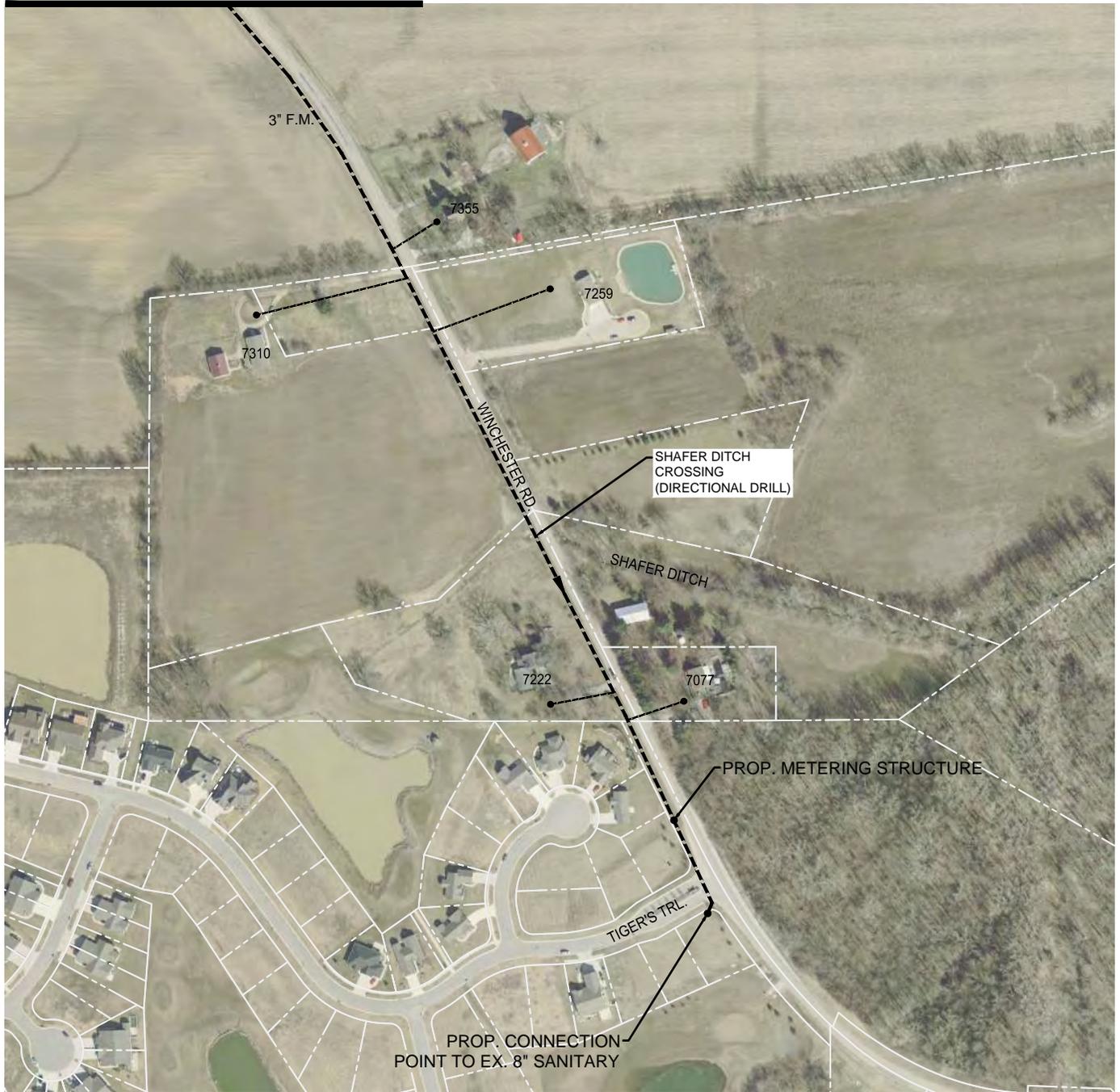
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**BARRINGTON WOODS - OPTION 3 - LOW
PRESSURE COLLECTION SYSTEM TO DECATUR**

FIGURE

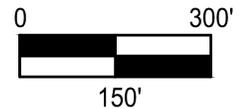
5A-11

MATCHLINE (SEE FIG. 5A-11)

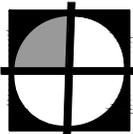


LEGEND

 PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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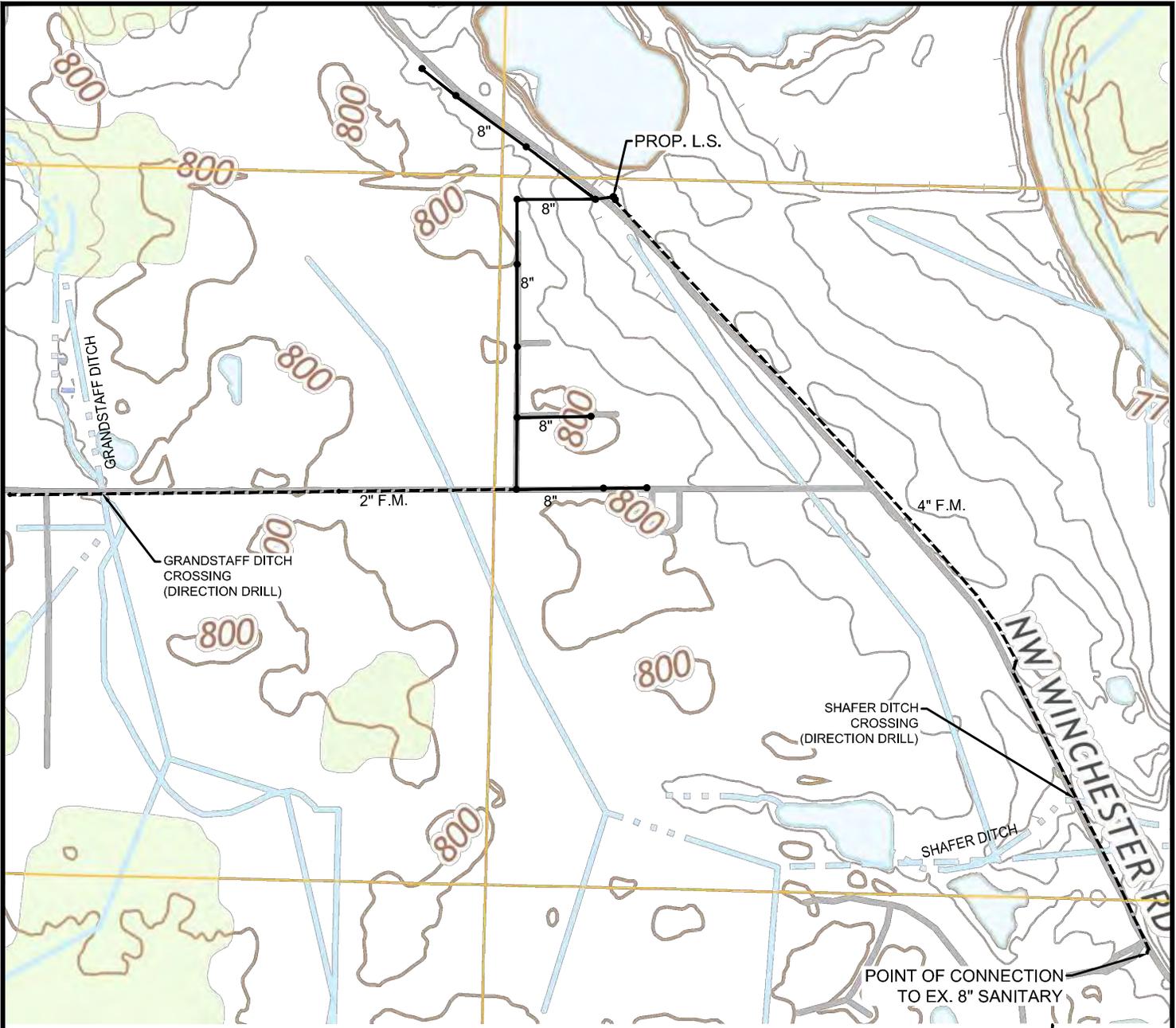
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**BARRINGTON WOODS - OPTION 3 - LOW
PRESSURE COLLECTION SYSTEM TO DECATUR**

FIGURE

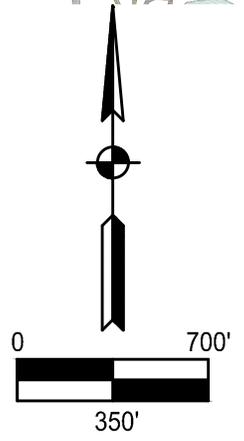
5A-12

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LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION



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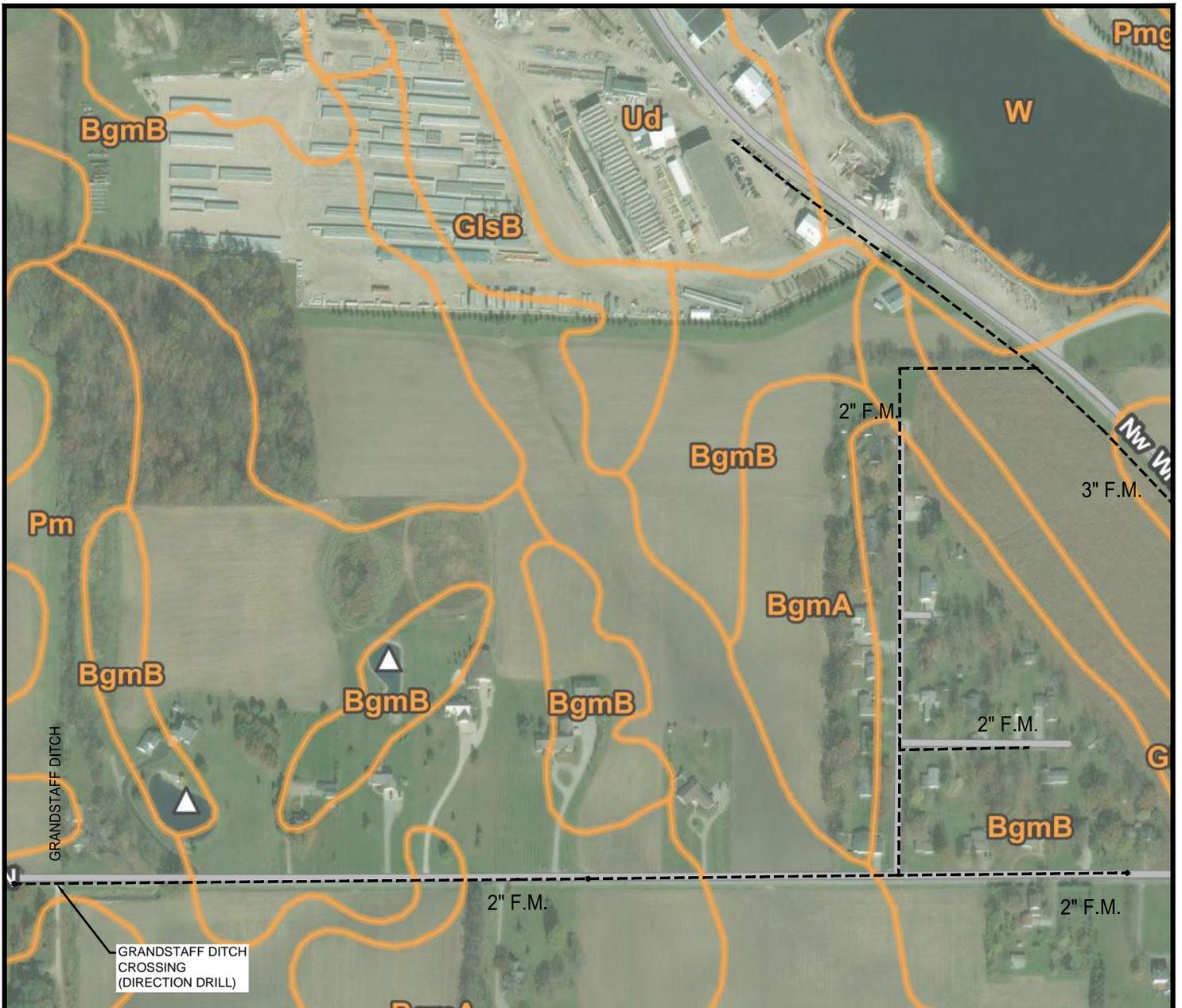
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BARRINGTON WOODS - TOPOGRAPHY MAP

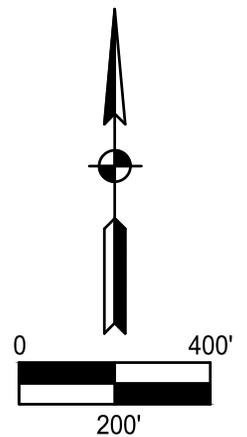
FIGURE

5B

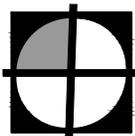


LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION



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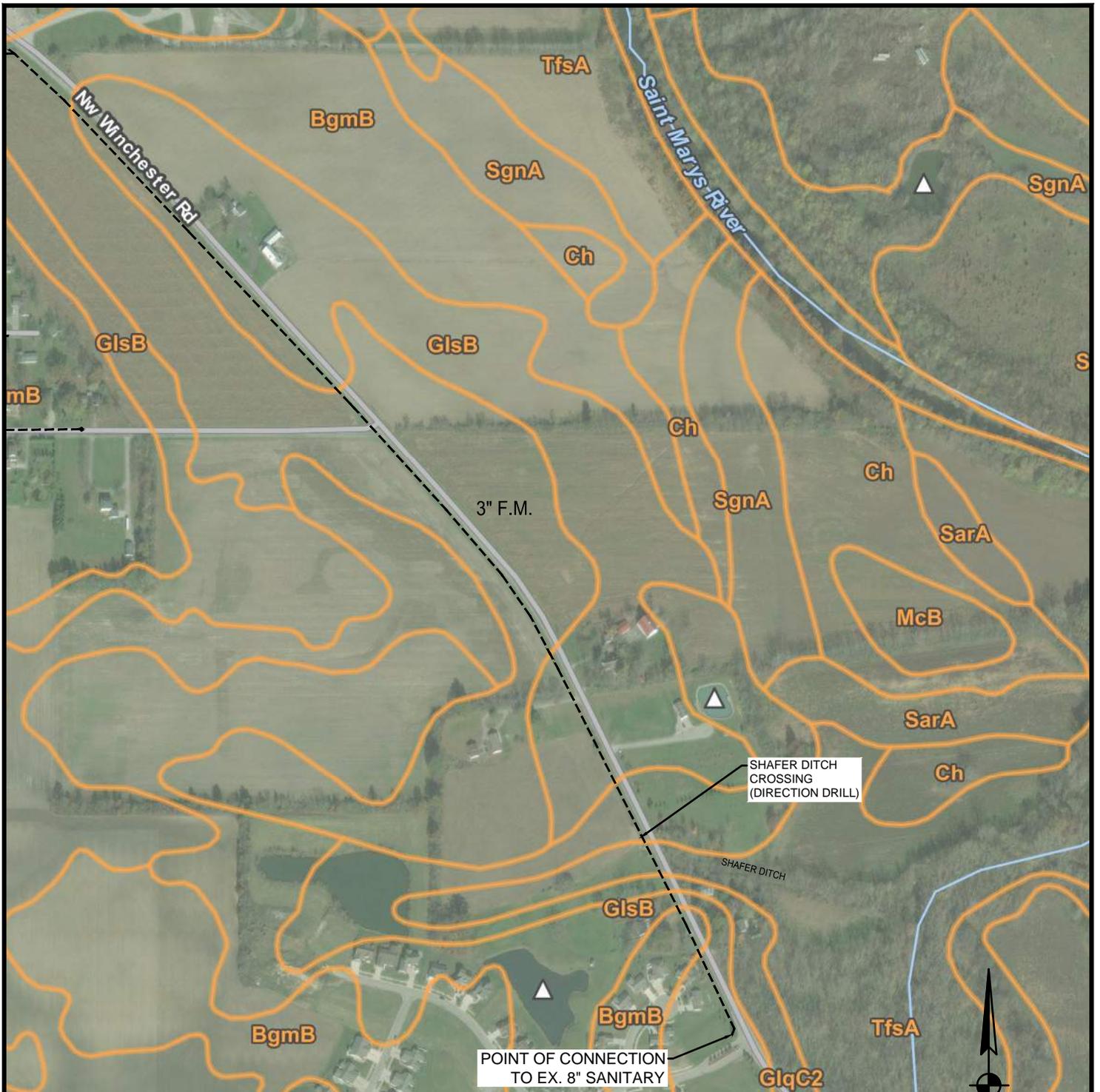
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BARRINGTON WOODS - SOILS MAP

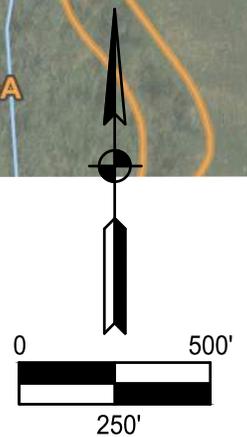
FIGURE

5C-1

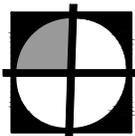


LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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BARRINGTON WOODS - SOILS MAP

FIGURE

5C-2

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

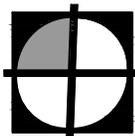
Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

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BARRINGTON WOODS - SOILS MAP

FIGURE

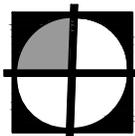
5C-3

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Am	Armiesburg silty clay loam, frequently flooded	70.9	3.1%
BgmA	Blount silt loam, ground moraine, 0 to 2 percent slopes	424.3	18.6%
BgmB	Blount silt loam, ground moraine, 2 to 4 percent slopes	338.9	14.9%
Ch	Chagrin loam, frequently flooded	38.5	1.7%
GlpC2	Glynwood clay loam, 6 to 12 percent slopes, eroded	20.9	0.9%
GlpC2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	45.8	2.0%
GlsB	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	209.4	9.2%
HaA	Haskins loam, 1 to 3 percent slopes	4.1	0.2%
McA	Martinsville loam, 0 to 2 percent slopes	5.3	0.2%
McB	Martinsville loam, 2 to 6 percent slopes	52.3	2.3%
Mh	Milford silty clay loam, 0 to 2 percent slopes	2.1	0.1%
MoD2	Morley silty clay loam, 12 to 18 percent slopes, eroded	41.9	1.8%
Na	Nappanee silt loam, 0 to 3 percent slopes	56.4	2.5%
Pm	Pewamo silty clay, 0 to 2 percent slopes	549.7	24.1%
Pmg	Pits, Gravel	32.2	1.4%
SaB2	St. Clair clay loam, 3 to 8 percent slopes, eroded	60.6	2.7%
SarA	Saranac silty clay loam, 0 to 1 percent slopes, frequently flooded	11.1	0.5%
SgnA	Shoals silty clay loam, 0 to 1 percent slopes, frequently flooded	27.8	1.2%
SocA	Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded	25.1	1.1%
TfsA	Tice silty clay loam, 0 to 1 percent slopes, frequently flooded	113.7	5.0%
Ud	Udorthents, loamy	46.0	2.0%
W	Water	68.2	3.0%
Wh	Whitaker silt loam	33.2	1.5%
Totals for Area of Interest		2,278.5	100.0%

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BARRINGTON WOODS - SOILS MAP

FIGURE

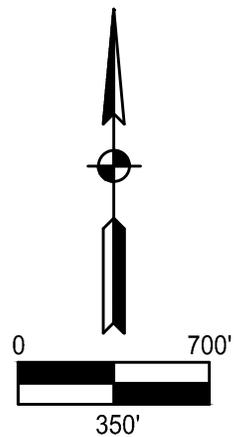
5C-4

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LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION

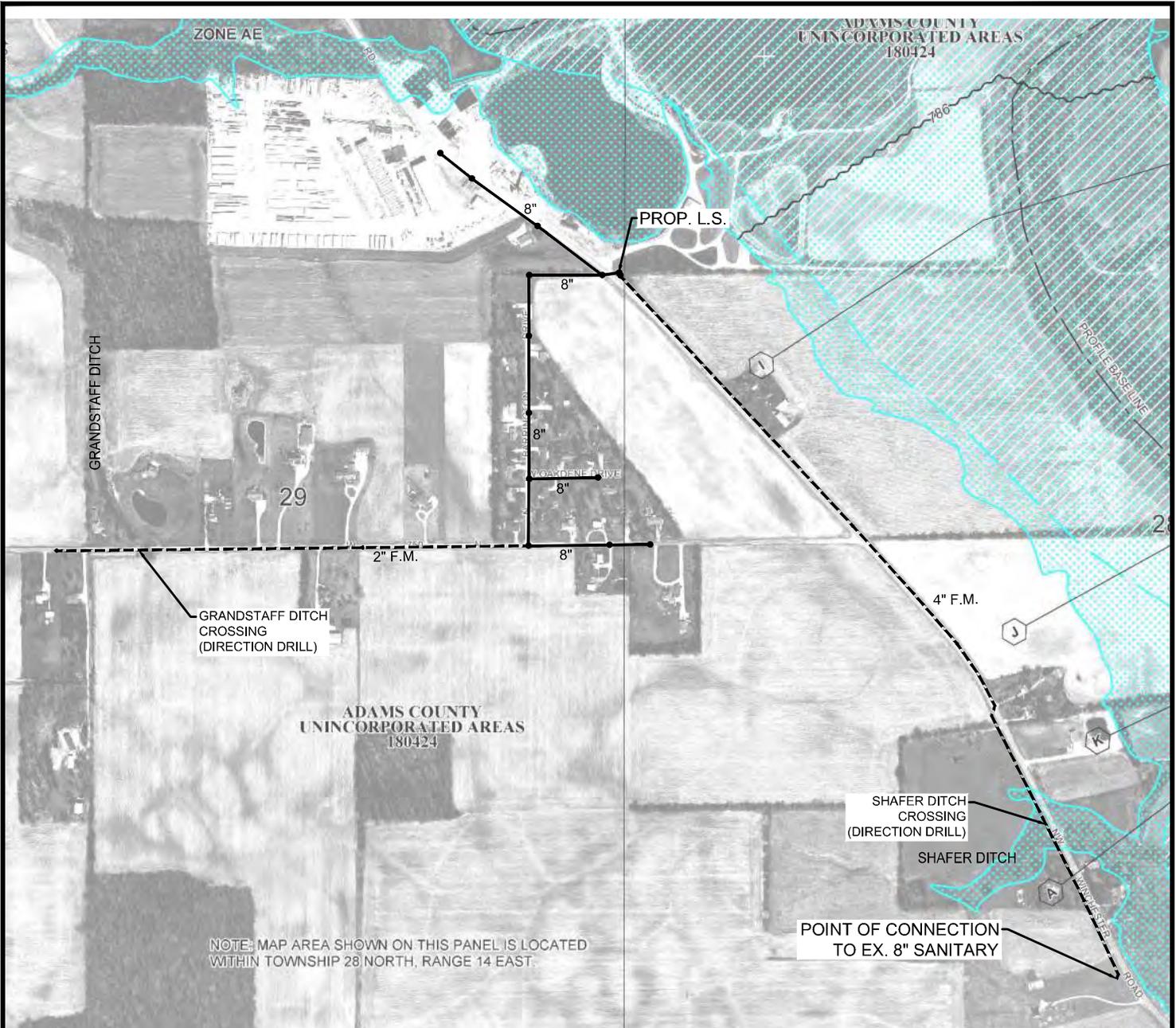


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BARRINGTON WOODS - WETLANDS MAP

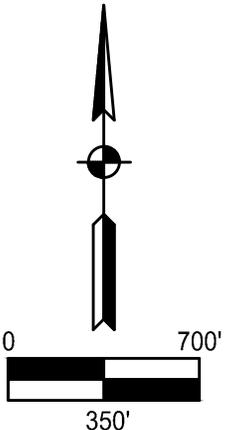
**FIGURE
5D**



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 28 NORTH, RANGE 14 EAST.

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION



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BARRINGTON WOODS - FLOODPLAIN MAP

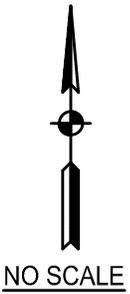
FIGURE

5E



LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
 - PROPOSED GRAVITY SEWER WITH MANHOLE
 - PROPOSED LIFT STATION
- | | | | |
|----------------|------------|------------|------------------|
| ● (light blue) | ● (blue) | ● (green) | ● (yellow) |
| △ | ● (grey) | ● (purple) | ★ |
| ● (red) | ● (yellow) | ■ (blue) | ■ (green) |
| ● (green) | ■ (red) | ■ (grey) | World Street Map |
| ● (purple) | | | |



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BARRINGTON WOODS - HISTORICAL MAP

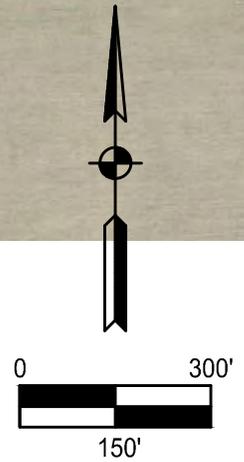
**FIGURE
5F**



MATCHLINE (SEE FIG. 6A-2)

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION



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**PREBLE - OPTION 1 - GRAVITY COLLECTION
 SYSTEM WITH TRANSMISSION MAIN TO DECATUR**

**FIGURE
 6A-1**



MATCHLINE (SEE FIG. 6A-1)

MATCHLINE (SEE FIG. 6A-3)

SCHEERY DITCH CROSSING (DIRECTIONAL DRILL)

SCHEERY DITCH

SCHEERY DITCH CROSSING (OPEN CUT)

PROP. 6" F.M. TO DECATUR

8"

3823

3805

3701

3531

3501

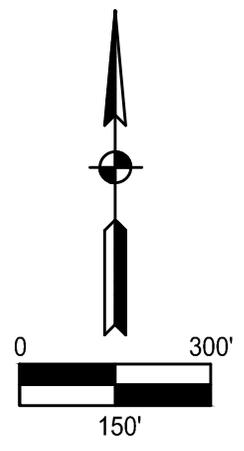
3451

3803

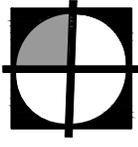
US 224

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE



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PREBLE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO DECATUR

FIGURE

6A-2

MATCHLINE (SEE FIG. 6A-2)



MATCHLINE (SEE BELOW LEFT)

MATCHLINE (SEE ABOVE RIGHT)



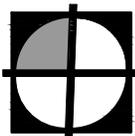
MATCHLINE (SEE FIG. 6A-4)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE



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**PREBLE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO DECATUR**

FIGURE

6A-3

MATCHLINE (SEE FIG. 6A-3)



MATCHLINE (SEE BELOW LEFT)

MATCHLINE (SEE ABOVE RIGHT)



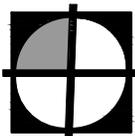
MATCHLINE (SEE FIG. 6A-6)

LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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ADAMS COUNTY, INDIANA**

**PREBLE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO DECATUR**

FIGURE

6A-4

9604 Coldwater Road,
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MATCHLINE (SEE FIG. 6A-4)

MATCHLINE (SEE BELOW LEFT)



MATCHLINE (SEE ABOVE RIGHT)

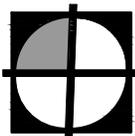


LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**PREBLE - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO DECATUR**

FIGURE

6A-5

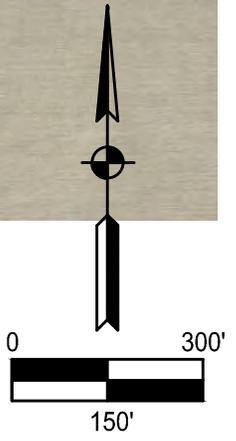
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MATCHLINE (SEE FIG. 6A-7)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
-  PROPOSED LIFT STATION



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**PREBLE - OPTION 2 - GRAVITY/LOW PRESSURE
COLLECTION SYSTEM WITH TRANSMISSION
MAIN TO DECATUR**

**FIGURE
6A-6**



MATCHLINE (SEE FIG. 6A-6)

MATCHLINE (SEE FIG. 6A-8)

SCHEERY DITCH CROSSING (DIRECTIONAL DRILL)

PROP. 6" F.M. TO DECATUR

2" F.M.

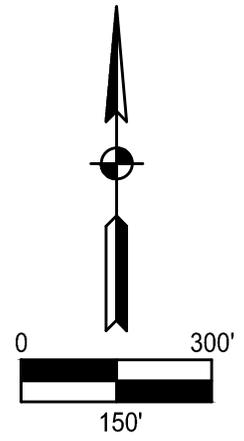
SCHEERY DITCH

SCHEERY DITCH CROSSING (OPEN CUT)

US 224

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**PREBLE - OPTION 2 - GRAVITY/LOW PRESSURE
COLLECTION SYSTEM WITH TRANSMISSION
MAIN TO DECATUR**

FIGURE

6A-7

MATCHLINE (SEE FIG. 6A-7)



MATCHLINE (SEE BELOW LEFT)

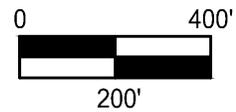
MATCHLINE (SEE ABOVE RIGHT)



MATCHLINE (SEE FIG. 6A-9)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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ADAMS COUNTY REGIONAL SEWER DISTRICT
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PREBLE - OPTION 2 - GRAVITY/LOW PRESSURE
COLLECTION SYSTEM WITH TRANSMISSION
MAIN TO DECATUR

FIGURE

6A-8

9604 Coldwater Road,
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MATCHLINE (SEE FIG. 6A-8)



MATCHLINE (SEE BELOW LEFT)

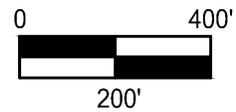
MATCHLINE (SEE ABOVE RIGHT)



MATCHLINE (SEE FIG. 6A-10)

LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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ADAMS COUNTY REGIONAL SEWER DISTRICT
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PREBLE - OPTION 2 - GRAVITY/LOW PRESSURE
COLLECTION SYSTEM WITH TRANSMISSION
MAIN TO DECATUR

FIGURE

6A-9

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MATCHLINE (SEE FIG. 6A-9)

MATCHLINE (SEE BELOW LEFT)



MATCHLINE (SEE ABOVE RIGHT)

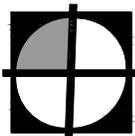


LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**PREBLE - OPTION 2 - GRAVITY/LOW PRESSURE
COLLECTION SYSTEM WITH TRANSMISSION
MAIN TO DECATUR**

FIGURE

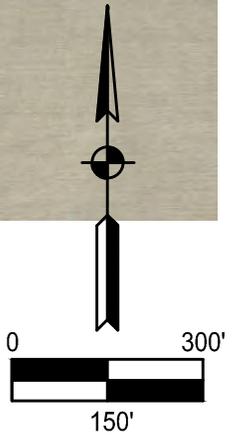
6A-10



MATCHLINE (SEE FIG. 6A-12)

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION
- PROPOSED LIFT STATION



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**PREBLE - OPTION 3 - LOW PRESSURE
COLLECTION SYSTEM WITH TRANSMISSION
MAIN TO DECATUR**

**FIGURE
6A-11**



MATCHLINE (SEE FIG. 6A-11)

MATCHLINE (SEE FIG. 6A-13)

SCHEERY DITCH CROSSING (DIRECTIONAL DRILL)

SCHEERY DITCH CROSSING (DIRECTIONAL DRILL)

PROP. 6" F.M. TO DECATUR

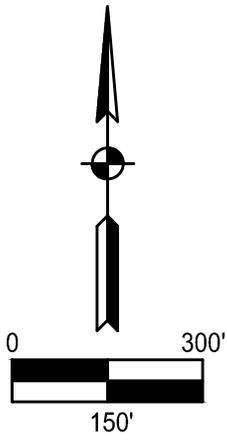
2" F.M.

SCHEERY DITCH

US 224

LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**PREBLE - OPTION 3 - LOW PRESSURE
COLLECTION SYSTEM WITH TRANSMISSION
MAIN TO DECATUR**

FIGURE

6A-12

MATCHLINE (SEE FIG. 6A-12)



MATCHLINE (SEE BELOW LEFT)

MATCHLINE (SEE ABOVE RIGHT)



MATCHLINE (SEE FIG. 6A-4)

LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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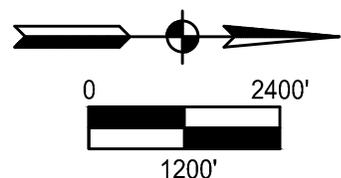
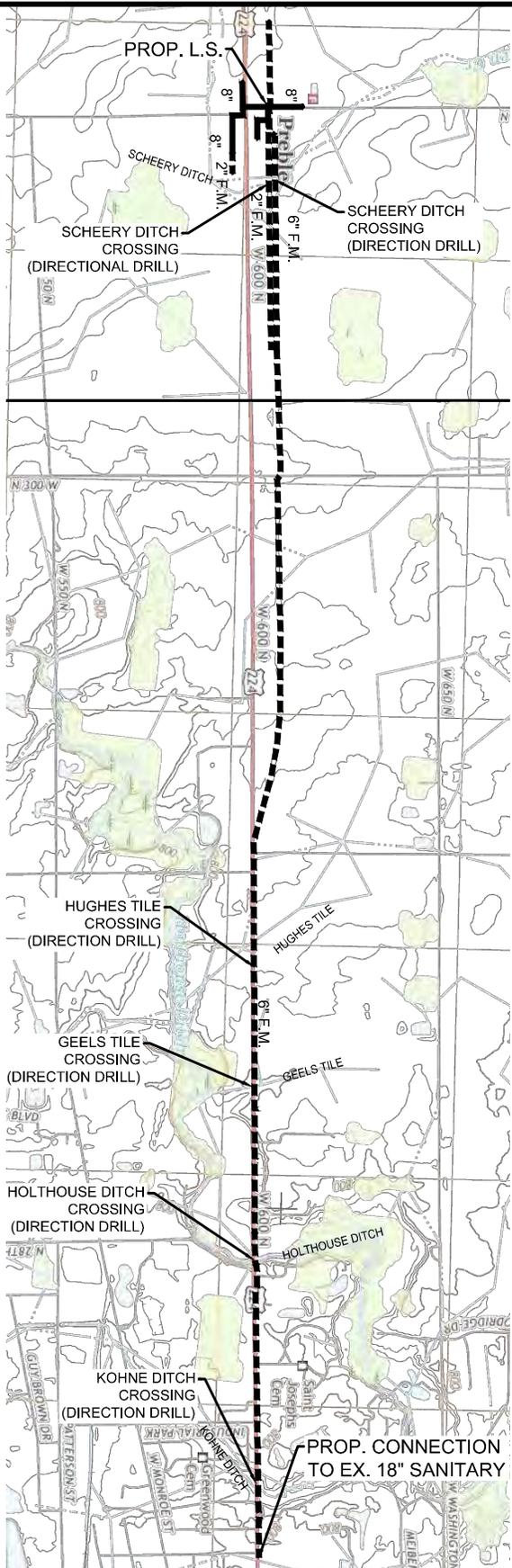
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**PREBLE - OPTION 3 - LOW PRESSURE
 COLLECTION SYSTEM WITH TRANSMISSION
 MAIN TO DECATUR**

FIGURE

6A-13

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LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION

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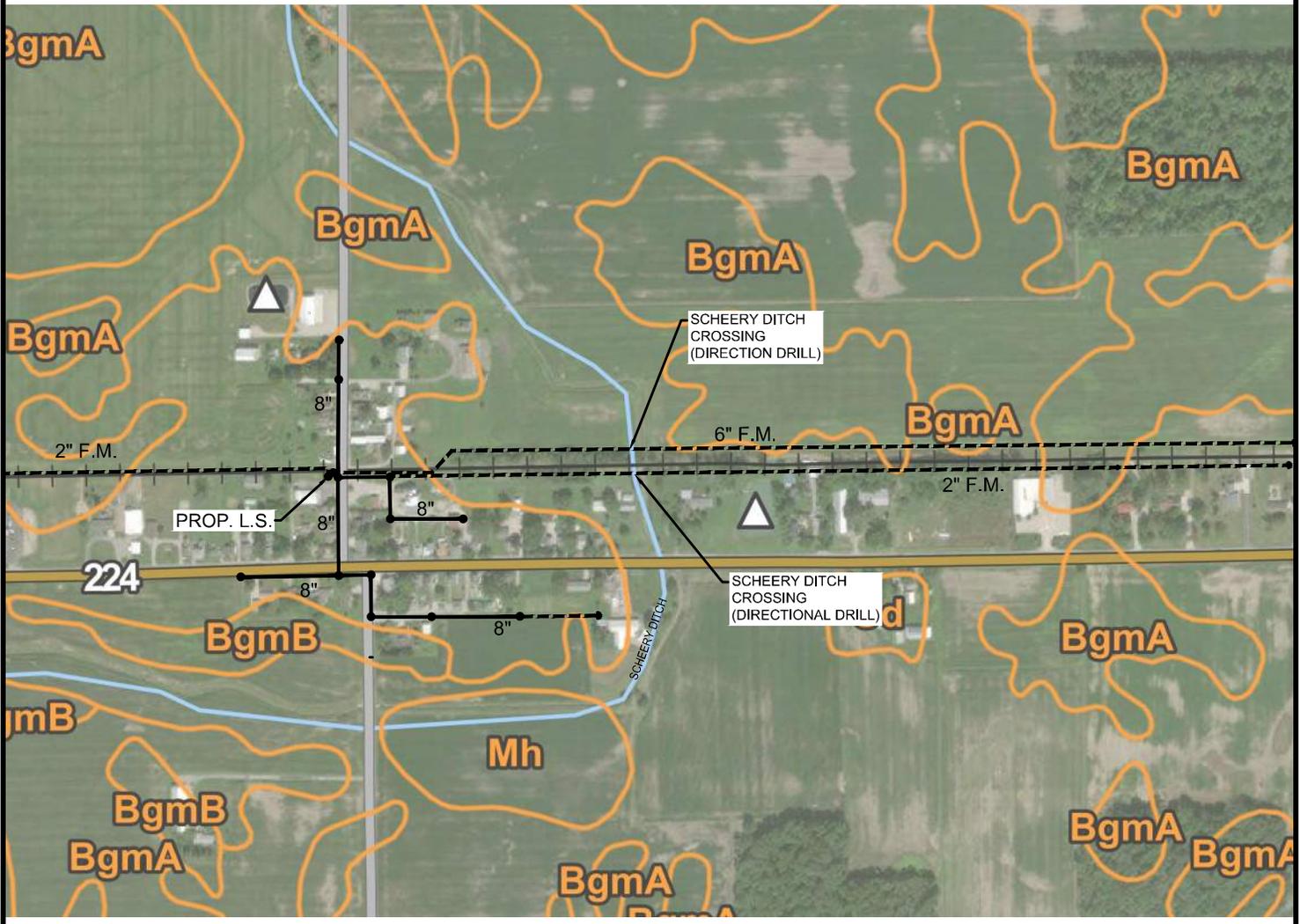
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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

PREBLE - TOPOGRAPHY MAP

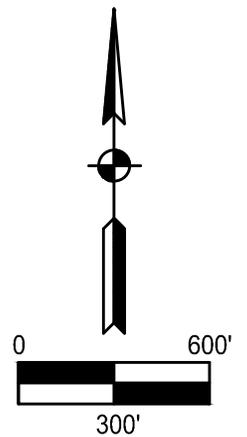
FIGURE

6B

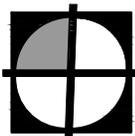


LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION



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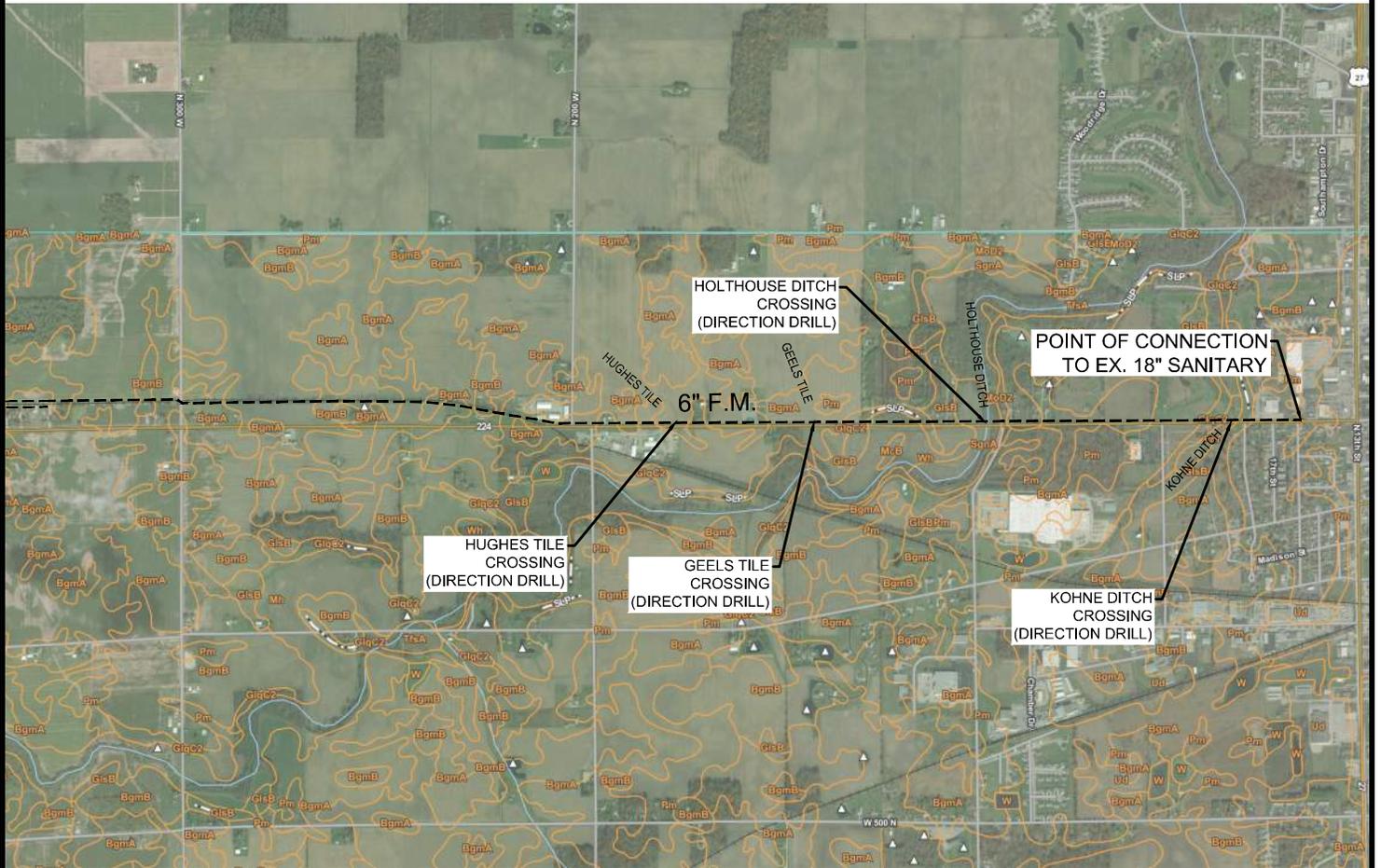
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PREBLE - SOILS MAP

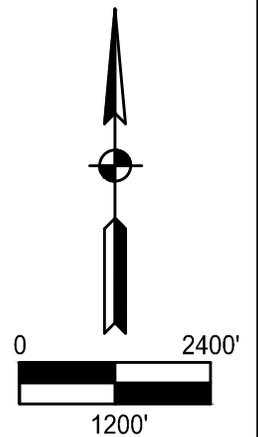
FIGURE

6C-1

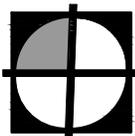


LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

PREBLE - SOILS MAP

FIGURE

6C-2

MAP LEGEND

Area of Interest (AOI)



Area of Interest (AOI)

Soils



Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads

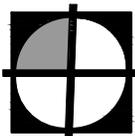


Local Roads

Background



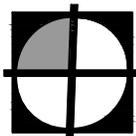
Aerial Photography



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BgmA	Blount silt loam, ground moraine, 0 to 2 percent slopes	3,368.4	37.1%
BgmB	Blount silt loam, ground moraine, 2 to 4 percent slopes	1,145.6	12.6%
GlqC2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	122.4	1.3%
GlsB	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	175.8	1.9%
HaA	Haskins loam, 1 to 3 percent slopes	2.2	0.0%
McB	Martinsville loam, 2 to 6 percent slopes	1.6	0.0%
Mh	Milford silty clay loam, 0 to 2 percent slopes	298.2	3.3%
MoD2	Morley silty clay loam, 12 to 18 percent slopes, eroded	11.7	0.1%
Pm	Pewamo silty clay, 0 to 2 percent slopes	3,462.6	38.1%
RdB	Rawson loam, 2 to 6 percent slopes	2.9	0.0%
SgnA	Shoals silty clay loam, 0 to 1 percent slopes, frequently flooded	43.3	0.5%
TfsA	Tice silty clay loam, 0 to 1 percent slopes, frequently flooded	81.3	0.9%
Ud	Udorthents, loamy	292.0	3.2%
W	Water	51.0	0.6%
Wh	Whitaker silt loam	28.0	0.3%
Totals for Area of Interest		9,086.9	100.0%

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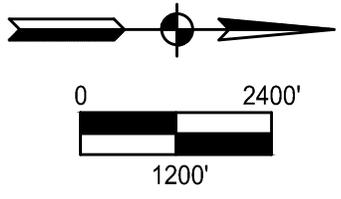
**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

PREBLE - SOILS MAP

FIGURE

6C-4

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LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION

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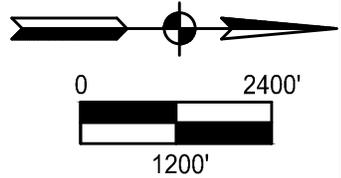
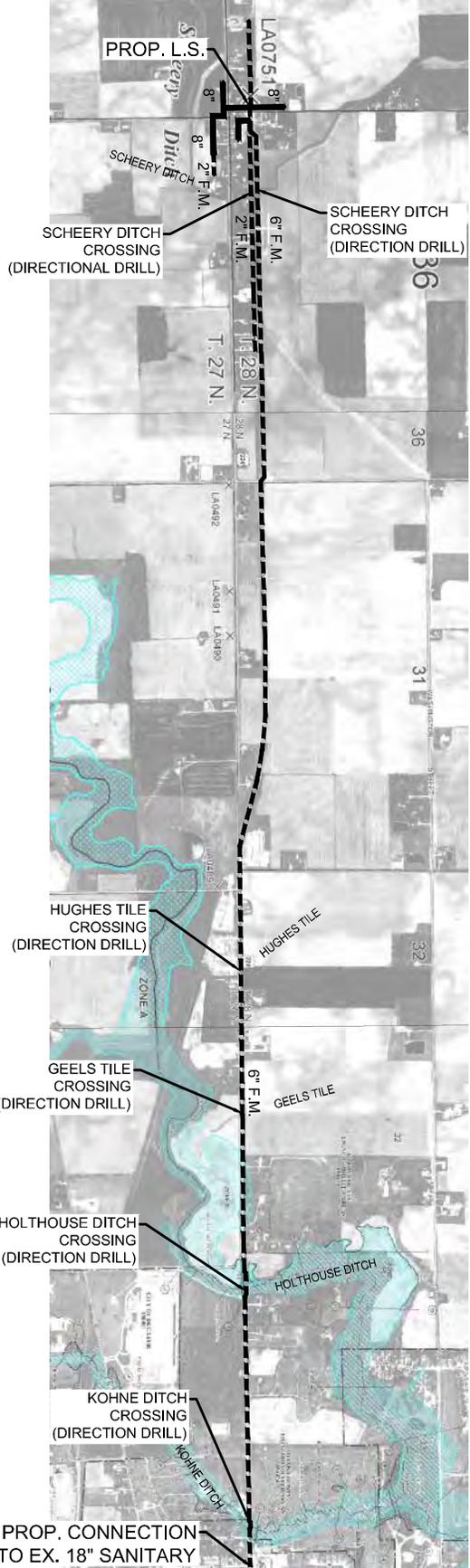
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

PREBLE - WETLANDS MAP

FIGURE

6D



LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION

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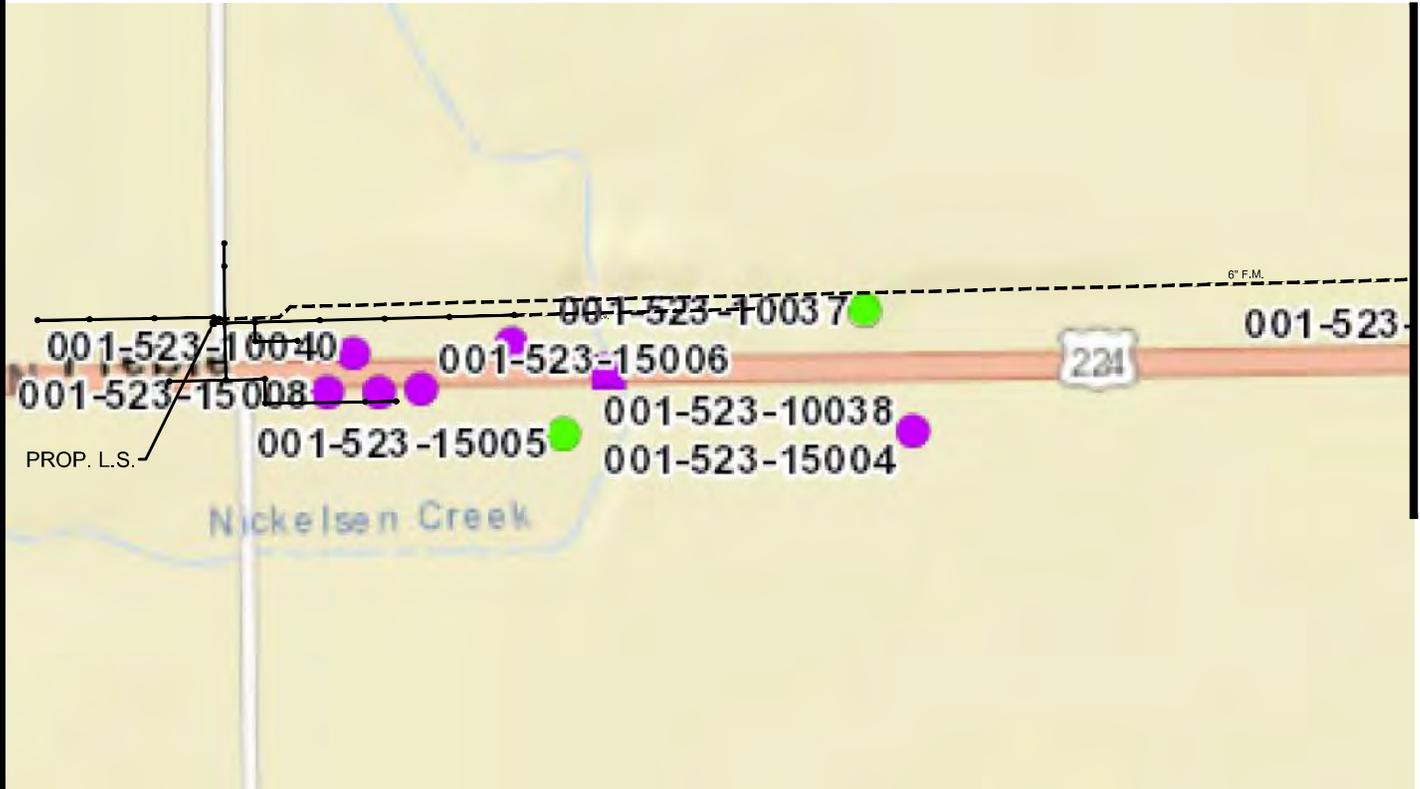
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ADAMS COUNTY REGIONAL SEWER DISTRICT
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PREBLE - FLOODPLAIN MAP

FIGURE

6E



MATCHLINE (SEE FIG. 6F-2)

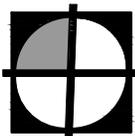
LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
 - PROPOSED GRAVITY SEWER WITH MANHOLE
 - PROPOSED FORCE MAIN
 - PROPOSED LIFT STATION
- | | | | |
|----------------|--------------------|--------------------|---------------------------|
| ● Override 1 | ● Non-Contributing | ● Notable | ● Unknown |
| △ Cemeteries | ● Demolished | ● Contributing | ★ National Register Sites |
| ● Outstanding | ● Unknown | ■ Non-Contributing | ■ Historic Districts |
| ● Notable | ■ Outstanding | ■ Demolished | World Street Map |
| ● Contributing | | | |



NO SCALE

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ADAMS COUNTY REGIONAL SEWER DISTRICT
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PREBLE - HISTORICAL MAP

FIGURE

6F-1

MATCHLINE (SEE FIG. 6F-1)

MATCHLINE (SEE FIG. 6F-3)



LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- Override 1 ● Non-Contributing ● Notable ● Unknown
- △ Cemeteries ● Demolished ● Contributing ★ National Register Sites
- Outstanding ● Unknown ● Non-Contributing ■ Historic Districts
- Notable ● Outstanding ● Demolished ■ World Street Map
- Contributing



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ADAMS COUNTY, INDIANA**

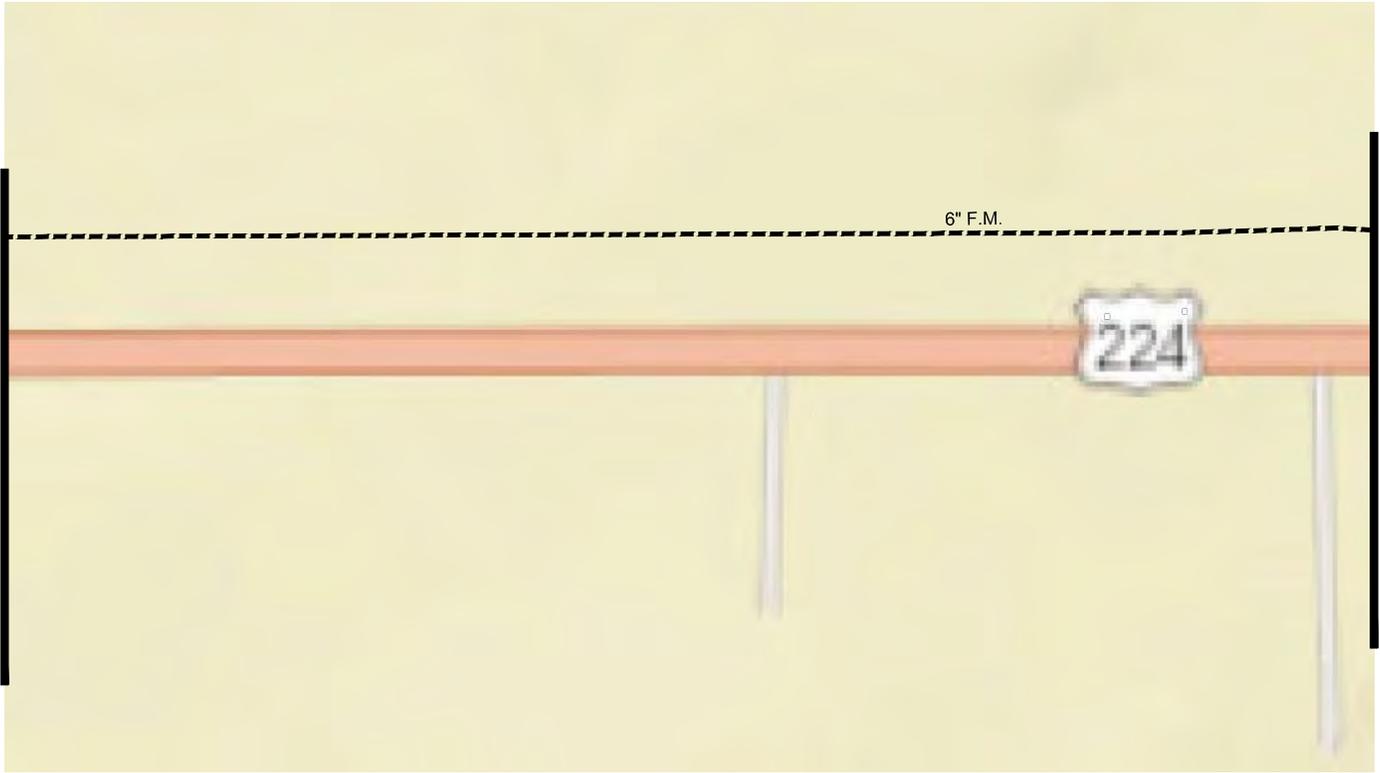
PREBLE - HISTORICAL MAP

FIGURE

6F-2

MATCHLINE (SEE FIG. 6F-2)

MATCHLINE (SEE FIG. 6F-4)



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

- Override 1 ● Non-Contributing ● Notable ● Unknown
- △ Cemeteries ● Demolished ● Contributing ★ National Register Sites
- Outstanding ● Unknown ● Non-Contributing ■ Historic Districts
- Notable ● Outstanding ● Demolished World Street Map
- Contributing



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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

PREBLE - HISTORICAL MAP

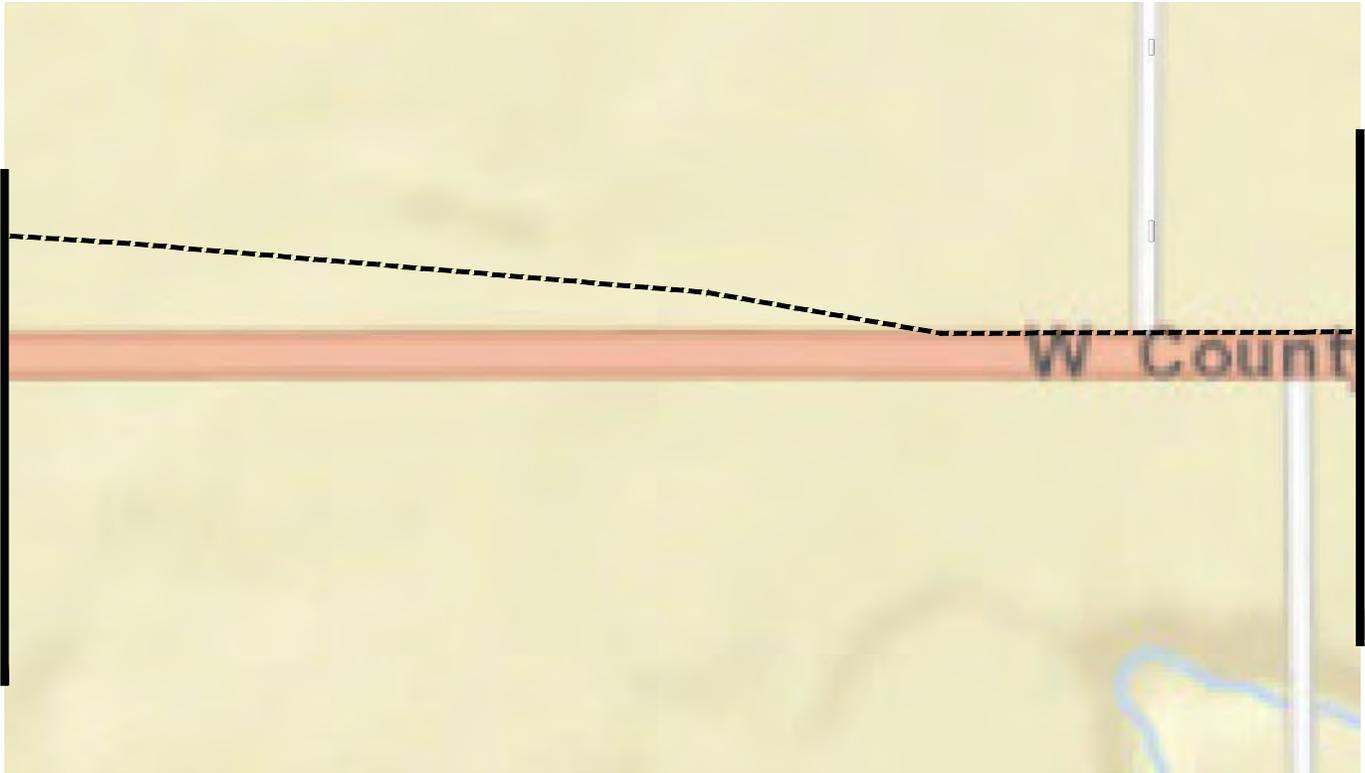
FIGURE

6F-3

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MATCHLINE (SEE FIG. 6F-3)

MATCHLINE (SEE FIG. 6F-5)



LEGEND

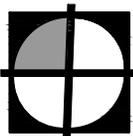
----- PROPOSED TRANSMISSION FORCE MAIN

- Override 1 ● Non-Contributing ● Notable ● Unknown
- △ Cemeteries ● Demolished ■ Contributing ★ National Register Sites
- Outstanding ● Unknown ■ Non-Contributing ■ Historic Districts
- Notable ■ Outstanding ■ Demolished World Street Map
- Contributing



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ADAMS COUNTY, INDIANA

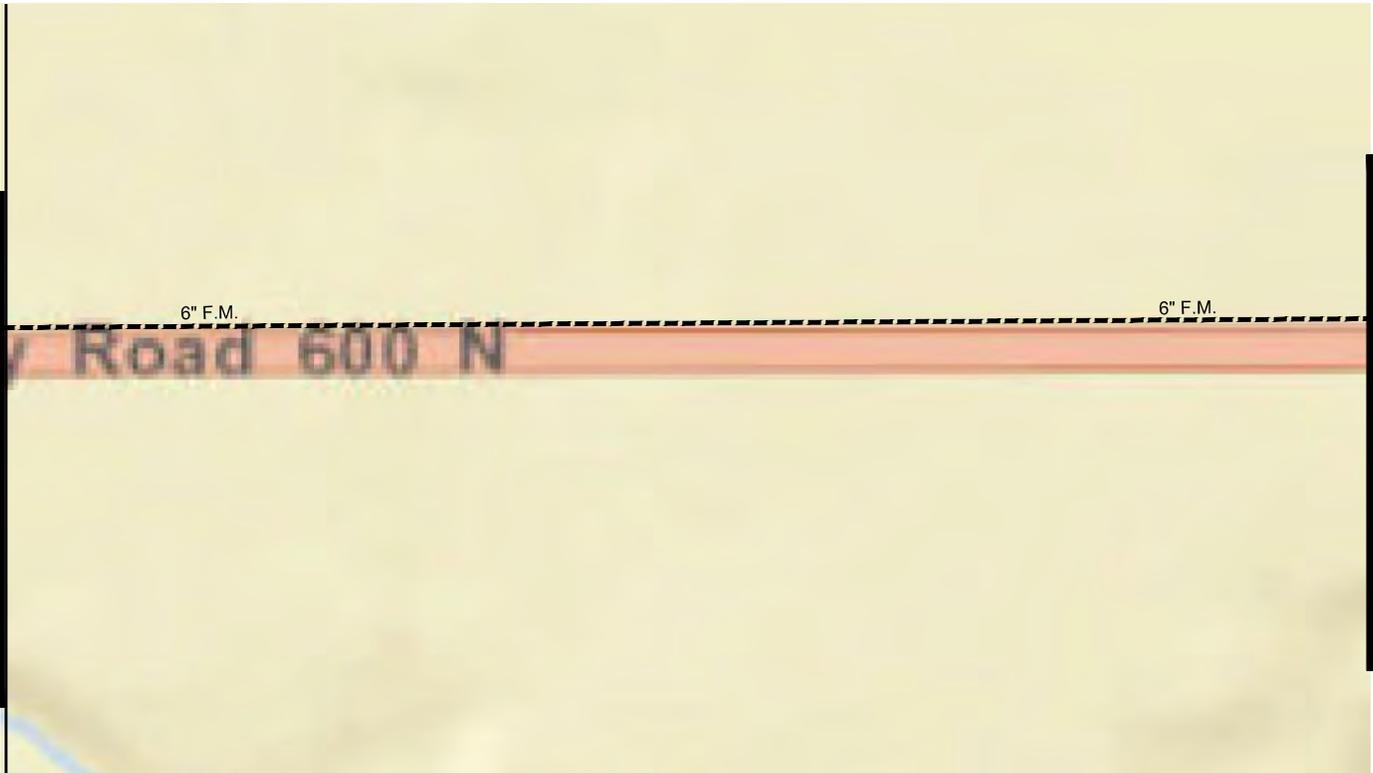
PREBLE - HISTORICAL MAP

FIGURE

6F-4

9604 Coldwater Road,
Suite 203
Fort Wayne, IN 46825
(260) 494-3223

MATCHLINE (SEE FIG. 6F-4)



MATCHLINE (SEE FIG. 6F-6)

LEGEND

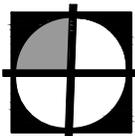
----- PROPOSED TRANSMISSION FORCE MAIN

- Override 1 ● Non-Contributing ● Notable ● Unknown
- △ Cemeteries ● Demolished ■ Contributing ★ National Register Sites
- Outstanding ● Unknown ■ Non-Contributing ■ Historic Districts
- Notable ■ Outstanding ■ Demolished ■ World Street Map
- Contributing



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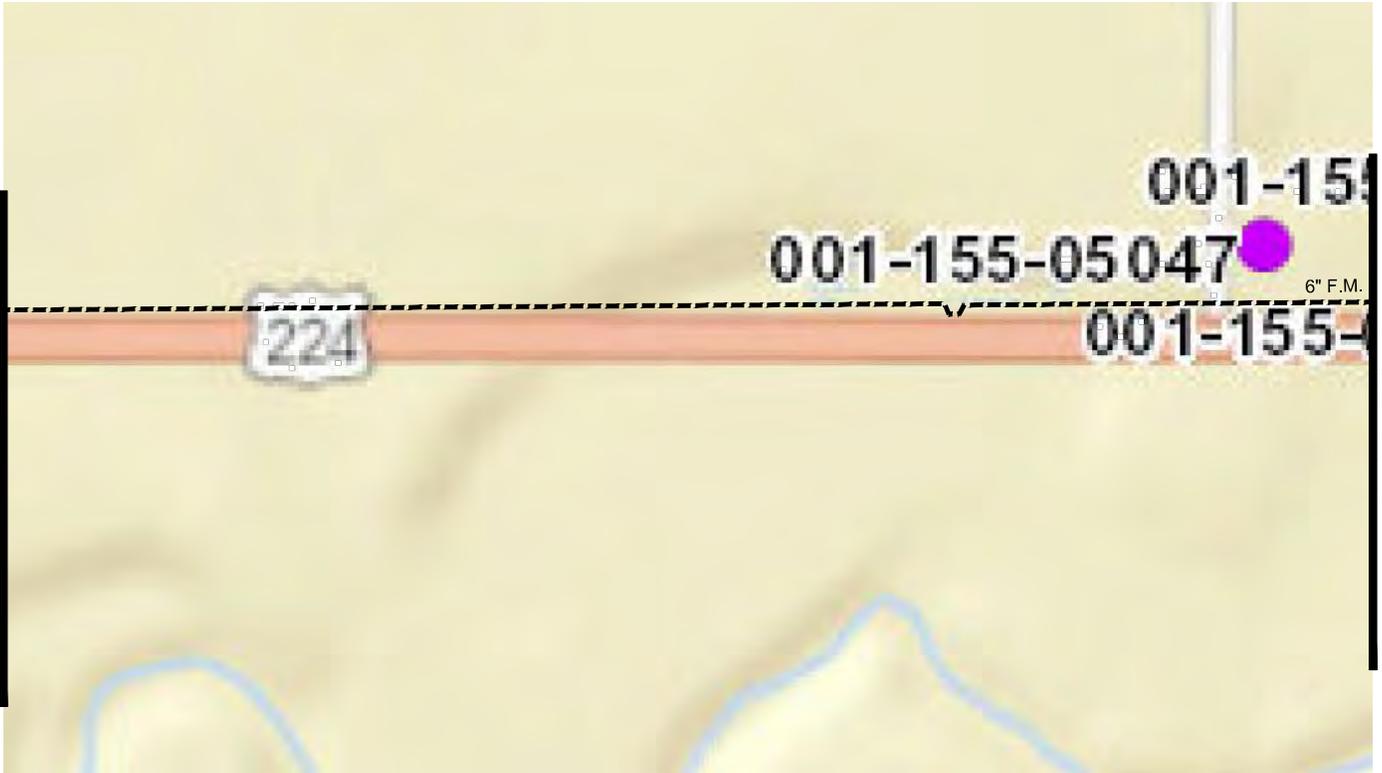
ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

PREBLE - HISTORICAL MAP

FIGURE

6F-5

MATCHLINE (SEE FIG. 6F-6)



MATCHLINE (SEE FIG. 6F-7)

LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

- Override 1
- Non-Contributing
- Notable
- Unknown
- Cemeteries
- Demolished
- Contributing
- National Register Sites
- Outstanding
- Unknown
- Non-Contributing
- Historic Districts
- Notable
- Outstanding
- Demolished
- World Street Map
- Contributing



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

PREBLE - HISTORICAL MAP

FIGURE

6F-6



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
| Contributing | | | |



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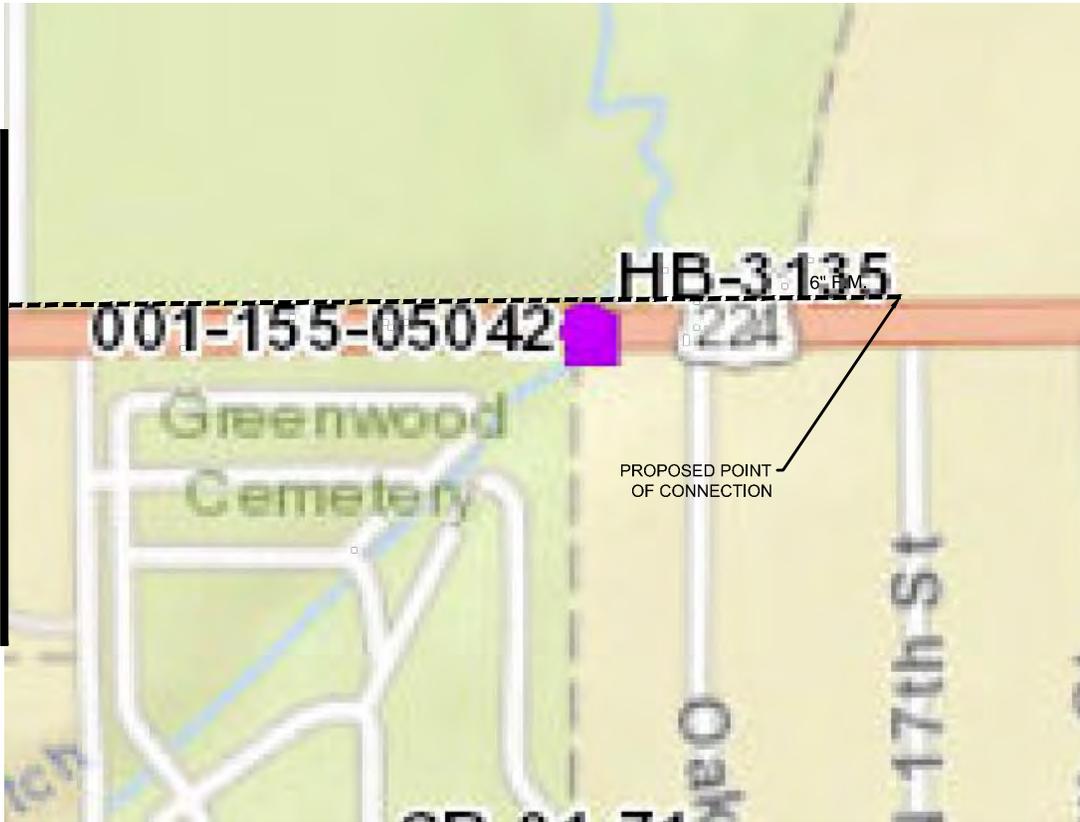
PREBLE - HISTORICAL MAP

FIGURE

6F-7

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MATCHLINE (SEE FIG. 6F-8)



LEGEND

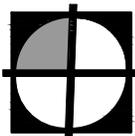
----- PROPOSED TRANSMISSION FORCE MAIN

- Override 1
- Non-Contributing
- Notable
- Unknown
- Cemeteries
- Demolished
- Contributing
- National Register Sites
- Outstanding
- Unknown
- Non-Contributing
- Historic Districts
- Notable
- Outstanding
- Demolished
- World Street Map
- Contributing



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

PREBLE - HISTORICAL MAP

FIGURE

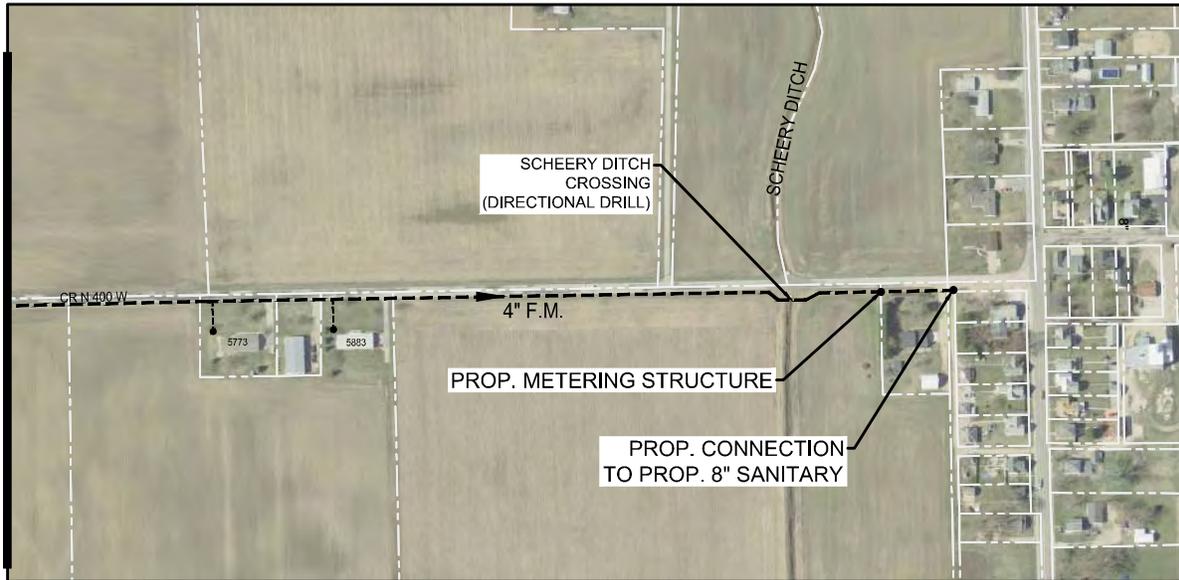
6F-8

MATCHLINE (SEE FIG. 7A-1)



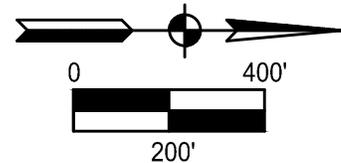
MATCHLINE (SEE BELOW LEFT)

MATCHLINE (SEE ABOVE RIGHT)

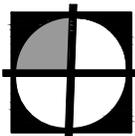


LEGEND


PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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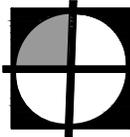
**PETERSON - OPTION 1 - GRAVITY COLLECTION
SYSTEM WITH TRANSMISSION MAIN TO PREBLE**

FIGURE

7A-2

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---	---	--

**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

**PETERSON - OPTION 2 - LOW PRESSURE
COLLECTION SYSTEM TO PREBLE**

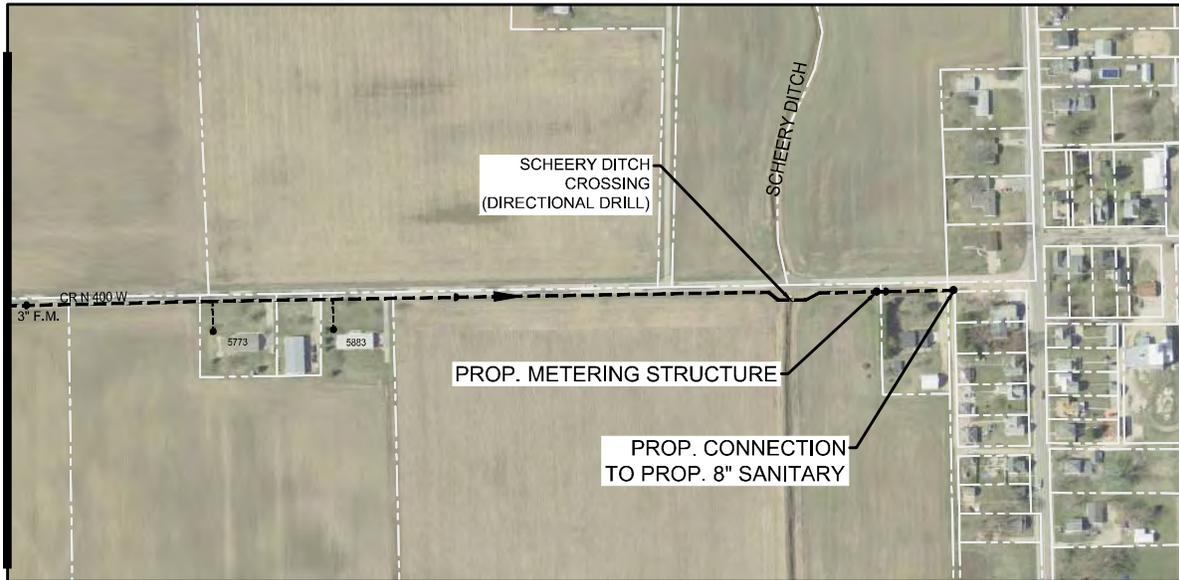
**FIGURE
7A-3**

MATCHLINE (SEE FIG. 7A-3)



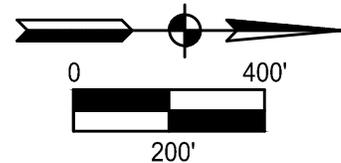
MATCHLINE (SEE BELOW LEFT)

MATCHLINE (SEE ABOVE RIGHT)

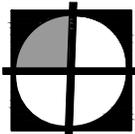


LEGEND


 PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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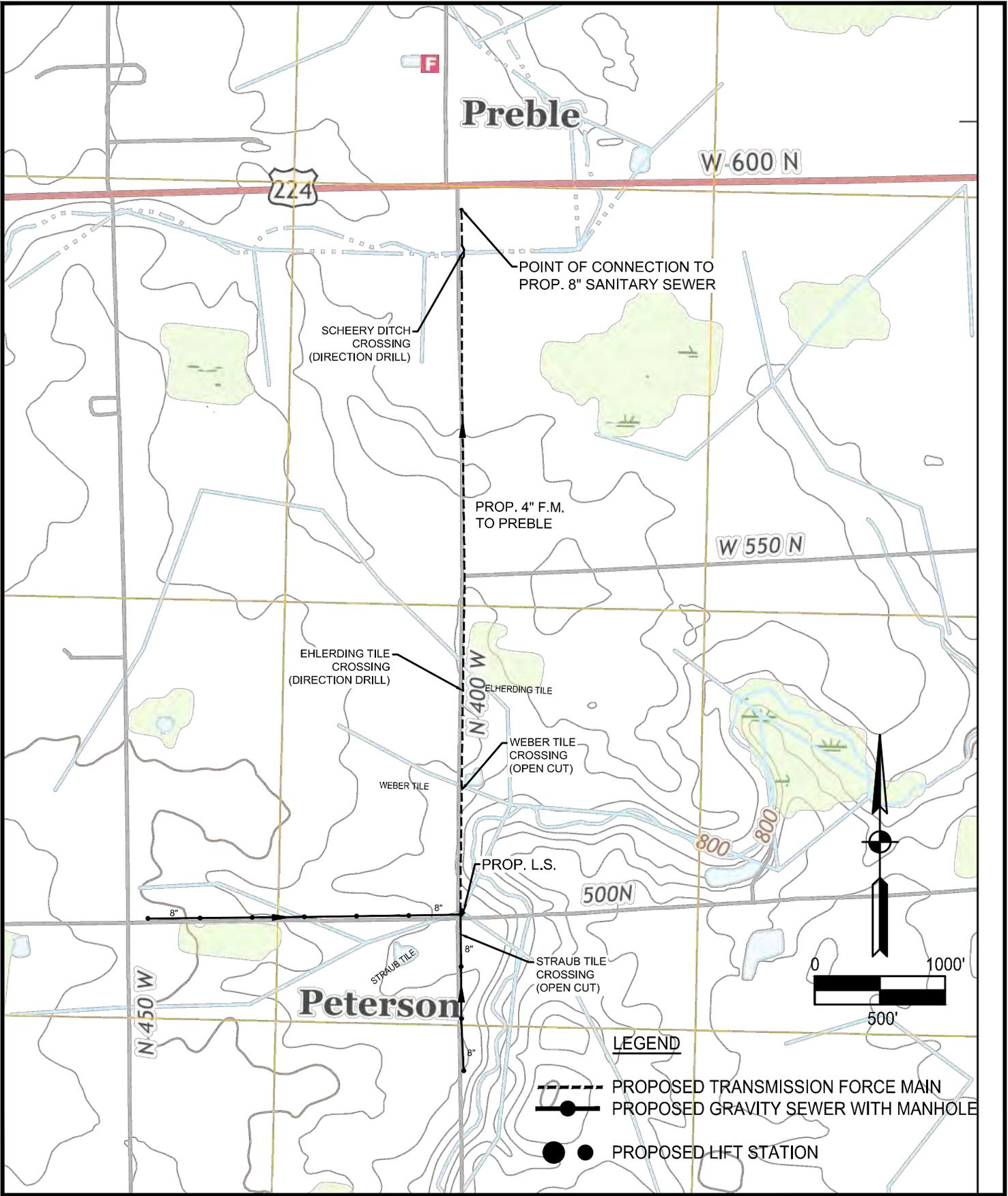
**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

**PETERSON - OPTION 2 - LOW PRESSURE
COLLECTION SYSTEM TO PREBLE**

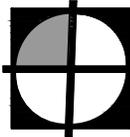
FIGURE

7A-4

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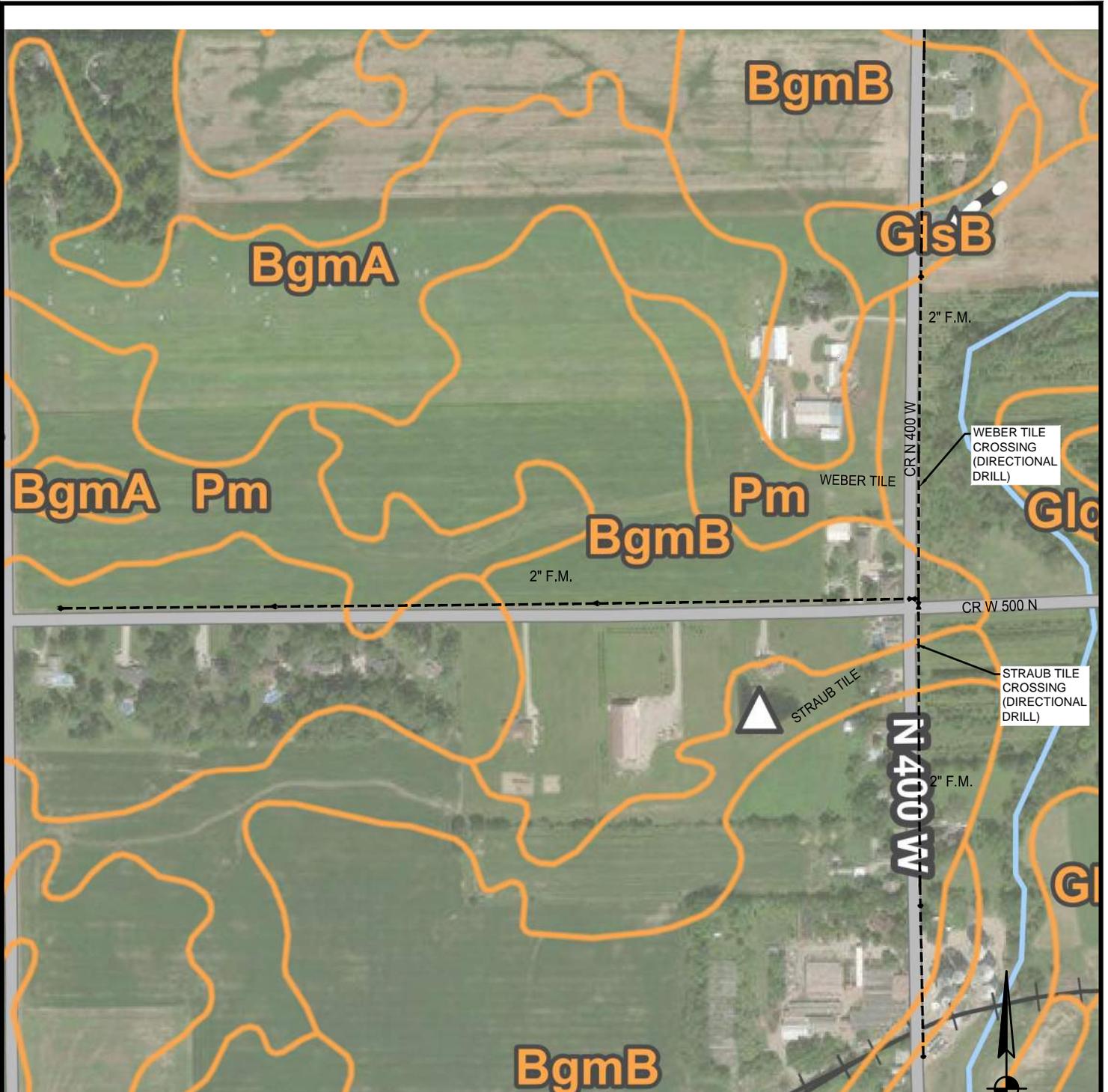
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ADAMS COUNTY REGIONAL SEWER DISTRICT
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PETERSON - TOPOGRAPHY MAP

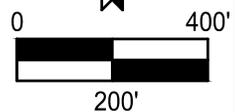
FIGURE

7B

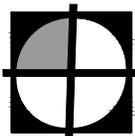


LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION



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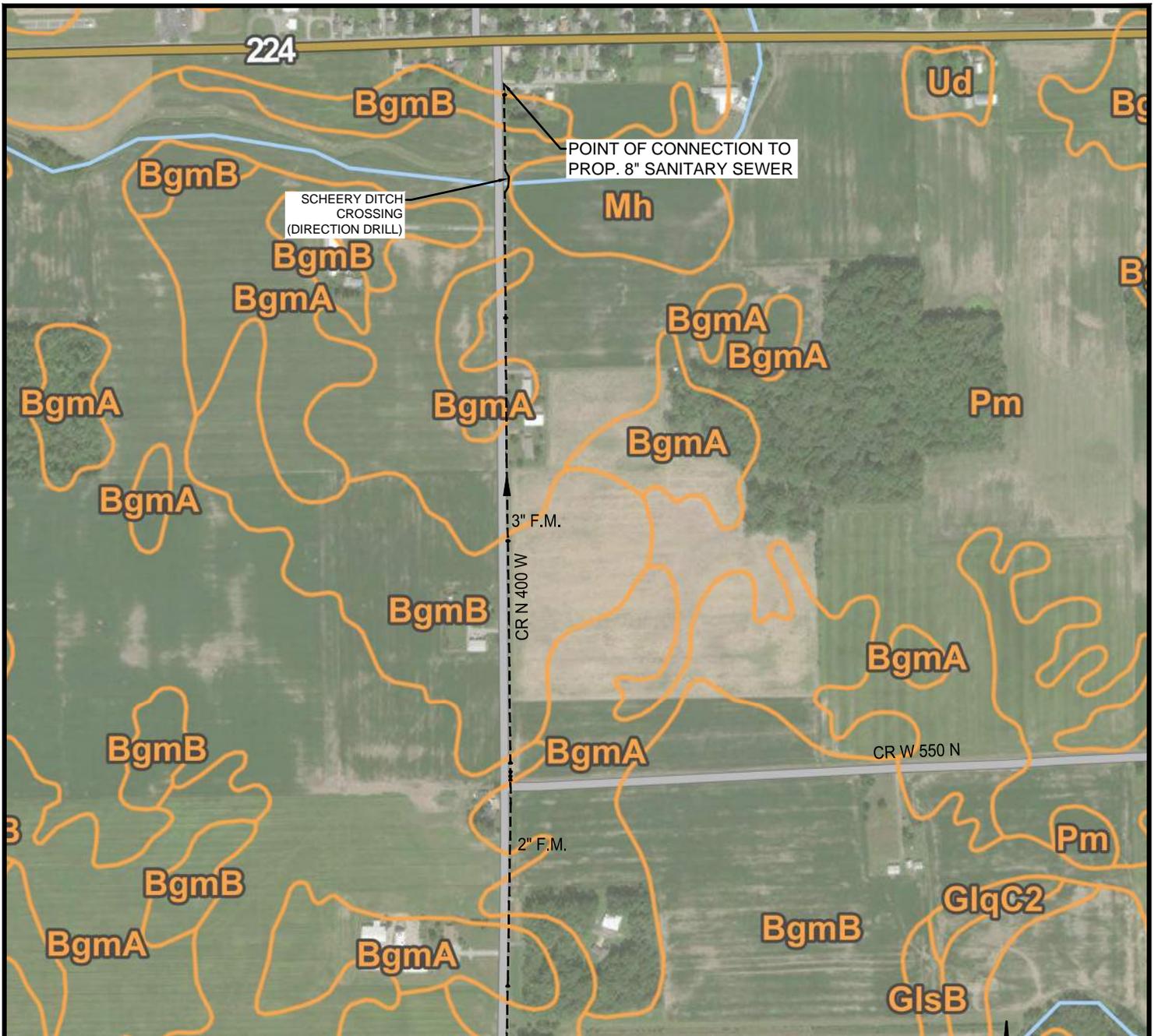
ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

PETERSON - SOILS MAP

FIGURE

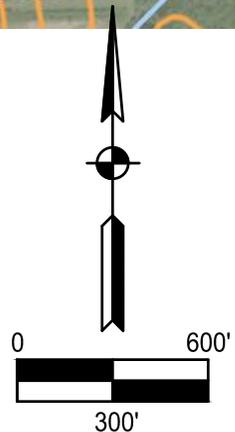
7C-1

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LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION



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---	---	--

**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

PETERSON - SOILS MAP

FIGURE

7C-2

MAP LEGEND

Area of Interest (AOI)



Area of Interest (AOI)

Soils



Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads

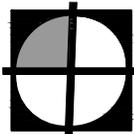


Local Roads

Background



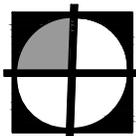
Aerial Photography



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BgmA	Blount silt loam, ground moraine, 0 to 2 percent slopes	3,368.4	37.1%
BgmB	Blount silt loam, ground moraine, 2 to 4 percent slopes	1,145.6	12.6%
GlqC2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	122.4	1.3%
GlsB	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	175.8	1.9%
HaA	Haskins loam, 1 to 3 percent slopes	2.2	0.0%
McB	Martinsville loam, 2 to 6 percent slopes	1.6	0.0%
Mh	Milford silty clay loam, 0 to 2 percent slopes	298.2	3.3%
MoD2	Morley silty clay loam, 12 to 18 percent slopes, eroded	11.7	0.1%
Pm	Pewamo silty clay, 0 to 2 percent slopes	3,462.6	38.1%
RdB	Rawson loam, 2 to 6 percent slopes	2.9	0.0%
SgnA	Shoals silty clay loam, 0 to 1 percent slopes, frequently flooded	43.3	0.5%
TfsA	Tice silty clay loam, 0 to 1 percent slopes, frequently flooded	81.3	0.9%
Ud	Udorthents, loamy	292.0	3.2%
W	Water	51.0	0.6%
Wh	Whitaker silt loam	28.0	0.3%
Totals for Area of Interest		9,086.9	100.0%

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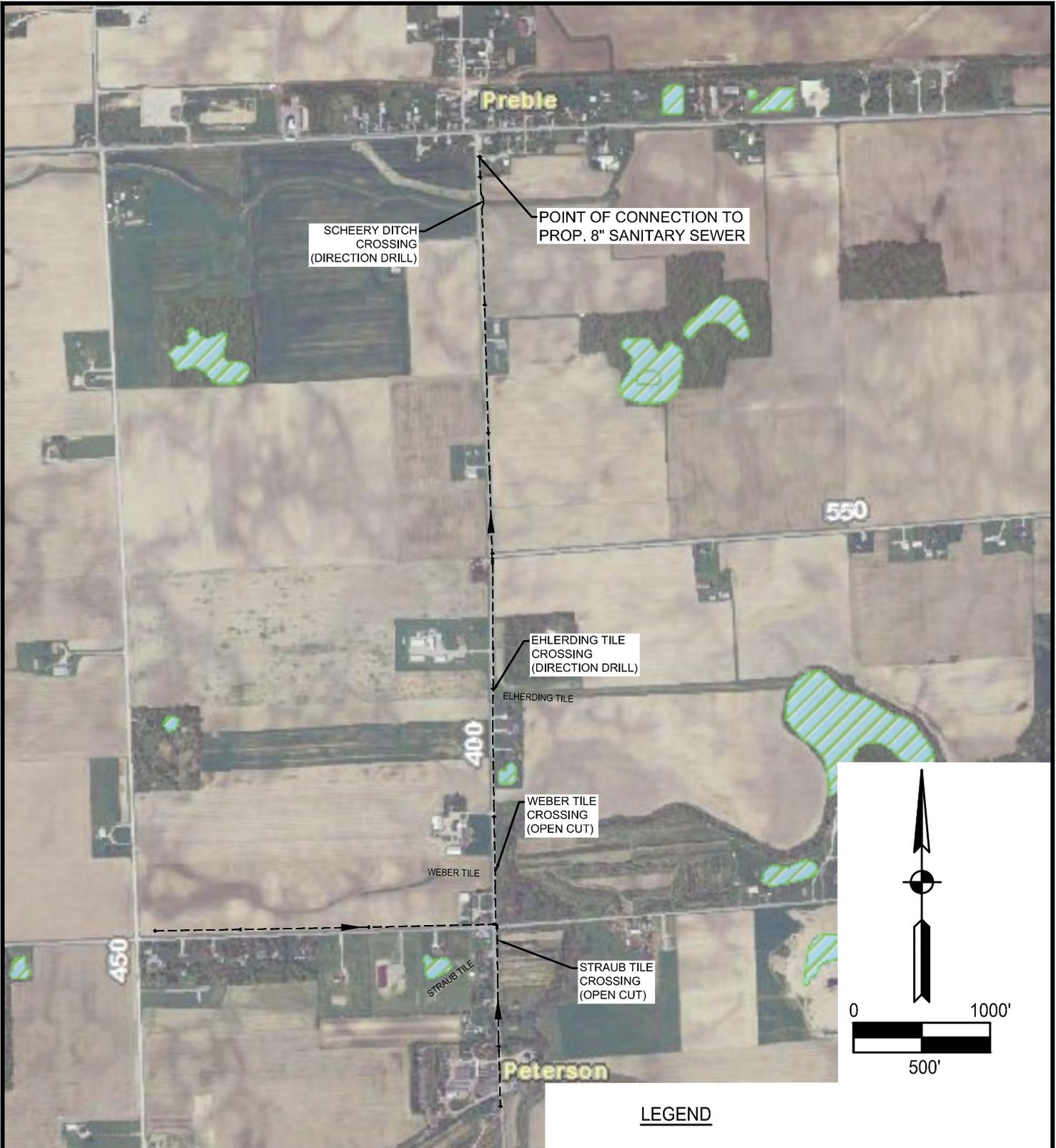
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

PETERSON - SOILS MAP

FIGURE

7C-4

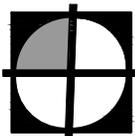


LEGEND

----- PROPOSED FORCE MAIN

● ● PROPOSED LIFT STATION

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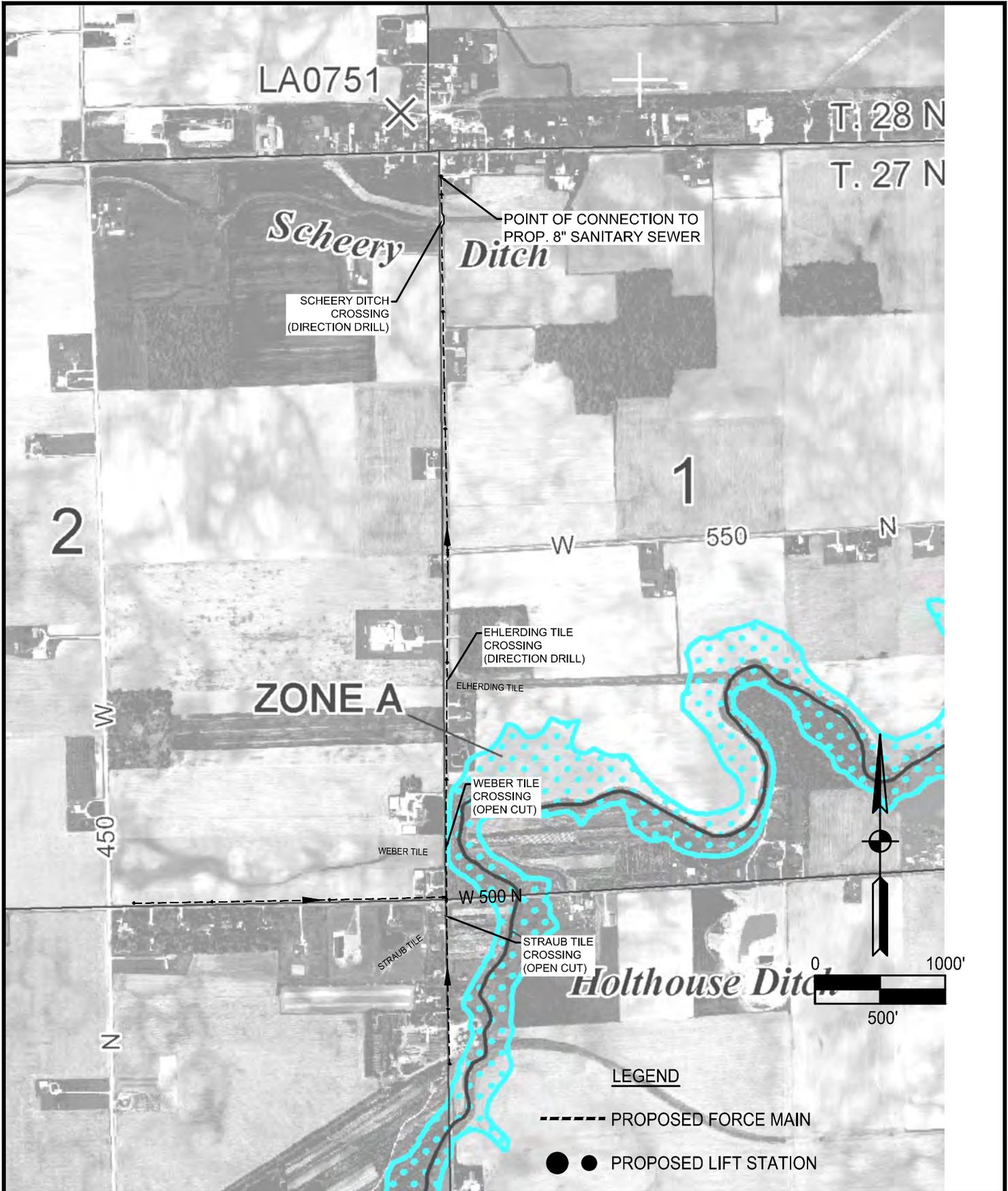
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

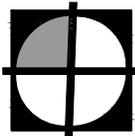
PETERSON - WETLANDS MAP

FIGURE

7D



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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

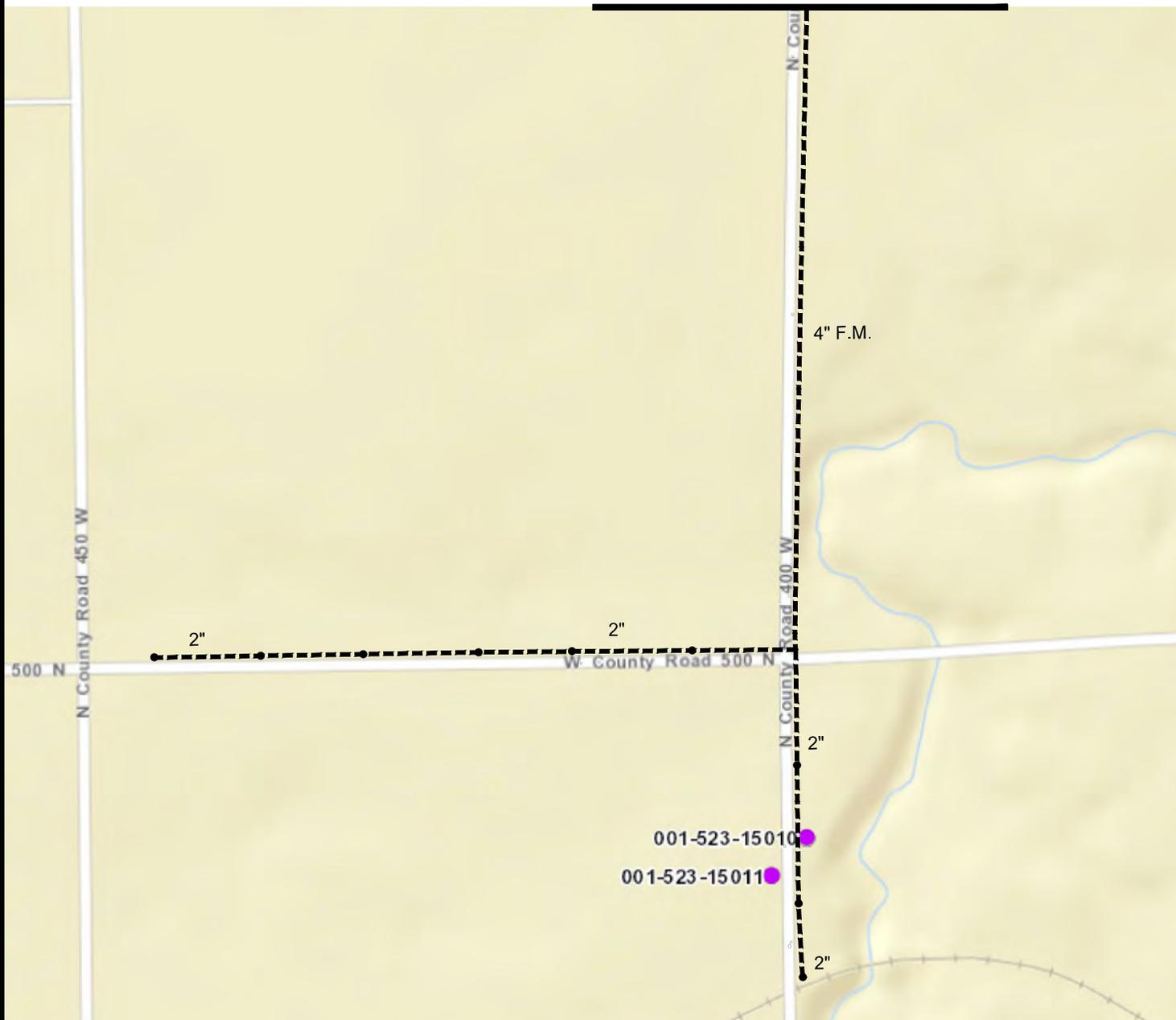
PETERSON - FLOODPLAIN MAP

FIGURE

7E

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MATCHLINE (SEE FIG. 7F-2)



LEGEND

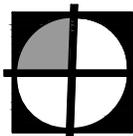
--- PROPOSED FORCE MAIN

- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
| Contributing | | | |



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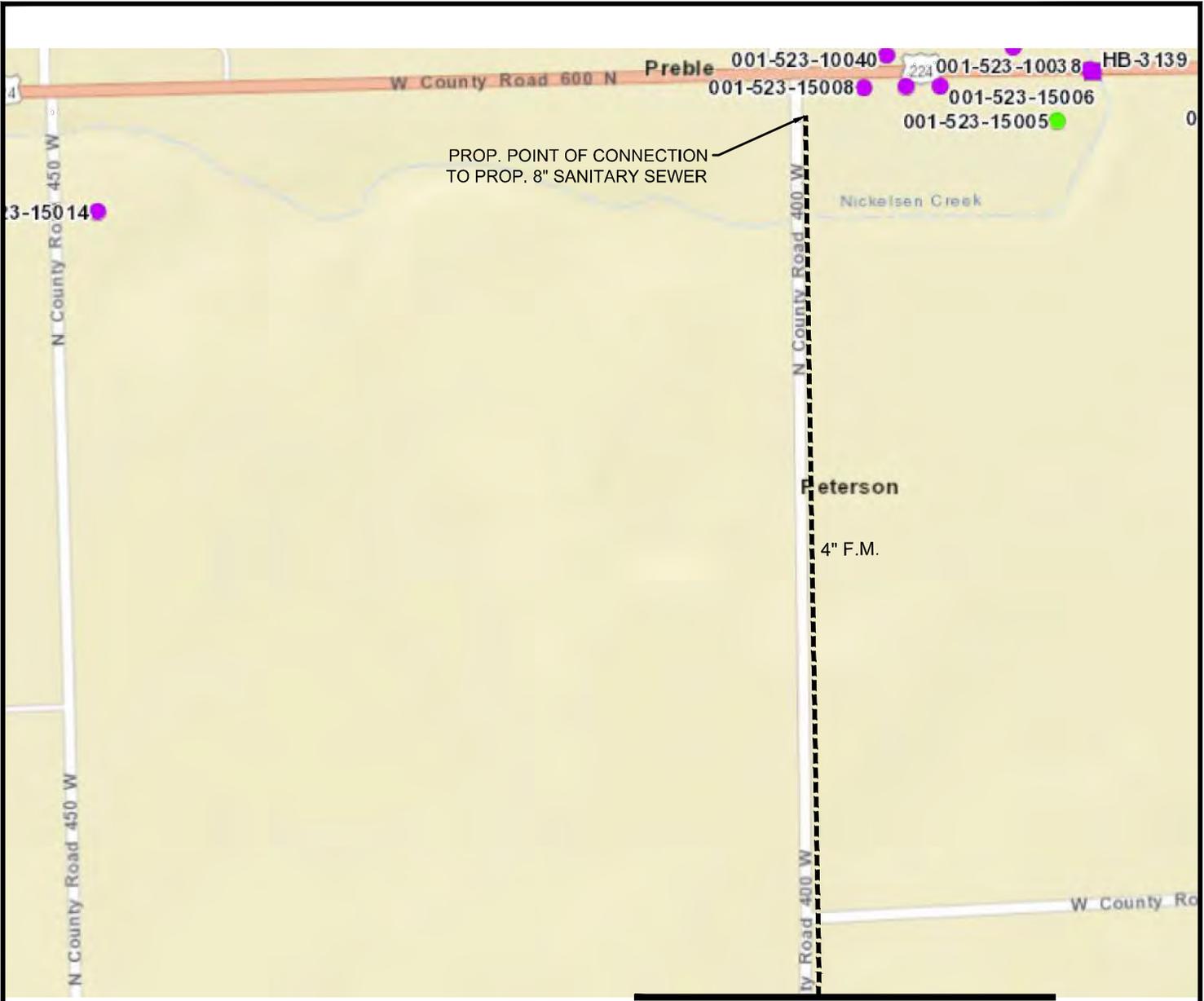
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

PETERSON - HISTORICAL MAP

FIGURE

7F-1



PROP. POINT OF CONNECTION
TO PROP. 8" SANITARY SEWER

Peterson

4" F.M.

MATCHLINE (SEE FIG. 7F-1)

LEGEND

- PROPOSED FORCE MAIN
- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
| Contributing | | | |



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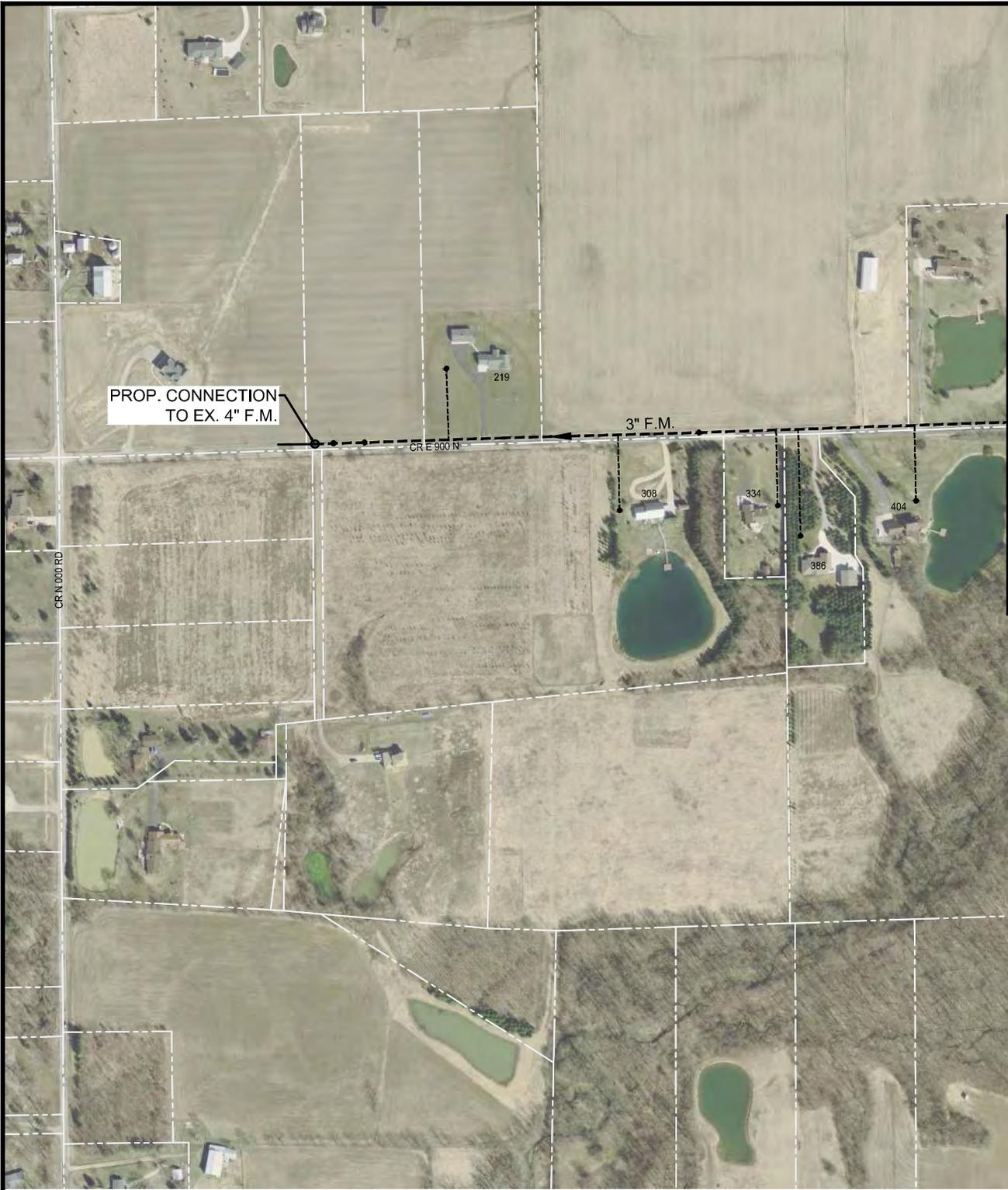
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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

PETERSON - HISTORICAL MAP

FIGURE

7F-2



MATCHLINE (SEE FIG. 8A-2)

PROP. CONNECTION
TO EX. 4" F.M.

CR E 900 N

3" F.M.

219

308

334

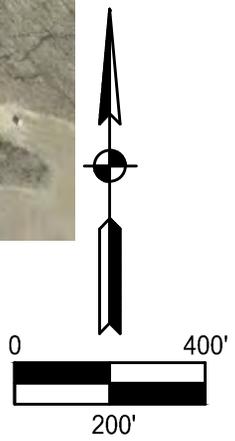
386

404

CR N 1000 RD

LEGEND

 PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

**MONMOUTH EXTENDED - LOW
PRESSURE COLLECTION SYSTEM**

FIGURE

8A-1

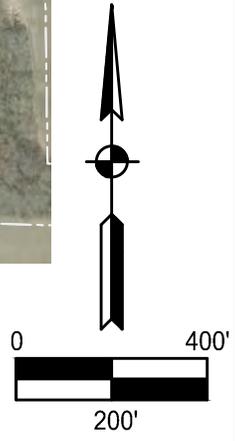
MATCHLINE (SEE FIG. 8A-1)

MATCHLINE (SEE FIG. 8A-3)



LEGEND


PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**MONMOUTH EXTENDED - LOW
PRESSURE COLLECTION SYSTEM**

FIGURE

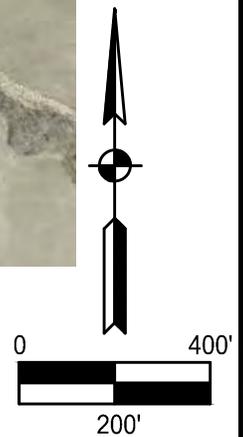
8A-2

MATCHLINE (SEE FIG. 8A-2)

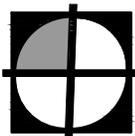


LEGEND

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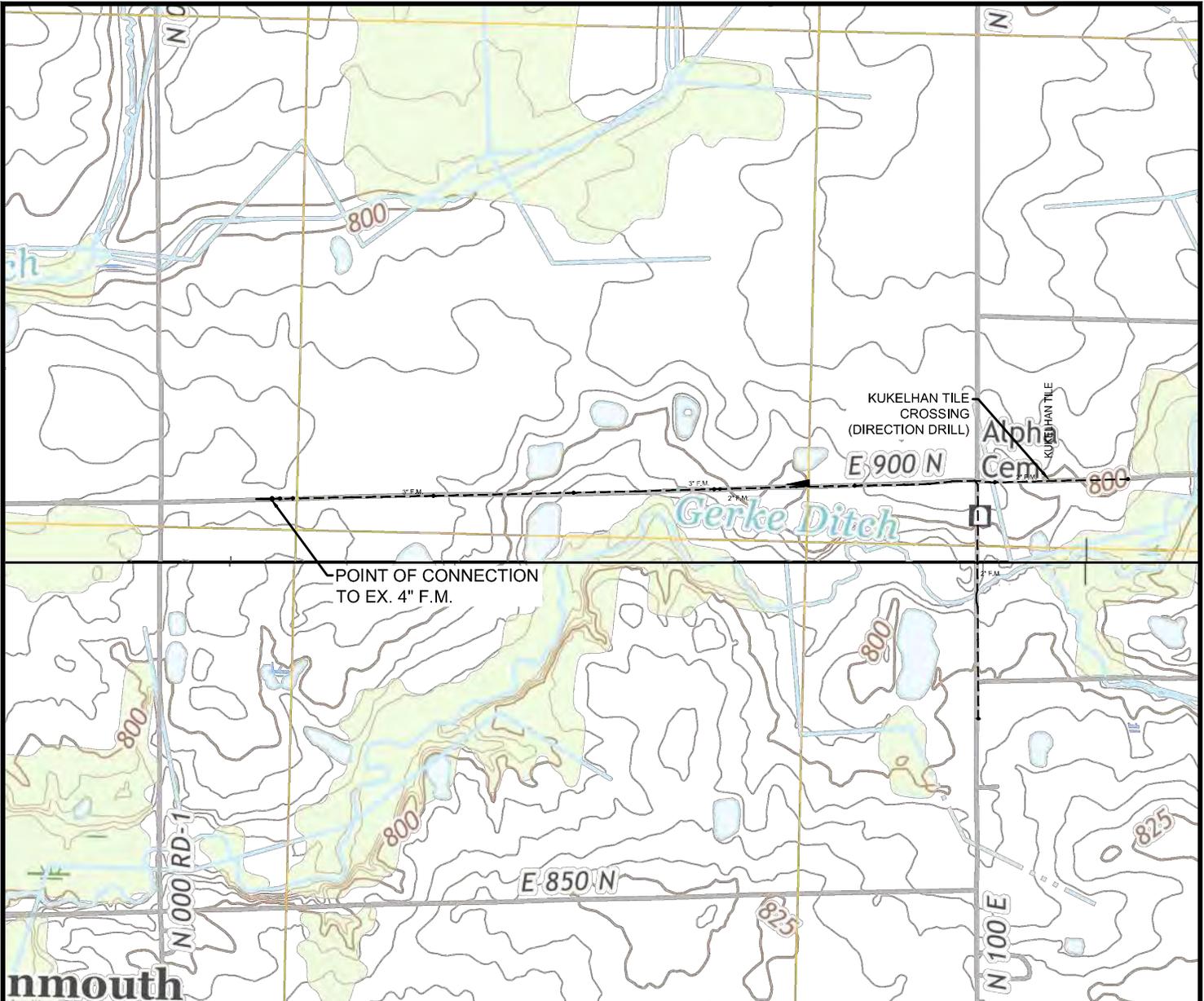
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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

MONMOUTH EXTENDED - LOW
PRESSURE COLLECTION SYSTEM

FIGURE

8A-3

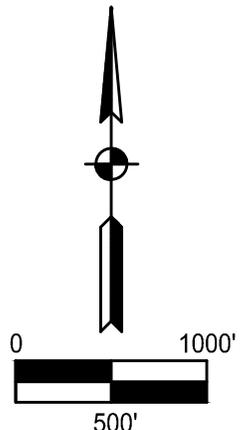


KUKELHAN TILE CROSSING (DIRECTION DRILL)

POINT OF CONNECTION TO EX. 4" F.M.

LEGEND

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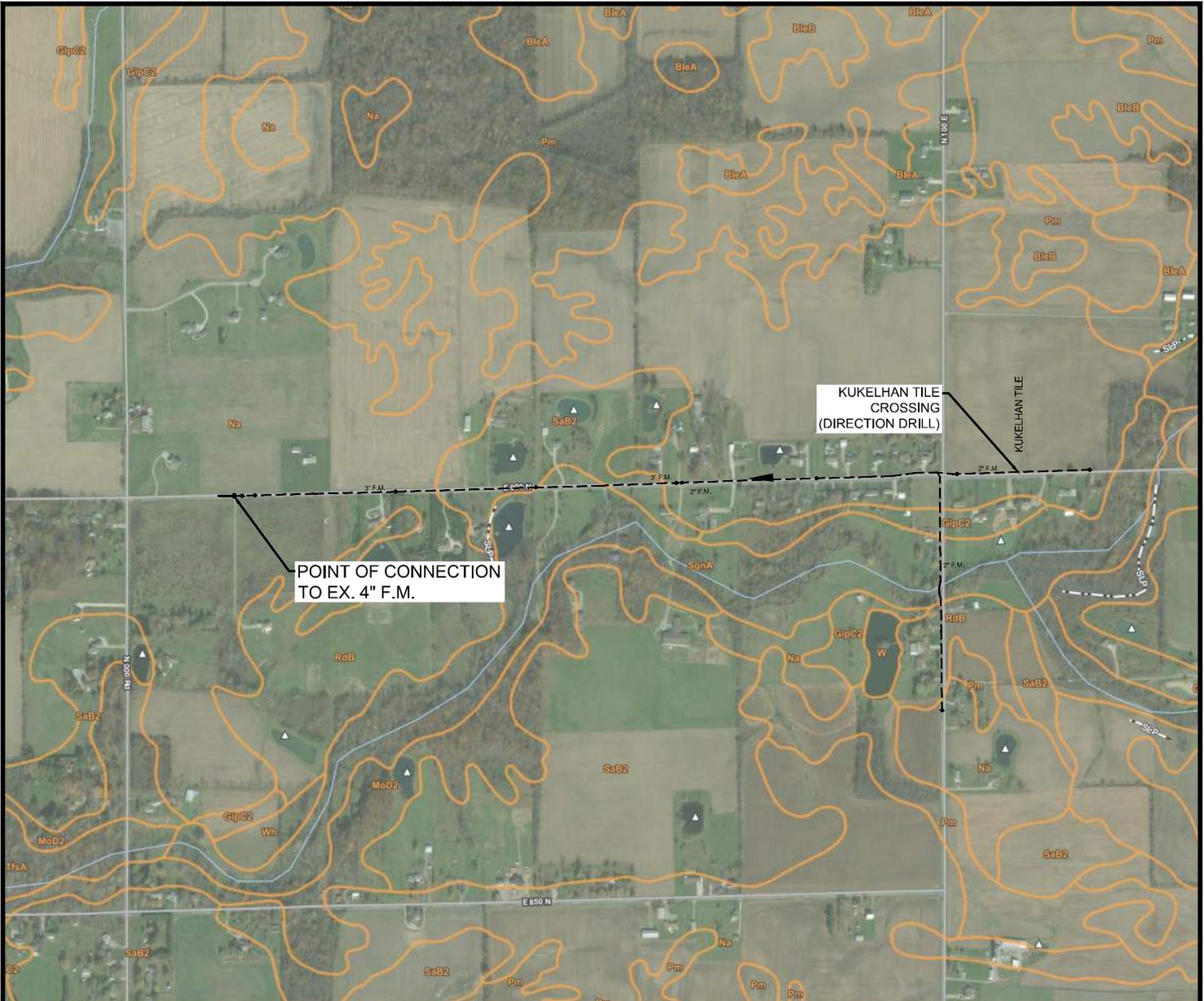
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

MONMOUTH EXTENDED - TOPOGRAPHY MAP

FIGURE

8B

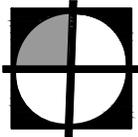


LEGEND

----- PROPOSED FORCE MAIN



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

MONMOUTH EXTENDED - SOILS MAP

FIGURE

8C-1

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

MONMOUTH EXTENDED - SOILS MAP

FIGURE

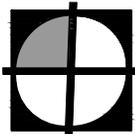
8C-2

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BleA	Blount silt loam, end moraine, 0 to 2 percent slopes	79.8	4.3%
BleB	Blount silt loam, end moraine, 2 to 4 percent slopes	160.4	8.6%
GlpC2	Glynwood clay loam, 6 to 12 percent slopes, eroded	92.4	5.0%
GlrB	Glynwood silt loam, end moraine, 2 to 6 percent slopes	22.9	1.2%
MoD2	Morley silty clay loam, 12 to 18 percent slopes, eroded	50.7	2.7%
Na	Nappanee silt loam, 0 to 3 percent slopes	789.5	42.4%
Pm	Pewamo silty clay, 0 to 2 percent slopes	245.3	13.2%
RdB	Rawson loam, 2 to 6 percent slopes	42.5	2.3%
SaB2	St. Clair clay loam, 3 to 8 percent slopes, eroded	237.9	12.8%
SgnA	Shoals silty clay loam, 0 to 1 percent slopes, frequently flooded	80.2	4.3%
SocA	Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded	37.4	2.0%
TfsA	Tice silty clay loam, 0 to 1 percent slopes, frequently flooded	17.1	0.9%
W	Water	4.4	0.2%
Wh	Whitaker silt loam	3.6	0.2%
Totals for Area of Interest		1,864.0	100.0%

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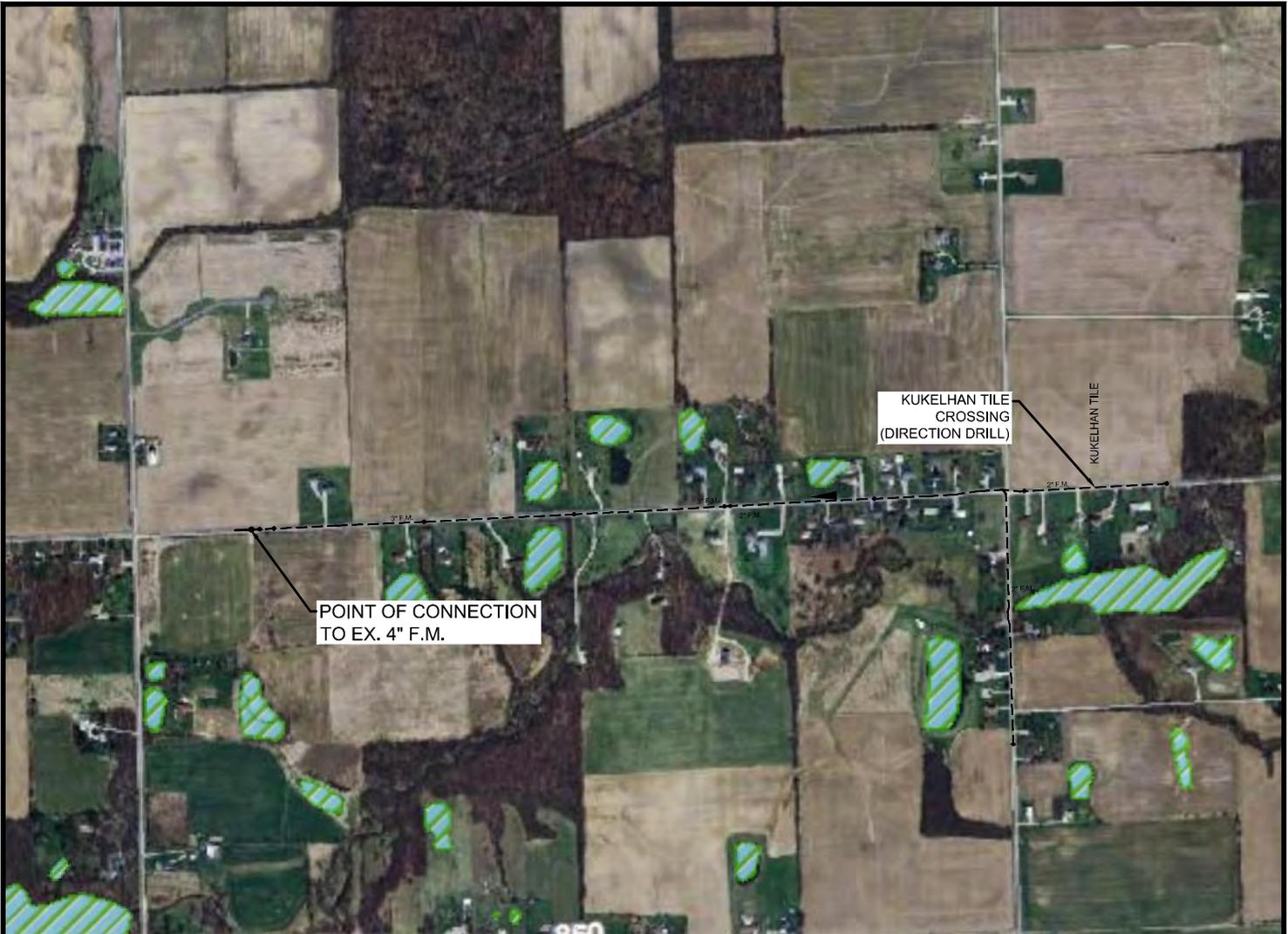
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

MONMOUTH EXTENDED - SOILS MAP

FIGURE

8C-3



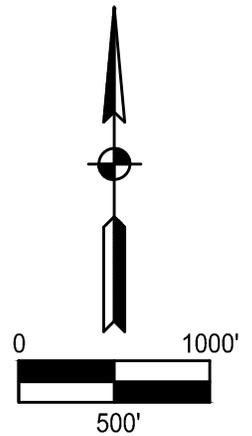
POINT OF CONNECTION
TO EX. 4" F.M.

KUKELHAN TILE
CROSSING
(DIRECTION DRILL)

KUKELHAN TILE

LEGEND

----- PROPOSED FORCE MAIN



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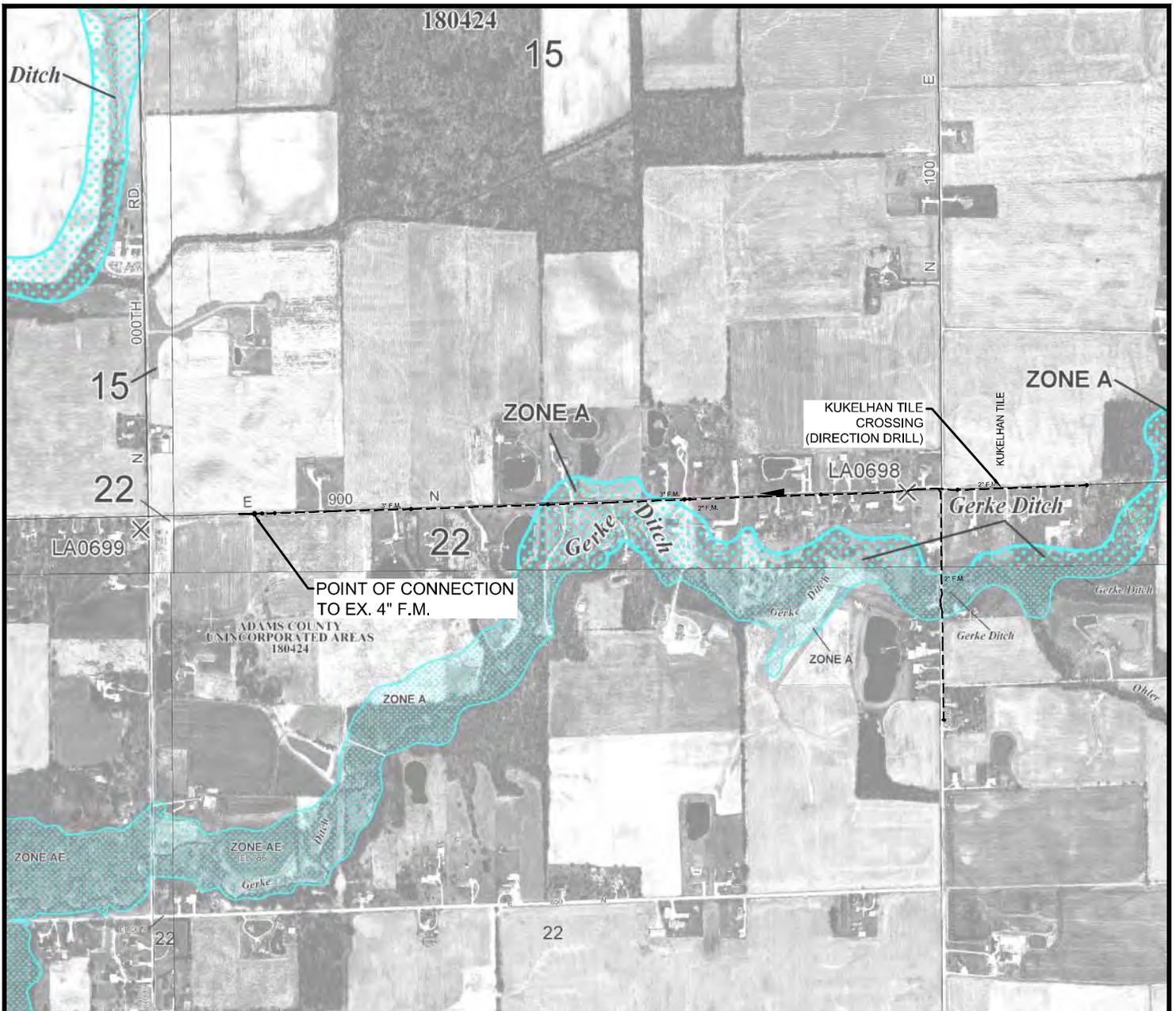
ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

MONMOUTH EXTENDED - WETLANDS MAP

FIGURE

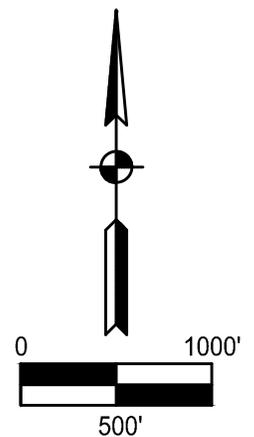
8D

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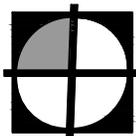


LEGEND

----- PROPOSED FORCE MAIN



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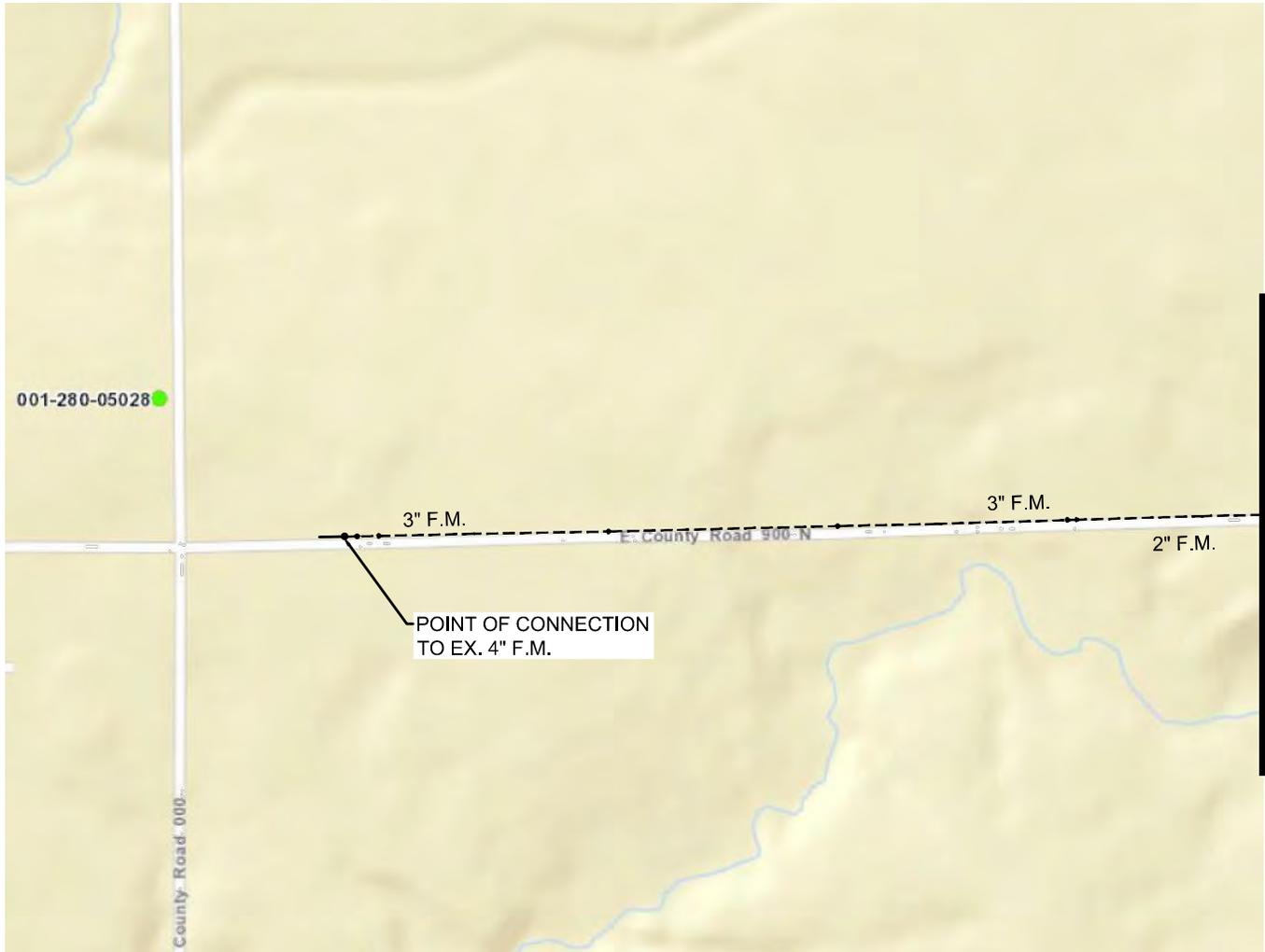
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

MONMOUTH EXTENDED - FLOODPLAIN MAP

FIGURE

8E



MATCHLINE (SEE FIG. 8F-2)

LEGEND

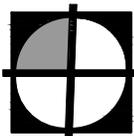
----- PROPOSED FORCE MAIN

- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
| Contributing | | | |



NO SCALE

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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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MONMOUTH EXTENDED - HISTORICAL MAP

FIGURE

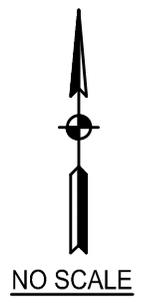
8F-1

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LEGEND

- PROPOSED FORCE MAIN
- | | | | |
|--------------|------------------|------------------|-------------------------|
| Override 1 | Non-Contributing | Notable | Unknown |
| Cemeteries | Demolished | Contributing | National Register Sites |
| Outstanding | Unknown | Non-Contributing | Historic Districts |
| Notable | Outstanding | Demolished | World Street Map |
| Contributing | | | |



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

MONMOUTH EXTENDED - HISTORICAL MAP

FIGURE

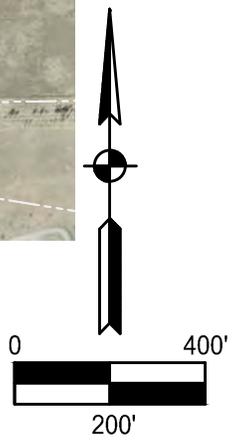
8F-2



MATCHLINE (SEE FIG. 9A-2)

LEGEND

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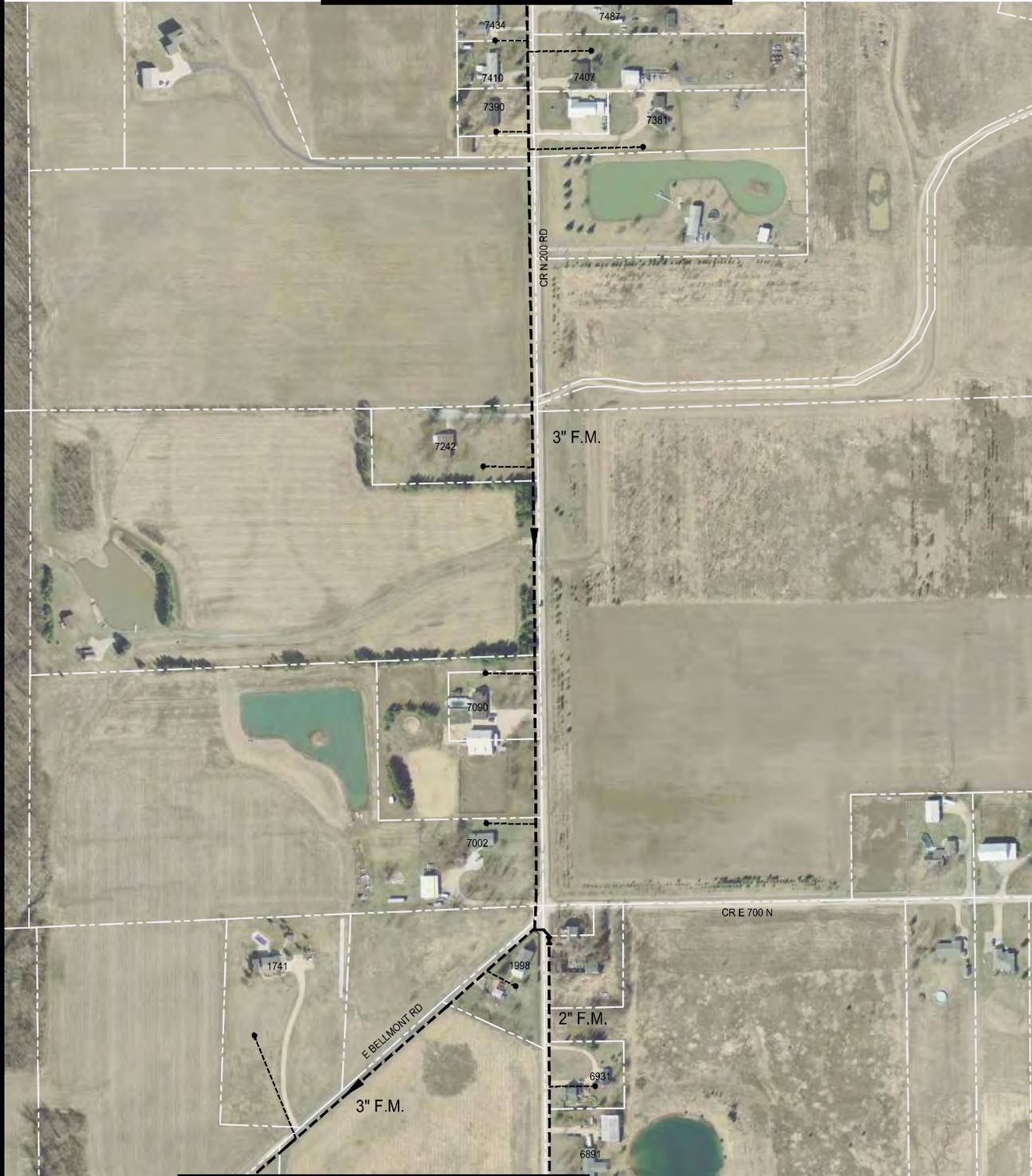
**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

**CLEM'S LAKE - LOW PRESSURE
COLLECTION SYSTEM**

FIGURE

9A-1

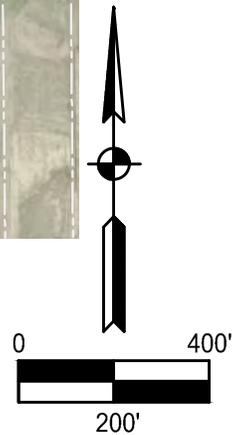
MATCHLINE (SEE FIG. 9A-1)



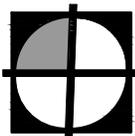
MATCHLINE (SEE FIG. 9A-3)

LEGEND


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**ADAMS COUNTY REGIONAL SEWER DISTRICT
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**CLEM'S LAKE - LOW PRESSURE
 COLLECTION SYSTEM**

FIGURE

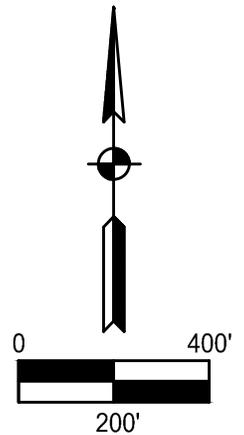
9A-2

MATCHLINE (SEE FIG. 9A-2)



LEGEND

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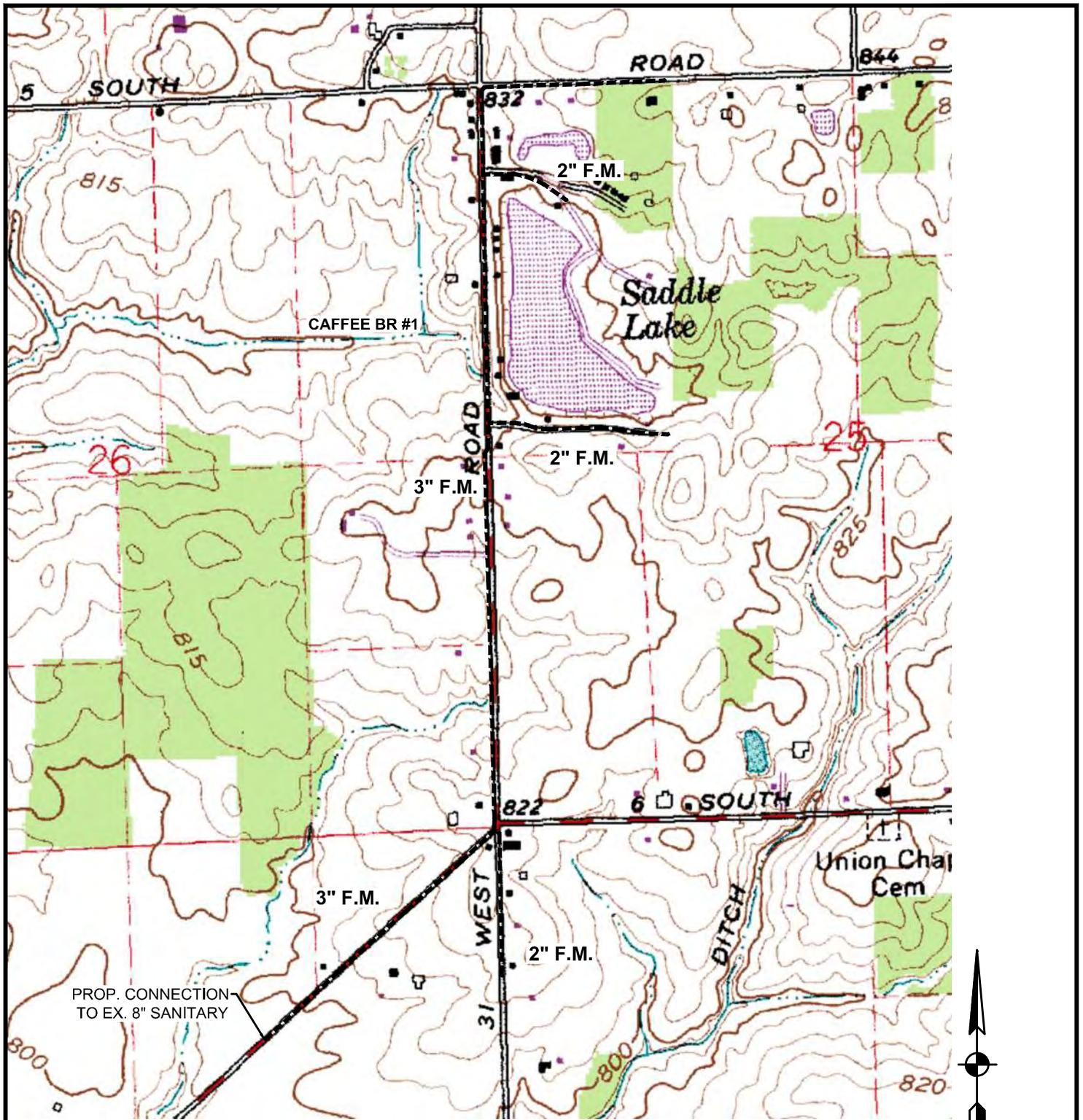
ADAMS COUNTY REGIONAL SEWER DISTRICT
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CLEM'S LAKE - LOW PRESSURE
COLLECTION SYSTEM

FIGURE

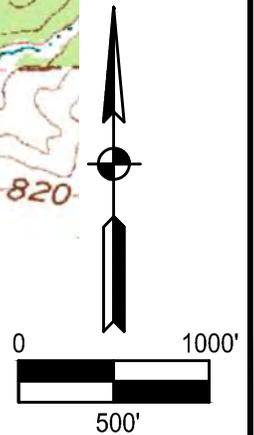
9A-3

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LEGEND

 PROPOSED FORCE MAIN WITH GRINDER PUMP STATION

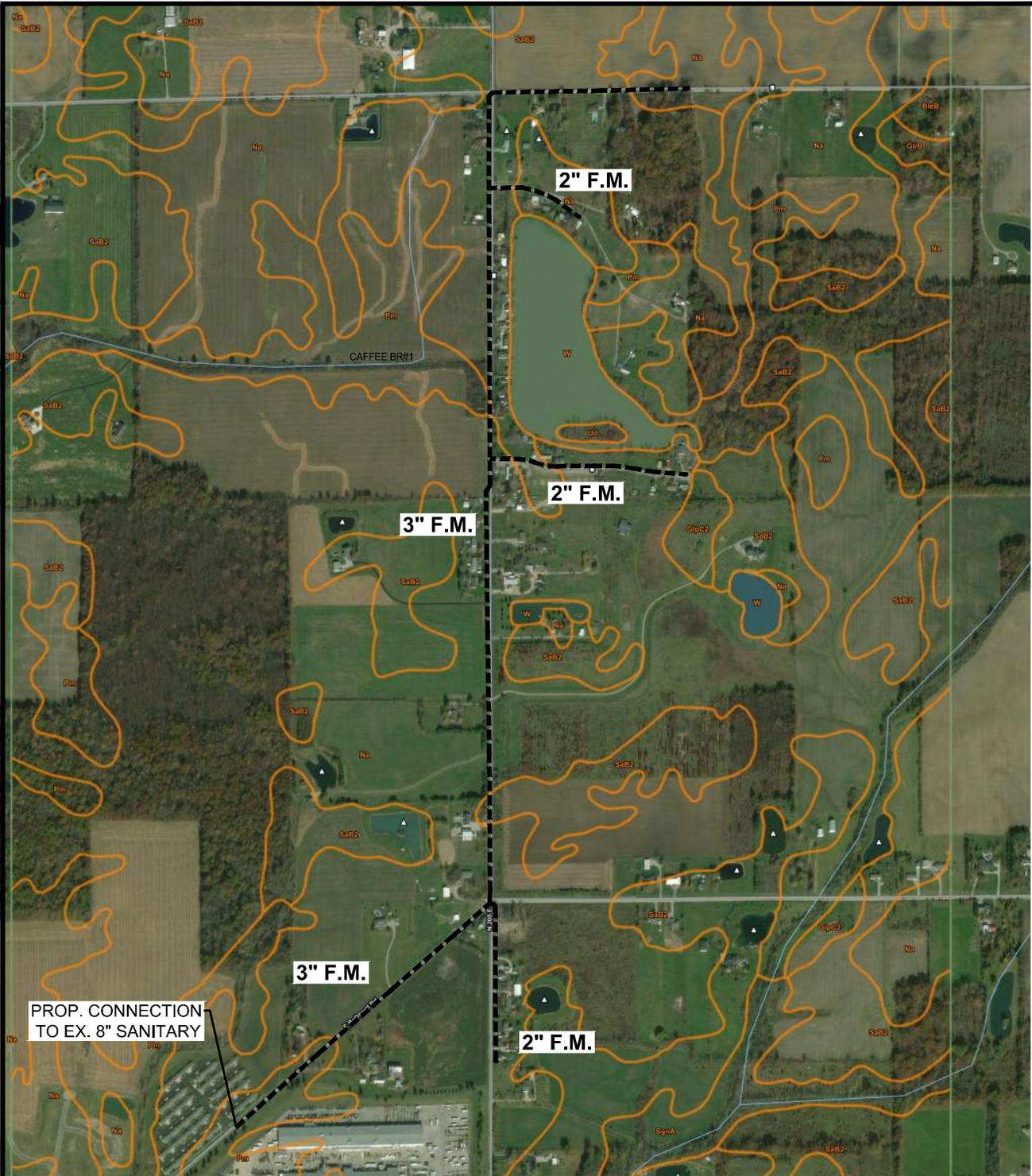


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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

CLEM'S LAKE - TOPOGRAPHY MAP

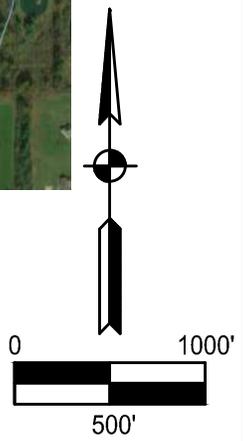
**FIGURE
9B**



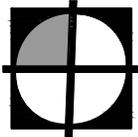
PROP. CONNECTION
TO EX. 8" SANITARY

LEGEND

 PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

CLEM'S LAKE - SOILS MAP

FIGURE

9C-1

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

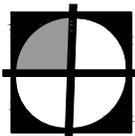
Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

CLEM'S LAKE - SOILS MAP

FIGURE

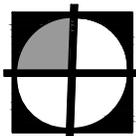
9C-2

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BleB	Blount silt loam, end moraine, 2 to 4 percent slopes	4.9	0.4%
GlpC2	Glynwood clay loam, 6 to 12 percent slopes, eroded	7.1	0.6%
GlrB	Glynwood silt loam, end moraine, 2 to 6 percent slopes	2.2	0.2%
HaA	Haskins loam, 1 to 3 percent slopes	0.5	0.0%
Na	Nappanee silt loam, 0 to 3 percent slopes	647.9	53.1%
Pm	Pewamo silty clay, 0 to 2 percent slopes	172.9	14.2%
RdB	Rawson loam, 2 to 6 percent slopes	2.4	0.2%
SaB2	St. Clair clay loam, 3 to 8 percent slopes, eroded	332.3	27.2%
SgnA	Shoals silty clay loam, 0 to 1 percent slopes, frequently flooded	24.4	2.0%
TfsA	Tice silty clay loam, 0 to 1 percent slopes, frequently flooded	1.1	0.1%
Ud	Udorthents, loamy	1.1	0.1%
W	Water	24.1	2.0%
Totals for Area of Interest		1,220.9	100.0%

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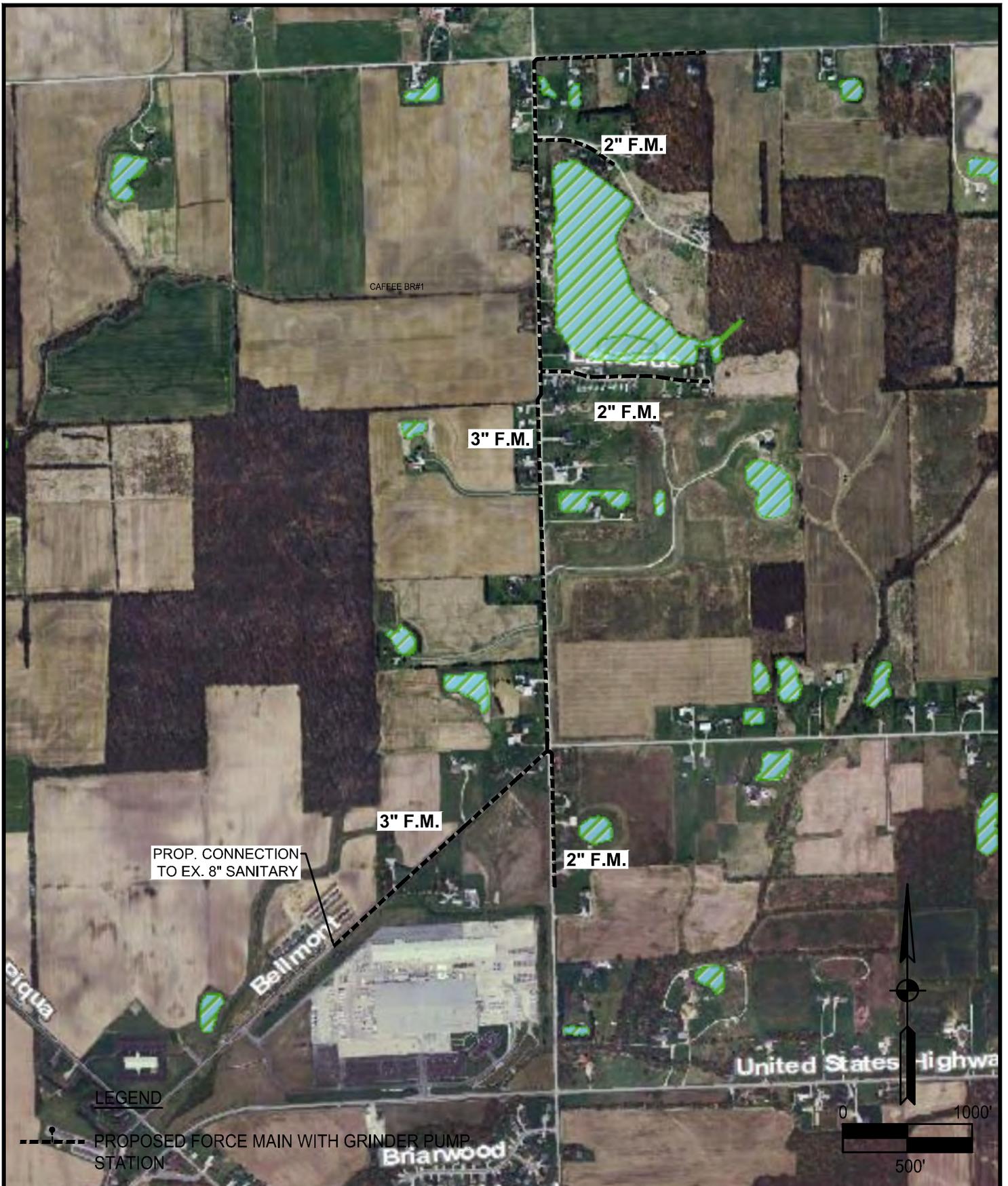
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

CLEM'S LAKE - SOILS MAP

FIGURE

9C-3



PROP. CONNECTION
TO EX. 8" SANITARY

LEGEND

 PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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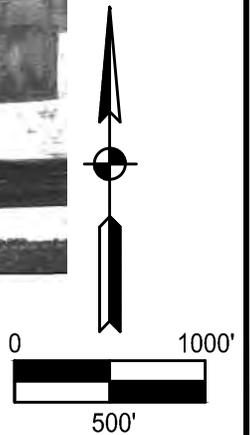
CLEM'S LAKE - WETLANDS MAP

**FIGURE
9D**

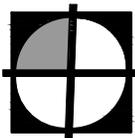


LEGEND

 PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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(219) 900-9177

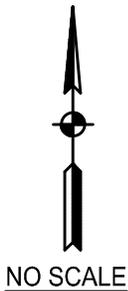
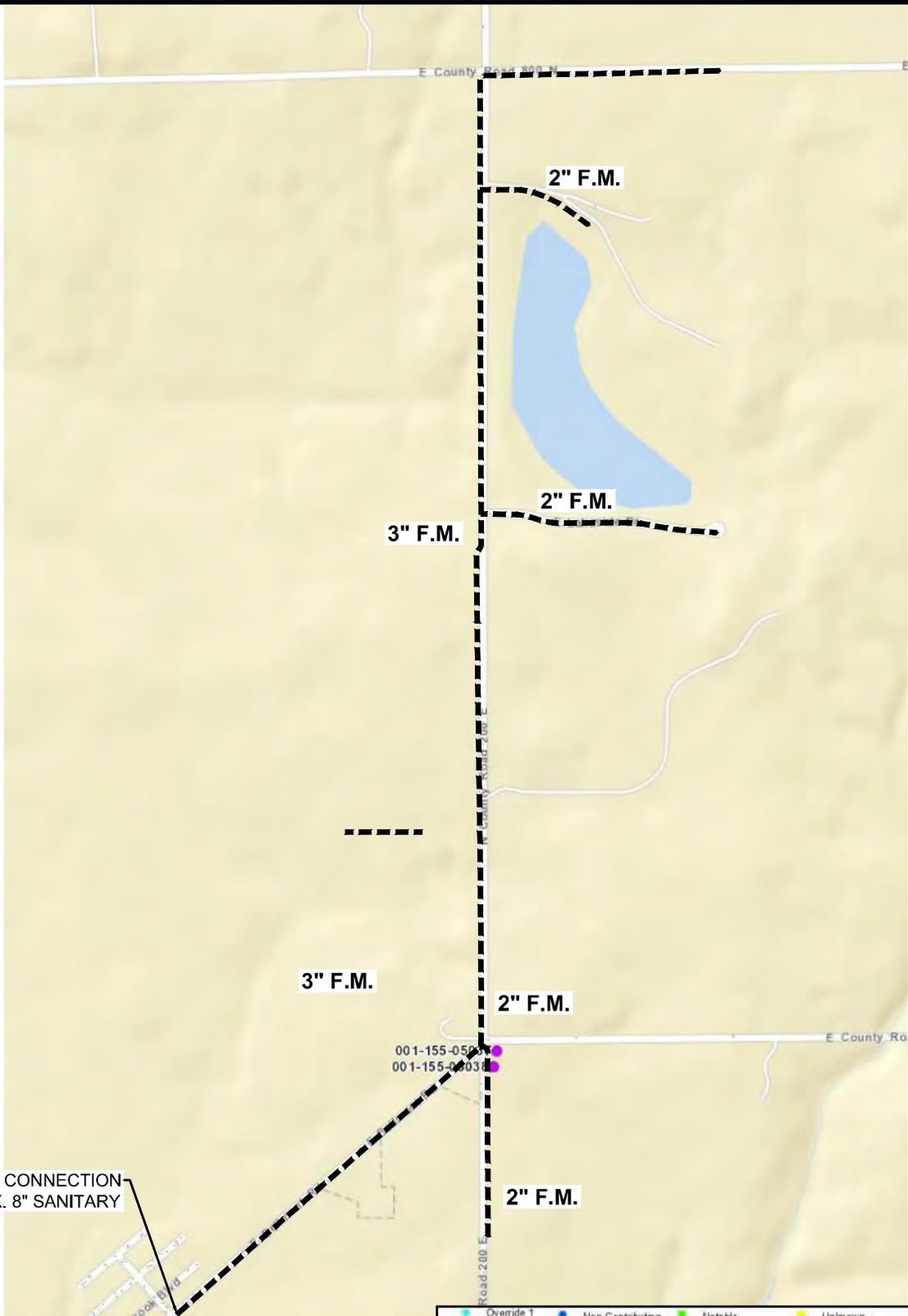
1419 W. Lloyd Expressway,
Suite 401
Evansville, IN 47710
(812) 474-1177

**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

CLEM'S LAKE - FLOODPLAIN MAP

FIGURE

9E



PROP. CONNECTION
TO EX. 8" SANITARY

LEGEND

----- PROPOSED FORCE MAIN

Override 1	Non-Contributing	Notable	Unknown
Cemeteries	Demolished	Contributing	National Register S
Outstanding	Unknown	Non-Contributing	Historic Districts
Notable	Outstanding	Demolished	World Street Map
Contributing			

7256 Company Dr.
Indianapolis, IN 46237
(317) 888-1177



**COMMONWEALTH
ENGINEERS, INC.**
A wealth of resources to master a common goal.

9604 Coldwater Road,
Suite 203
Fort Wayne, IN 46825
(260) 494-3223

104 N. Main St.
Crown Point, IN 46307
(219) 900-9177

1419 W. Lloyd Expressway,
Suite 401
Evansville, IN 47710
(812) 474-1177

**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

CLEM'S LAKE - HISTORICAL MAP

FIGURE

9F



Appendix “B”

District Utility Budget

**2018 Sanitary Sewer Improvements
Preliminary Engineering Report
(PER)
For The
Adams County Regional Sewer District
Adams County, Indiana**

**ADAMS COUNTY REGIONAL SEWER DISTRICT
A GOVERNMENTAL ENTITY**

BALANCE SHEET
JUNE 30, 2018

ASSETS

CURRENT ASSETS

CASH

CHECKING - BANK OF GENEVA (OPERATING ACCT)	\$	85,751.76	
CHECKING - FIRST BANK OF BERNE (CITY OF DECATUR)		22,170.20	
		<u>107,921.96</u>	
TOTAL CASH			<u>107,921.96</u>

OTHER CURRENT ASSETS

INVENTORY		<u>18,377.50</u>	
TOTAL OTHER CURRENT ASSETS			<u>18,377.50</u>

TOTAL CURRENT ASSETS \$ 126,299.46

DEPRECIABLE ASSETS

OFFICE EQUIPMENT	268.00	
SOFTWARE	3,500.00	
MACHINERY & EQUIPMENT	4,125.00	
PUMP STATION PROPERTY	5,000.00	
INFRASTRUCTURE	<u>4,289,732.00</u>	

TOTAL DEPRECIABLE ASSETS 4,302,625.00

TOTAL ASSETS \$ 4,428,924.46

**ADAMS COUNTY REGIONAL SEWER DISTRICT
A GOVERNMENTAL ENTITY**

BALANCE SHEET
JUNE 30, 2018

Liabilities And Equity

CURRENT LIABILITIES

WITHHELD F.I.C.A. TAX	\$	436.57
WITHHELD FEDERAL INCOME TAX		419.00
WITHHELD STATE INCOME TAX		179.65
WITHHELD COUNTY INCOME TAX		<u>90.33</u>

TOTAL CURRENT LIABILITIES \$ 1,125.55

LONG TERM LIABILITIES

LOAN PAYABLE - USDA RURAL DEV 92-01	2,455,000.00
LOAN PAYABLE - USDA RURAL DEV 92-03	<u>162,000.00</u>

TOTAL LONG TERM LIABILITIES 2,617,000.00

TOTAL LIABILITIES 2,618,125.55

FUND BALANCES

GENERAL FUND	1,789,433.17
DEBT SERVICE RESERVE	8,490.87
SHORT-LIVED ASSET RESERVE	15,750.00
NET INCOME (LOSS) CURRENT YEAR	<u>(2,875.13)</u>

TOTAL FUND BALANCES 1,810,798.91

Total Liabilities And Equity \$ 4,428,924.46

**ADAMS COUNTY REGIONAL SEWER DISTRICT
A GOVERNMENTAL ENTITY**

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE ONE MONTH AND SIX MONTHS ENDED
JUNE 30, 2018

	CURRENT PERIOD		YEAR TO DATE	
	AMOUNT	PERCENT	AMOUNT	PERCENT
REVENUES				
SEWER FEES	\$ 35,676.71	100.00	\$ 133,289.66	99.94
INSPECTION FEES	0.00	0.00	75.00	0.06
TOTAL REVENUES	<u>35,676.71</u>	<u>100.00</u>	<u>133,364.66</u>	<u>100.00</u>
EXPENSES				
SEWAGE TREATMENT				
SEWAGE TREATMENT	<u>4,149.36</u>	<u>11.63</u>	<u>30,657.89</u>	<u>22.99</u>
TOTAL SEWAGE TREATMENT	<u>4,149.36</u>	<u>11.63</u>	<u>30,657.89</u>	<u>22.99</u>
PERSONNEL				
DIRECT LABOR	5,769.24	16.17	24,029.24	18.02
F.I.C.A. TAXES	274.60	0.77	1,781.05	1.34
DEFERRED COMPENSATION	30.00	0.08	180.00	0.13
MILEAGE	<u>0.00</u>	<u>0.00</u>	<u>419.76</u>	<u>0.31</u>
TOTAL PERSONNEL	<u>6,073.84</u>	<u>17.02</u>	<u>26,410.05</u>	<u>19.80</u>
UTILITIES				
ELECTRICITY SERVICE AREAS	<u>534.78</u>	<u>1.50</u>	<u>3,544.35</u>	<u>2.66</u>
TOTAL UTILITIES	<u>534.78</u>	<u>1.50</u>	<u>3,544.35</u>	<u>2.66</u>
REPAIRS & MAINTENANCE				
CONTRACTOR FEES	0.00	0.00	50,819.30	38.11
REPAIRS EQUIPMENT & TOOLS	0.00	0.00	234.90	0.18
AUTO TRUCK REPAIRS & MAINTENANCE	0.00	0.00	28.95	0.02
TOTAL REPAIRS & MAINTENANCE	<u>0.00</u>	<u>0.00</u>	<u>51,083.15</u>	<u>38.30</u>
ADMINISTRATIVE EXPENSES				
BILLING SERVICES	753.75	2.11	8,157.25	6.12
RECORDING FEES	0.00	0.00	1,332.25	1.00
BANK CHARGES	0.00	0.00	19.50	0.01
INSURANCE GENERAL	0.00	0.00	862.00	0.65
OFFICE SUPPLIES	0.00	0.00	10.12	0.01
POSTAGE	0.00	0.00	99.23	0.07
ACCOUNTING FEES	0.00	0.00	2,620.00	1.96
STATE BD OF ACCTS AUDIT FEES	0.00	0.00	4,454.00	3.34
LEGAL FEES	0.00	0.00	2,275.00	1.71
TAXES PROPERTY	<u>0.00</u>	<u>0.00</u>	<u>82.50</u>	<u>0.06</u>
TOTAL ADMINISTRATIVE EXPENSES	<u>753.75</u>	<u>2.11</u>	<u>19,911.85</u>	<u>14.93</u>
TOTAL EXPENSES	11,511.73	32.27	131,607.29	98.68

**ADAMS COUNTY REGIONAL SEWER DISTRICT
A GOVERNMENTAL ENTITY**

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE ONE MONTH AND SIX MONTHS ENDED
JUNE 30, 2018

	CURRENT PERIOD		YEAR TO DATE	
	AMOUNT	PERCENT	AMOUNT	PERCENT
Income From Operations	\$ 24,164.98	67.73	\$ 1,757.37	1.32
OTHER INCOME				
SEWER EXTENSION FEE	0.00	0.00	25,000.00	18.75
TOTAL OTHER INCOME	0.00	0.00	25,000.00	18.75
OTHER EXPENSES				
INTEREST EXPENSE	0.00	0.00	29,632.50	22.22
TOTAL OTHER EXPENSES	0.00	0.00	29,632.50	22.22
Net Income (Loss)	\$ 24,164.98	67.73	\$ (2,875.13)	(2.16)

**ADAMS COUNTY REGIONAL SEWER DISTRICT
A GOVERNMENTAL ENTITY**

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE SIX MONTHS ENDED JUNE 30, 2018

	YEAR TO DATE	ANNUAL BUDGET	YEAR TO DATE VARIANCE
REVENUES			
SEWER FEES	\$ 133,289.66	\$ 234,000.00	\$ (100,710.34)
INSPECTION FEES	75.00	0.00	75.00
TAP FEES	0.00	6,600.00	(6,600.00)
MISCELLANEOUS FEES	0.00	3,600.00	(3,600.00)
TOTAL REVENUES	<u>133,364.66</u>	<u>244,200.00</u>	<u>(110,835.34)</u>
EXPENSES			
SEWAGE TREATMENT			
SEWAGE TREATMENT	<u>30,657.89</u>	<u>60,000.00</u>	<u>29,342.11</u>
TOTAL SEWAGE TREATMENT	<u>30,657.89</u>	<u>60,000.00</u>	<u>29,342.11</u>
PERSONNEL			
DIRECT LABOR	24,029.24	47,475.96	23,446.72
F.I.C.A. TAXES	1,781.05	3,300.00	1,518.95
DEFERRED COMPENSATION	180.00	0.00	(180.00)
CONVENTIONS & SEMINARS	0.00	300.00	300.00
MILEAGE	<u>419.76</u>	<u>600.00</u>	<u>180.24</u>
TOTAL PERSONNEL	<u>26,410.05</u>	<u>51,675.96</u>	<u>25,265.91</u>
UTILITIES			
ELECTRICITY SERVICE AREAS	<u>3,544.35</u>	<u>6,000.00</u>	<u>2,455.65</u>
TOTAL UTILITIES	<u>3,544.35</u>	<u>6,000.00</u>	<u>2,455.65</u>
REPAIRS & MAINTENANCE			
CONTRACTOR FEES	50,819.30	6,000.00	(44,819.30)
REPAIRS EQUIPMENT & TOOLS	234.90	4,800.00	4,565.10
AUTO TRUCK REPAIRS & MAINTENANCE	28.95	4,800.00	4,771.05
SUPPLIES	<u>0.00</u>	<u>2,400.00</u>	<u>2,400.00</u>
TOTAL REPAIRS & MAINTENANCE	<u>51,083.15</u>	<u>18,000.00</u>	<u>(33,083.15)</u>
ADMINISTRATIVE EXPENSES			
BILLING SERVICES	8,157.25	9,600.00	1,442.75
RECORDING FEES	1,332.25	0.00	(1,332.25)
BANK CHARGES	19.50	360.00	340.50
INSURANCE GENERAL	862.00	4,800.00	3,938.00
OFFICE SUPPLIES	10.12	300.00	289.88
POSTAGE	99.23	1,200.00	1,100.77
ACCOUNTING FEES	2,620.00	4,800.00	2,180.00
STATE BD OF ACCTS AUDIT FEES	4,454.00	0.00	(4,454.00)
LEGAL FEES	2,275.00	12,000.00	9,725.00

**ADAMS COUNTY REGIONAL SEWER DISTRICT
A GOVERNMENTAL ENTITY**

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
FOR THE SIX MONTHS ENDED JUNE 30, 2018

	YEAR TO DATE	ANNUAL BUDGET	YEAR TO DATE VARIANCE
TAXES PROPERTY	\$ <u>82.50</u>	\$ <u>0.00</u>	\$ <u>(82.50)</u>
TOTAL ADMINISTRATIVE EXPENSES	<u>19,911.85</u>	<u>33,060.00</u>	<u>13,148.15</u>
TOTAL EXPENSES	<u>131,607.29</u>	<u>168,735.96</u>	<u>37,128.67</u>
Income From Operations	<u>1,757.37</u>	<u>75,464.04</u>	<u>(147,964.01)</u>
OTHER INCOME			
ADAMS COUNTY GRANT	0.00	60,000.00	(60,000.00)
SEWER EXTENSION FEE	<u>25,000.00</u>	<u>0.00</u>	<u>25,000.00</u>
TOTAL OTHER INCOME	<u>25,000.00</u>	<u>60,000.00</u>	<u>(35,000.00)</u>
OTHER EXPENSES			
INTEREST EXPENSE	<u>29,632.50</u>	<u>60,000.00</u>	<u>30,367.50</u>
TOTAL OTHER EXPENSES	<u>29,632.50</u>	<u>60,000.00</u>	<u>30,367.50</u>
Net Income (Loss)	\$ <u><u>(2,875.13)</u></u>	\$ <u><u>75,464.04</u></u>	\$ <u><u>(213,331.51)</u></u>

Adams County Regional Sewer District						
A Governmental Entity					Approved	
2018 Budget Worksheet	2018	2018	2018	2018	2018	2018
	Q2 Actual	Q2 Budget	Q2 Diff.	Projection	Budget	Comparison
Revenues:						
Sewer Fees	133,289.66	117,000.00	16,289.66	266,579.32	234,000.00	32,579.32
Inspection Fees	75.00	0.00	75.00	0.00	0.00	0.00
Tap Fees	0.00	3,300.00	(3,300.00)	6,600.00	6,600.00	0.00
Misc Fees	0.00	1,800.00	(1,800.00)	3,600.00	3,600.00	0.00
Total Revenue	133,364.66	122,100.00	11,264.66	276,779.32	244,200.00	32,579.32
Expenses:						
Sewage Treatment	30,657.89	30,000.00	657.89	61,315.78	60,000.00	1,315.78
Personnel						
Labor Costs	24,209.24	23,737.98	471.26	48,418.48	47,475.96	942.52
Payroll Taxes	1,781.05	1,650.00	131.05	3,562.10	3,300.00	262.10
Conventions & Seminars	0.00	150.00	(150.00)	0.00	300.00	(300.00)
Mileage	419.76	300.00	119.76	1,000.00	600.00	400.00
Total Personnel	26,410.05	25,837.98	572.07	52,980.58	51,675.96	1,304.62
Utilities						
Electricity	3,544.35	3,000.00	544.35	7,088.70	6,000.00	1,088.70
Repairs & Maintenance						
Contractor Fees	0.00	3,000.00	(3,000.00)	6,000.00	6,000.00	0.00
Pump Repairs/Replace	234.90	2,400.00	(2,165.10)	4,800.00	4,800.00	0.00
Truck Repairs & Maintenance	28.95	2,400.00	(2,371.05)	2,400.00	4,800.00	(2,400.00)
Supplies	0.00	1,200.00	(1,200.00)	1,000.00	2,400.00	(1,400.00)
Total Repairs & Maint	263.85	9,000.00	(8,736.15)	14,200.00	18,000.00	(3,800.00)
Administrative Expense						
Billing Services	8,157.25	4,800.00	3,357.25	12,657.25	9,600.00	3,057.25
Recording Fees	1,332.25	0.00	1,332.25	2,664.50	0.00	2,664.50
Bank Charges	19.50	180.00	(160.50)	39.00	360.00	(321.00)
Insurance	862.00	2,400.00	(1,538.00)	1,724.00	4,800.00	(3,076.00)
Office Supplies	10.12	150.00	(139.88)	20.24	300.00	(279.76)
Postage	99.23	600.00	(500.77)	198.46	1,200.00	(1,001.54)
Post Office Box Rental	0.00	0.00	0.00	0.00	0.00	0.00
Accounting Fees	7,074.00	2,400.00	4,674.00	9,474.00	4,800.00	4,674.00
Legal Fees	2,275.00	6,000.00	(3,725.00)	9,100.00	12,000.00	(2,900.00)
Taxes Property	82.50	0.00	82.50	165.00	0.00	165.00
Total Administrative	19,911.85	16,530.00	3,381.85	35,877.45	33,060.00	2,817.45
Total Operating Expense	80,787.99	84,367.98	(3,579.99)	171,462.51	168,735.96	2,726.55
Income From Operations	52,576.67	37,732.02	14,844.65	105,316.81	75,464.04	29,852.77
Other Revenue	25,000.00	30,000.00	(5,000.00)	85,000.00	60,000.00	(29,852.77)
Other Expense	50,819.30	0.00	50,819.30	50,819.30	0.00	31,168.55
Interest Expense	29,632.50	30,000.00	(367.50)	59,265.00	60,000.00	(735.00)
Total Non-Operating Inc (Ex)	(55,451.80)	0.00	(55,451.80)	(25,084.30)	0.00	(25,084.30)
Total Income	(2,875.13)	37,732.02	(40,607.15)	80,232.51	75,464.04	4,768.47
Plus Depreciation	0.00	0.00	0.00			
Minus Debt Principal Payments	17,000.00	16,999.98	0.02	34,000.00	34,000.00	0.00
Minus Debt Service Reserve	8,490.87	6,000.00	0.00	16,981.74	12,000.00	0.00
Minus Reserve for Short Lived Assets	15,750.00	3,000.00	0.00	31,500.00	6,000.00	0.00
Cash Flow	(44,116.00)	11,732.04	(40,607.17)	(2,249.23)	23,464.04	4,768.47

- Does not include the county's pledge of \$60,000. This will help greatly.
 - Includes cost of line extensions minus fees collected to cover line extensions. This is a negative \$25,000 cash flow.
 - Income from Operations is ahead of budget due to fees exceeding budgeted amount primarily from levy collections.
 - Cash Flow is negative due to cost of line extensions over revenue received (\$25,000) and lack of receipt of county's co
 - Reserves are being set aside at a rate higher than budgeted, but this is not a bad thing.
- Items in gray are items I adjusted the annual projection due to non-recurring items experienced in Q1.



Appendix “C”

District Letter of Intent for Land Acquisitions

**2018 Sanitary Sewer Improvements
Preliminary Engineering Report
(PER)
For The
Adams County Regional Sewer District
Adams County, Indiana**

**ADAMS COUNTY REGIONAL SEWER DISTRICT
313 W. JEFFERSON STREET, ROOM 115
DECATUR, IN 46733**

August 17, 2018

Indiana Department of Environmental Management
State Revolving Loan Fund
100 North Senate Ave., Rm. 1275
Indianapolis, IN 46204

Attn: Shelley Love, Administrator
Wastewater Program

Re: 2018 Sanitary Sewer Improvements
Land Acquisition
Adams County Regional Sewer District
Adams County, IN

Dear Shelley,

With regard to the referenced project, please be advised that the District intends to negotiate in good faith with prospective land owners when acquiring property for easements for the proposed Adams County Regional Sewer District projects. We also intend to follow all applicable State and Federal guidelines pertaining to land acquisition issues.

The proposed projects revolve around the construction of sanitary sewer collection systems in new service areas coupled with discharge to the City of Decatur and the City of Berne for treatment to affect the relief of individual, on-site, failing residential septic systems.

We look forward to working with your agency on this important project. If you should have any questions or concerns, please don't hesitate to contact our engineering consultant, Ben Adams, CEI at (260) 494-3225.

Sincerely,

ADAMS COUNTY REGIONAL SEWER DISTRICT



Shannon Smitley, President

cc: Ben Adams, P.E., CEI
Barry Scherer, District Superintendent
Board of Trustees, ACRSD



Appendix “D”

Cost Estimates and Life Cycle Cost Analysis

**2018 Sanitary Sewer Improvements
Preliminary Engineering Report
(PER)
For The
Adams County Regional Sewer District
Adams County, Indiana**

**LINN GROVE - GRAVITY W/ FORCE MAIN TO BERNE
OPTION 1**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 93,500
8" PVC Gravity Sewer	5230	LF	\$ 50.00	\$ 261,500.00
6" Force Main	22500	LF	\$ 30.00	\$ 675,000.00
6" Force Main (River Crossing)	270	LF	\$ 250.00	\$ 67,500.00
Standard 48-inch Manhole	20	EA	\$ 5,000.00	\$ 100,000.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	5	EA	\$ 5,500.00	\$ 27,500.00
Flow Meter Structure	1	LS		\$ 30,000.00
Service Wye (8-inch x 6-inch)	70	EA	\$ 500.00	\$ 35,000.00
6" Service Lateral (Open-cut)	1650	LF	\$ 50.00	\$ 82,500.00
Lift Station	1	LS		\$ 230,000.00
Granular Backfill	5000	CY	\$ 35.00	\$ 175,000.00
Asphalt Pavement Replacement	1000	SY	\$ 70.00	\$ 70,000.00
Asphalt Driveway Repair	200	SY	\$ 70.00	\$ 14,000.00
Stone Driveway Repair	500	SY	\$ 20.00	\$ 10,000.00
Concrete Driveway Repair	50	SY	\$ 120.00	\$ 6,000.00
Adams County Highway Cut Permit	1	LS		\$ 15,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 20,000.00
Final Grading & Seeding	1	LS		\$ 30,000.00
Erosion & Sediment Control	1	LS		\$ 20,000.00

Construction Cost	\$	1,972,000.00
Contengency	\$	197,000.00
Non-Construction Costs	\$	542,000.00
TOTAL COSTS	\$	2,711,000.00

**LINN GROVE - GRAVITY W/ FORCE MAIN TO VERA CRUZ
OPTION 2**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 99,500
8" PVC Gravity Sewer	5230	LF	\$ 50.00	\$ 261,500.00
6" Force Main	26600	LF	\$ 30.00	\$ 798,000.00
6" Force Main (River Crossing)	270	LF	\$ 250.00	\$ 67,500.00
Standard 48-inch Manhole	20	EA	\$ 5,000.00	\$ 100,000.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	5	EA	\$ 5,500.00	\$ 27,500.00
Flow Meter Structure	1	LS		\$ 30,000.00
Service Wye (8-inch x 6-inch)	70	EA	\$ 500.00	\$ 35,000.00
6" Service Lateral (Open-cut)	1650	LF	\$ 50.00	\$ 82,500.00
Lift Station	1	LS		\$ 230,000.00
Granular Backfill	5000	CY	\$ 35.00	\$ 175,000.00
Asphalt Pavement Replacement	1000	SY	\$ 70.00	\$ 70,000.00
Asphalt Driveway Repair	200	SY	\$ 70.00	\$ 14,000.00
Stone Driveway Repair	500	SY	\$ 20.00	\$ 10,000.00
Concrete Driveway Repair	50	SY	\$ 120.00	\$ 6,000.00
Adams County Highway Cut Permit	1	LS		\$ 15,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 20,000.00
Final Grading & Seeding	1	LS		\$ 30,000.00
Erosion & Sediment Control	1	LS		\$ 20,000.00

Construction Cost	\$	2,101,000.00
Contengency	\$	210,000.00
Non-Construction Costs	\$	577,000.00
TOTAL COSTS	\$	2,888,000.00

**LINN GROVE - LOW PRESSURE W/ FORCE MAIN TO BERNE
OPTION 3**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 91,300
6" Force Main	26600	LF	\$ 30.00	\$ 798,000.00
6" Force Main (River Crossing)	270	LF	\$ 250.00	\$ 67,500.00
2" Pressure Sewer Main	5230	LF	\$ 15.00	\$ 78,450.00
1-1/2" Service Lateral	5200	LF	\$ 15.00	\$ 78,000.00
Grinder Pump Station Connection	50	EA	\$ 500.00	\$ 25,000.00
1-1/2" Corp. Stop & Check Valve Assembly	50	EA	\$ 500.00	\$ 25,000.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
2" Isolation Valves	8	EA	\$ 500.00	\$ 4,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	8	EA	\$ 5,500.00	\$ 44,000.00
Flow Meter Structure	1	LS		\$ 30,000.00
Terminal & Inline Flushing Cleanout	11	EA	\$ 1,750.00	\$ 19,250.00
Lift Station	1	LS		\$ 230,000.00
Grinder Pump Stations (10' Deep)	50	EA	\$ 7,000.00	\$ 350,000.00
Adams County Highway Cut Permit	1	LS		\$ 10,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 20,000.00
Final Grading & Seeding	1	LS		\$ 30,000.00
Erosion & Sediment Control	1	LS		\$ 20,000.00

Construction Cost	\$ 1,930,000.00
Contengency	\$ 193,000.00
Non-Construction Costs	\$ 530,000.00
TOTAL COSTS	\$ 2,653,000.00

**RIVARE (BOBO) - GRAVITY W/ FORCE MAIN TO DECATUR
OPTION 1**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 79,250
8" PVC Gravity Sewer	4500	LF	\$ 50.00	\$ 225,000.00
6" Force Main	17800	LF	\$ 30.00	\$ 534,000.00
2" Pressure Sewer Main	3300	LF	\$ 15.00	\$ 49,500.00
1-1/2" Service Lateral	3200	LF	\$ 15.00	\$ 48,000.00
Grinder Pump Station Connection	26	EA	\$ 500.00	\$ 13,000.00
1-1/2" Corp. Stop & Check Valve Assembly	26	EA	\$ 500.00	\$ 13,000.00
Standard 48-inch Manhole	16	EA	\$ 5,000.00	\$ 80,000.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
2" Isolation Valves	2	EA	\$ 500.00	\$ 1,000.00
Air Release Manhole	5	EA	\$ 5,500.00	\$ 27,500.00
Flow Meter Structure	1	LS		\$ 30,000.00
Terminal & Inline Flushing Cleanout	4	EA	\$ 1,750.00	\$ 7,000.00
Service Wye (8-inch x 6-inch)	29	EA	\$ 500.00	\$ 14,500.00
6" Service Lateral (Open-cut)	750	LF	\$ 50.00	\$ 37,500.00
6" Service Lateral (Bored)	60	LF	\$ 75.00	\$ 4,500.00
Lift Station	1	LS		\$ 230,000.00
Grinder Pump Stations (10' Deep)	26	EA	\$ 6,000.00	\$ 156,000.00
Granular Backfill	600	CY	\$ 35.00	\$ 21,000.00
Asphalt Pavement Replacement	100	SY	\$ 70.00	\$ 7,000.00
Asphalt Driveway Repair	25	SY	\$ 70.00	\$ 1,750.00
Stone Driveway Repair	100	SY	\$ 20.00	\$ 2,000.00
Adams County Highway Cut Permit	1	LS		\$ 15,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 20,000.00
Final Grading & Seeding	1	LS		\$ 30,000.00
Erosion & Sediment Control	1	LS		\$ 20,000.00

Construction Cost	\$ 1,676,000.00
Contengency	\$ 167,000.00
Non-Construction Costs*	\$ 276,000.00
TOTAL COSTS	\$ 2,119,000.00

*Non-Construction Costs are reduced due to design is partially complete

**RIVARE (BOBO) - GRAVITY W/ FORCE MAIN TO PLEASANT MILLS
OPTION 2**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 60,925
8" PVC Gravity Sewer	4750	LF	\$ 50.00	\$ 237,500.00
6" Force Main	11800	LF	\$ 30.00	\$ 354,000.00
6" Force Main (River Crossing)	270	LF	\$ 250.00	\$ 67,500.00
6" Force Main (Highway Crossing)	60	LF	\$ 250.00	\$ 15,000.00
2" Pressure Sewer Main	270	LF	\$ 15.00	\$ 4,050.00
1-1/2" Service Lateral	235	LF	\$ 15.00	\$ 3,525.00
Grinder Pump Station Connection	2	EA	\$ 500.00	\$ 1,000.00
1-1/2" Corp. Stop & Check Valve Assembly	2	EA	\$ 500.00	\$ 1,000.00
Standard 48-inch Manhole	18	EA	\$ 5,000.00	\$ 90,000.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	6	EA	\$ 5,500.00	\$ 33,000.00
Terminal & Inline Flushing Cleanout	1	EA	\$ 1,750.00	\$ 1,750.00
Flow Meter Structure	1	LS		\$ 30,000.00
Service Wye (8-inch x 6-inch)	29	EA	\$ 500.00	\$ 14,500.00
6" Service Lateral (Open-cut)	750	LF	\$ 50.00	\$ 37,500.00
6" Service Lateral (Bored)	60	LF	\$ 75.00	\$ 4,500.00
Lift Station	1	LS		\$ 230,000.00
Grinder Pump Stations (10' Deep)	2	EA	\$ 6,000.00	\$ 12,000.00
Granular Backfill	600	CY	\$ 35.00	\$ 21,000.00
Asphalt Pavement Replacement	100	SY	\$ 70.00	\$ 7,000.00
Asphalt Driveway Repair	25	SY	\$ 70.00	\$ 1,750.00
Stone Driveway Repair	100	SY	\$ 20.00	\$ 2,000.00
Adams County Highway Cut Permit	1	LS		\$ 15,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 20,000.00
Final Grading & Seeding	1	LS		\$ 30,000.00
Erosion & Sediment Control	1	LS		\$ 20,000.00

Construction Cost	\$ 1,324,000.00
Contengency	\$ 132,000.00
Non-Construction Costs	\$ 145,000.00
TOTAL COSTS	\$ 1,601,000.00

*Non-Construction Costs are reduced due to design already complete

**RIVARE (BOBO) - LOW PRESSURE W/ FORCE MAIN TO DECATUR
OPTION 3**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 74,000
6" Force Main	17800	LF	\$ 30.00	\$ 534,000.00
2" Pressure Sewer Main	7800	LF	\$ 15.00	\$ 117,000.00
1-1/2" Service Lateral	5600	LF	\$ 15.00	\$ 84,000.00
Grinder Pump Station Connection	49	EA	\$ 500.00	\$ 24,500.00
1-1/2" Corp. Stop & Check Valve Assembly	49	EA	\$ 500.00	\$ 24,500.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
2" Isolation Valve	9	EA	\$ 500.00	\$ 4,500.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	8	EA	\$ 5,500.00	\$ 44,000.00
Terminal & Inline Flushing Cleanout	12	EA	\$ 1,750.00	\$ 21,000.00
Flow Meter Structure	1	LS		\$ 30,000.00
Lift Station	1	LS		\$ 230,000.00
Grinder Pump Stations (10' Deep)	49	EA	\$ 6,000.00	\$ 294,000.00
Adams County Highway Cut Permit	1	LS		\$ 10,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 20,000.00
Final Grading & Seeding	1	LS		\$ 30,000.00
Erosion & Sediment Control	1	LS		\$ 20,000.00

Construction Cost	\$	1,571,000.00
Contengency	\$	157,000.00
Non-Construction Costs	\$	432,000.00
TOTAL COSTS	\$	2,160,000.00

**BARRINGTON WOODS - GRAVITY W/ FORCE MAIN TO DECATUR
OPTION 1**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 45,600
8" PVC Gravity Sewer	5200	LF	\$ 50.00	\$ 260,000.00
4" Force Main	4300	LF	\$ 20.00	\$ 86,000.00
2" Pressure Sewer Main	900	LF	\$ 15.00	\$ 13,500.00
1-1/2" Service Lateral	900	LF	\$ 15.00	\$ 13,500.00
Grinder Pump Station Connection	4	EA	\$ 500.00	\$ 2,000.00
1-1/2" Corp. Stop & Check Valve Assembly	4	EA	\$ 500.00	\$ 2,000.00
Standard 48-inch Manhole	16	EA	\$ 5,000.00	\$ 80,000.00
Manhole Lining	2	LS	\$ 3,000.00	\$ 6,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	3	EA	\$ 5,500.00	\$ 16,500.00
Service Wye (8-inch x 6-inch)	31	EA	\$ 500.00	\$ 15,500.00
Terminal & Inline Flushing Cleanout	1	EA	\$ 1,750.00	\$ 1,750.00
Flow Meter Structure	1	LS		\$ 30,000.00
6" Service Lateral (Open-cut)	880	LF	\$ 50.00	\$ 44,000.00
Lift Station	1	LS		\$ 200,000.00
Grinder Pump Stations (10' Deep)	4	EA	\$ 6,000.00	\$ 24,000.00
Granular Backfill	1300	CY	\$ 35.00	\$ 45,500.00
Asphalt Pavement Replacement	50	SY	\$ 70.00	\$ 3,500.00
Asphalt Driveway Repair	25	SY	\$ 70.00	\$ 1,750.00
Stone Driveway Repair	100	SY	\$ 20.00	\$ 2,000.00
Concrete Driveway Repair	20	SY	\$ 120.00	\$ 2,400.00
Adams County Highway Cut Permit	1	LS		\$ 15,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 15,000.00
Final Grading & Seeding	1	LS		\$ 25,000.00
Erosion & Sediment Control	1	LS		\$ 15,000.00

Construction Cost	\$	972,000.00
Contengency	\$	97,000.00
Non-Construction Costs	\$	267,000.00
TOTAL COSTS	\$	1,336,000.00

**BARRINGTON WOODS - GRAVITY - LOW PRESSURE W/ FORCE MAIN TO DECATUR
OPTION 2**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 44,850
8" PVC Gravity Sewer	3800	LF	\$ 50.00	\$ 190,000.00
4" Force Main	4300	LF	\$ 20.00	\$ 86,000.00
2" Pressure Sewer Main	2400	LF	\$ 15.00	\$ 36,000.00
1-1/2" Service Lateral	2700	LF	\$ 15.00	\$ 40,500.00
Grinder Pump Station Connection	9	EA	\$ 500.00	\$ 4,500.00
1-1/2" Corp. Stop & Check Valve Assembly	9	EA	\$ 500.00	\$ 4,500.00
Standard 48-inch Manhole	12	EA	\$ 5,000.00	\$ 60,000.00
Manhole Lining	2	LS	\$ 3,000.00	\$ 6,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	3	EA	\$ 5,500.00	\$ 16,500.00
Terminal & Inline Flushing Cleanout	2	EA	\$ 1,750.00	\$ 3,500.00
Flow Meter Structure	1	LS		\$ 30,000.00
Service Wye (8-inch x 6-inch)	26	EA	\$ 500.00	\$ 13,000.00
6" Service Lateral (Open-cut)	750	LF	\$ 50.00	\$ 37,500.00
Lift Station	1	LS		\$ 200,000.00
Grinder Pump Stations (10' Deep)	9	EA	\$ 6,000.00	\$ 54,000.00
Granular Backfill	1200	CY	\$ 35.00	\$ 42,000.00
Asphalt Pavement Replacement	50	SY	\$ 70.00	\$ 3,500.00
Asphalt Driveway Repair	25	SY	\$ 70.00	\$ 1,750.00
Stone Driveway Repair	100	SY	\$ 20.00	\$ 2,000.00
Concrete Driveway Repair	20	SY	\$ 120.00	\$ 2,400.00
Adams County Highway Cut Permit	1	LS		\$ 15,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 15,000.00
Final Grading & Seeding	1	LS		\$ 20,000.00
Erosion & Sediment Control	1	LS		\$ 10,000.00

Construction Cost	\$	945,000.00
Contengency	\$	94,000.00
Non-Construction Costs	\$	259,000.00
TOTAL COSTS	\$	1,298,000.00

**BARRINGTON WOODS - LOW PRESSURE
OPTION 3**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 30,750
3" Pressure Sewer Main	2700	LF	\$ 20.00	\$ 54,000.00
2" Pressure Sewer Main	7000	LF	\$ 15.00	\$ 105,000.00
1-1/2" Service Lateral	6600	LF	\$ 15.00	\$ 99,000.00
Grinder Pump Station Connection	35	EA	\$ 500.00	\$ 17,500.00
1-1/2" Corp. Stop & Check Valve Assembly	35	EA	\$ 500.00	\$ 17,500.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	3	EA	\$ 5,500.00	\$ 16,500.00
Terminal & Inline Flushing Cleanout	7	EA	\$ 1,750.00	\$ 12,250.00
Flow Meter Structure	1	LS		\$ 30,000.00
Grinder Pump Stations (10' Deep)	35	EA	\$ 6,000.00	\$ 210,000.00
Adams County Highway Cut Permit	1	LS		\$ 10,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 15,000.00
Final Grading & Seeding	1	LS		\$ 20,000.00
Erosion & Sediment Control	1	LS		\$ 10,000.00

Construction Cost	\$	657,000.00
Contengency	\$	65,000.00
Non-Construction Costs	\$	180,000.00
TOTAL COSTS	\$	902,000.00

**PREBLE - GRAVITY W/ FORCE MAIN TO DECATUR
OPTION 1**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 83,400
8" PVC Gravity Sewer	7150	LF	\$ 50.00	\$ 357,500.00
8" Highway Crossing	60	LF	\$ 250.00	\$ 15,000.00
6" Force Main	20800	LF	\$ 30.00	\$ 624,000.00
Standard 48-inch Manhole	25	EA	\$ 5,000.00	\$ 125,000.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	5	EA	\$ 5,500.00	\$ 27,500.00
Flow Meter Structure	1	LS		\$ 30,000.00
Service Wye (8-inch x 6-inch)	59	EA	\$ 500.00	\$ 29,500.00
6" Service Lateral (Open-cut)	1000	LF	\$ 50.00	\$ 50,000.00
Lift Station	1	LS		\$ 230,000.00
Granular Backfill	2100	CY	\$ 35.00	\$ 73,500.00
Asphalt Pavement Replacement	120	SY	\$ 70.00	\$ 8,400.00
Asphalt Driveway Repair	30	SY	\$ 70.00	\$ 2,100.00
Stone Driveway Repair	680	SY	\$ 20.00	\$ 13,600.00
Adams County Highway Cut Permit	1	LS		\$ 5,000.00
Tree Removal	1	LS		\$ 10,000.00
Traffic Control	1	LS		\$ 20,000.00
Final Grading & Seeding	1	LS		\$ 30,000.00
Erosion & Sediment Control	1	LS		\$ 20,000.00

Construction Cost	\$ 1,759,000.00
Contengency	\$ 175,000.00
Non-Construction Costs	\$ 483,000.00
TOTAL COSTS	\$ 2,417,000.00

**PREBLE - GRAVITY - LOW PRESSURE W/ FORCE MAIN TO DECATUR
OPTION 2**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 80,150
8" PVC Gravity Sewer	2600	LF	\$ 50.00	\$ 130,000.00
8" Highway Crossing	60	LF	\$ 250.00	\$ 15,000.00
6" Force Main	20800	LF	\$ 30.00	\$ 624,000.00
2" Pressure Sewer Main	4700	LF	\$ 15.00	\$ 70,500.00
1-1/2" Service Lateral	3000	LF	\$ 15.00	\$ 45,000.00
Grinder Pump Station Connection	37	EA	\$ 500.00	\$ 18,500.00
1-1/2" Corp. Stop & Check Valve Assembly	37	EA	\$ 500.00	\$ 18,500.00
Standard 48-inch Manhole	12	EA	\$ 5,000.00	\$ 60,000.00
Manhole Lining	3	LS	\$ 3,000.00	\$ 9,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	7	EA	\$ 5,500.00	\$ 38,500.00
Flow Meter Structure	1	LS		\$ 30,000.00
Terminal & Inline Flushing Cleanout	3	EA	\$ 1,750.00	\$ 5,250.00
Service Wye (8-inch x 6-inch)	37	EA	\$ 500.00	\$ 18,500.00
6" Service Lateral (Open-cut)	600	LF	\$ 50.00	\$ 30,000.00
Lift Station	1	LS		\$ 230,000.00
Grinder Pump Stations (10' Deep)	15	EA	\$ 6,000.00	\$ 90,000.00
Granular Backfill	2100	CY	\$ 35.00	\$ 73,500.00
Asphalt Pavement Replacement	120	SY	\$ 70.00	\$ 8,400.00
Asphalt Driveway Repair	30	SY	\$ 70.00	\$ 2,100.00
Stone Driveway Repair	680	SY	\$ 20.00	\$ 13,600.00
Adams County Highway Cut Permit	1	LS		\$ 5,000.00
Tree Removal	1	LS		\$ 10,000.00
Traffic Control	1	LS		\$ 20,000.00
Final Grading & Seeding	1	LS		\$ 30,000.00
Erosion & Sediment Control	1	LS		\$ 20,000.00

	\$ 1,697,000.00
Contengency	\$ 169,000.00
Non-Construction Costs	\$ 466,000.00
TOTAL COSTS	\$ 2,332,000.00

**PREBLE - GRAVITY - LOW PRESSURE W/ FORCE MAIN TO DECATUR
OPTION 3**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up		LS		\$ 74,100
6" Force Main	20800	LF	\$ 30.00	\$ 624,000.00
2" Pressure Sewer Main	7210	LF	\$ 15.00	\$ 108,150.00
1-1/2" Service Lateral	5550	LF	\$ 15.00	\$ 83,250.00
Grinder Pump Station Connection	37	EA	\$ 500.00	\$ 18,500.00
1-1/2" Corp. Stop & Check Valve Assembly	37	EA	\$ 500.00	\$ 18,500.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
2" Isolation Valve	6	EA	\$ 500.00	\$ 3,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	8	EA	\$ 5,500.00	\$ 44,000.00
Flow Meter Structure	1	LS		\$ 30,000.00
Terminal & Inline Flushing Cleanout	8	EA	\$ 1,750.00	\$ 14,000.00
Lift Station	1	LS		\$ 230,000.00
Grinder Pump Stations (10' Deep)	37	EA	\$ 6,000.00	\$ 222,000.00
Adams County Highway Cut Permit	1	LS		\$ 5,000.00
Tree Removal	1	LS		\$ 10,000.00
Traffic Control	1	LS		\$ 20,000.00
Final Grading & Seeding	1	LS		\$ 30,000.00
Erosion & Sediment Control	1	LS		\$ 20,000.00

	\$ 1,559,000.00
Contingency	\$ 155,000.00
Non-Construction Costs	\$ 428,000.00
TOTAL COSTS	\$ 2,142,000.00

**PETERSON - GRAVITY W/ FORCE MAIN TO PREBLE
OPTION 1**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 40,400
8" PVC Gravity Sewer	3600	LF	\$ 50.00	\$ 180,000.00
4" Force Main	5600	LF	\$ 20.00	\$ 112,000.00
1-1/2" Service Lateral	1000	LF	\$ 15.00	\$ 15,000.00
Grinder Pump Station Connection	8	EA	\$ 500.00	\$ 4,000.00
1-1/2" Corp. Stop & Check Valve Assembly	8	EA	\$ 500.00	\$ 4,000.00
Standard 48-inch Manhole	10	EA	\$ 5,000.00	\$ 50,000.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	3	EA	\$ 5,500.00	\$ 16,500.00
Service Wye (8-inch x 6-inch)	24	EA	\$ 500.00	\$ 12,000.00
6" Service Lateral (Open-cut)	800	LF	\$ 50.00	\$ 40,000.00
Lift Station	1	LS		\$ 200,000.00
Grinder Pump Stations (10' Deep)	8	EA	\$ 6,000.00	\$ 48,000.00
Granular Backfill	1100	CY	\$ 35.00	\$ 38,500.00
Asphalt Pavement Replacement	260	SY	\$ 70.00	\$ 18,200.00
Asphalt Driveway Repair	10	SY	\$ 70.00	\$ 700.00
Stone Driveway Repair	160	SY	\$ 20.00	\$ 3,200.00
Adams County Highway Cut Permit	1	LS		\$ 15,000.00
Tree Removal	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 15,000.00
Final Grading & Seeding	1	LS		\$ 20,000.00
Erosion & Sediment Control	1	LS		\$ 10,000.00

Construction Cost	\$ 852,000.00
Contengency	\$ 85,000.00
Non-Construction Costs	\$ 234,000.00
TOTAL COSTS	\$ 1,171,000.00

**PETERSON - LOW PRESSURE
OPTION 2**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 24,250
3" Pressure Sewer Main	2900	LF	\$ 20.00	\$ 58,000.00
2" Pressure Sewer Main	6400	LF	\$ 15.00	\$ 96,000.00
1-1/2" Service Lateral	3400	LF	\$ 15.00	\$ 51,000.00
Grinder Pump Station Connection	27	EA	\$ 500.00	\$ 13,500.00
1-1/2" Corp. Stop & Check Valve Assembly	27	EA	\$ 500.00	\$ 13,500.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
2" Isolation Valve	2	EA	\$ 500.00	\$ 1,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	4	EA	\$ 5,500.00	\$ 22,000.00
Terminal & Inline Flushing Cleanout	11	EA	\$ 1,750.00	\$ 19,250.00
Grinder Pump Stations (10' Deep)	27	EA	\$ 6,000.00	\$ 162,000.00
Adams County Highway Cut Permit	1	LS		\$ 10,000.00
Traffic Control	1	LS		\$ 10,000.00
Final Grading & Seeding	1	LS		\$ 15,000.00
Erosion & Sediment Control	1	LS		\$ 10,000.00

Construction Cost	\$	510,000.00
Contengency	\$	51,000.00
Non-Construction Costs	\$	140,000.00
TOTAL COSTS	\$	701,000.00

**MONMOUTH EXTENDED - LOW PRESSURE
OPTION 1**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 23,050
3" Pressure Sewer Main	2900	LF	\$ 18.00	\$ 52,200.00
2" Pressure Sewer Main	4300	LF	\$ 15.00	\$ 64,500.00
1-1/2" Service Lateral	4600	LF	\$ 15.00	\$ 69,000.00
Grinder Pump Station Connection	30	EA	\$ 500.00	\$ 15,000.00
1-1/2" Corp. Stop & Check Valve Assembly	30	EA	\$ 500.00	\$ 15,000.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
2" Isolation Valve	1	EA	\$ 500.00	\$ 500.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	5	EA	\$ 5,500.00	\$ 27,500.00
Terminal & Inline Flushing Cleanout	9	EA	\$ 1,750.00	\$ 15,750.00
Grinder Pump Stations (10' Deep)	30	EA	\$ 6,000.00	\$ 180,000.00
Adams County Highway Cut Permit	1	LS		\$ 5,000.00
Traffic Control	1	LS		\$ 5,000.00
Final Grading & Seeding	1	LS		\$ 15,000.00
Erosion & Sediment Control	1	LS		\$ 5,000.00

Construction Cost	\$ 497,000.00
Contengency	\$ 49,000.00
Non-Construction Costs	\$ 136,000.00
TOTAL COSTS	\$ 682,000.00

**CLEM LAKE - LOW PRESSURE
OPTION 1**

DESCRIPTION	QTY.	UNIT	UNIT PRICE (IN FIGURES)	TOTAL PRICE (IN FIGURES)
Mobilization, Bonds & Start-Up	1	LS		\$ 33,700
3" Pressure Sewer Main	5100	LF	\$ 18.00	\$ 91,800.00
2" Pressure Sewer Main	6200	LF	\$ 15.00	\$ 93,000.00
1-1/2" Service Lateral	6300	LF	\$ 15.00	\$ 94,500.00
Grinder Pump Station Connection	42	EA	\$ 500.00	\$ 21,000.00
1-1/2" Corp. Stop & Check Valve Assembly	42	EA	\$ 500.00	\$ 21,000.00
Existing Manhole Lining	1	LS	\$ 3,000.00	\$ 3,000.00
2" Isolation Valve	2	EA	\$ 500.00	\$ 1,000.00
Manhole Connection	1	EA	\$ 1,500.00	\$ 1,500.00
Air Release Manhole	5	EA	\$ 5,500.00	\$ 27,500.00
Terminal & Inline Flushing Cleanout	16	EA	\$ 1,750.00	\$ 28,000.00
Grinder Pump Stations (10' Deep)	42	EA	\$ 6,000.00	\$ 252,000.00
Adams County Highway Cut Permit	1	LS		\$ 7,000.00
Traffic Control	1	LS		\$ 5,000.00
Final Grading & Seeding	1	LS		\$ 20,000.00
Erosion & Sediment Control	1	LS		\$ 7,000.00

Construction Cost	\$ 707,000.00
Contengency	\$ 70,000.00
Non-Construction Costs	\$ 194,000.00
TOTAL COSTS	\$ 971,000.00

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Linn Grove - Option 1

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 10,000	\$ 150,160
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Flow Meter & Controls	0.565	\$ 12,000	\$ 6,774
20	LS Control Replacement	0.565	\$ 10,000	\$ 5,645
20	salvage value #3	-0.565	\$ 1,084,500	\$ (612,241)
	(This may be a negative value)		TOTAL Present Value	\$ (449,661)

August, 2018

Total Project cost = \$ 2,711,000

Present worth is = Project cost + Total Present Value \$ 2,261,339

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 2,169,000	40	20	\$ 1,084,500

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Linn Grove - Option 2

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 10,000	\$ 150,160
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Flow Meter & Controls	0.565	\$ 12,000	\$ 6,774
20	LS Control Replacement	0.565	\$ 10,000	\$ 5,645
20	salvage value #3	-0.565	\$ 1,155,500	\$ (652,323)
	(This may be a negative value)		TOTAL Present Value	\$ (489,743)

August, 2018

Total Project cost = \$ 2,888,000

Present worth is = Project cost + Total Present Value \$ 2,398,257

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 2,311,000	40	20	\$ 1,155,500

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Linn Grove - Option 3

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 15,000	\$ 225,239
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Replace LS Controls	0.565	\$ 5,000	\$ 2,823
20	Replace LS Pumps	0.565	\$ 8,000	\$ 4,516
20	Replace GPS Controls (50)	0.565	\$ 25,000	\$ 14,113
20	Replace GP (50)	0.565	\$ 154,000	\$ 86,939
20	salvage value #3	-0.565	\$ 1,061,500	\$ (599,256)
	(This may be a negative value)		TOTAL Present Value	\$ (265,626)

August, 2018

Total Project cost = \$ 2,653,000

Present worth is = Project cost + Total Present Value \$ 2,387,374

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 2,123,000	40	20	\$ 1,061,500

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Rivare - Option 1

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 15,000	\$ 225,239
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Flow Meter & Controls	0.565	\$ 12,000	\$ 6,774
20	LS Control Replacement	0.565	\$ 10,000	\$ 5,645
20	Replace GPS Controls (26)	0.565	\$ 13,000	\$ 7,339
20	Replace GP (26)	0.565	\$ 57,200	\$ 32,292
20	salvage value #3	-0.565	\$ 921,500	\$ (520,221)
	(This may be a negative value)		TOTAL Present Value	\$ (242,931)

August, 2018

Total Project cost = \$ 2,119,000

Present worth is = Project cost + Total Present Value \$ 1,876,069

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 1,843,000	40	20	\$ 921,500

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Rivare - Option 2

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 10,000	\$ 150,160
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Flow Meter & Controls	0.565	\$ 12,000	\$ 6,774
20	LS Control Replacement	0.565	\$ 10,000	\$ 5,645
20	Replace GPS Controls (2)	0.565	\$ 1,000	\$ 565
20	Replace GP (2)	0.565	\$ 4,400	\$ 2,484
20	salvage value #3	-0.565	\$ 728,000	\$ (410,983)

	(This may be a negative value)	TOTAL Present Value	\$ (245,355)
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August, 2018

Total Project cost = \$ 1,601,000

Present worth is = Project cost + Total Present Value **\$ 1,355,645**

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015 **2.9%**

#2. Explain each item in great detail on a separate sheet, do not lump items together. Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations. Use straight line depreciation. The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years
Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 1,456,000	40	20	\$ 728,000

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Rivare - Option 3

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 15,000	\$ 225,239
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Flow Meter & Controls	0.565	\$ 12,000	\$ 6,774
20	LS Control Replacement	0.565	\$ 10,000	\$ 5,645
20	Replace GPS Controls (49)	0.565	\$ 24,500	\$ 13,831
20	Replace GP (49)	0.565	\$ 107,800	\$ 60,857
20	salvage value #3	-0.565	\$ 864,000	\$ (487,760)
	(This may be a negative value)		TOTAL Present Value	\$ (175,413)

August, 2018

Total Project cost = \$ 2,160,000

Present worth is = Project cost + Total Present Value \$ 1,984,587

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015 **2.9%**

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 1,728,000	40	20	\$ 864,000

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Barrington Woods - Option 1

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 10,000	\$ 150,160
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Flow Meter & Controls	0.565	\$ 12,000	\$ 6,774
20	Replace LS Controls	0.565	\$ 10,000	\$ 5,645
20	Replace LS Pump	0.565	\$ 8,000	\$ 4,516
20	Replace GPS Controls (4)	0.565	\$ 2,000	\$ 1,129
20	Replace GP (4)	0.565	\$ 8,800	\$ 4,968
20	salvage value #3	-0.565	\$ 534,500	\$ (301,745)
	(This may be a negative value)		TOTAL Present Value	\$ (128,552)

August, 2018

Total Project cost = \$ 1,336,000

Present worth is = Project cost + Total Present Value \$ 1,207,448

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 1,069,000	40	20	\$ 534,500

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Barrington Woods - Option 2

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 10,000	\$ 150,160
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.942		\$ -
6		0.842		\$ -
7		0.920		\$ -
8		0.796		\$ -
9		0.898		\$ -
10		0.751		\$ -
11		0.877		\$ -
12		0.710		\$ -
13		0.856		\$ -
14		0.670		\$ -
15		0.836		\$ -
16		0.633		\$ -
17		0.816		\$ -
18		0.598		\$ -
19		0.797		\$ -
20	Flow Meter & Controls	0.565	\$ 12,000	\$ 6,774
20	Replace LS Controls	0.565	\$ 10,000	\$ 5,645
20	Replace LS Pump	0.565	\$ 8,000	\$ 4,516
20	Replace GPS Controls (9)	0.565	\$ 4,500	\$ 2,540
20	Replace GP (9)	0.565	\$ 19,800	\$ 11,178
20	salvage value #3	-0.565	\$ 519,500	\$ (293,277)
	(This may be a negative value)		TOTAL Present Value	\$ (112,463)

August, 2018

Total Project cost = \$ 1,298,000

Present worth is = Project cost + Total Present Value \$ 1,185,537

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 1,039,000	40	20	\$ 519,500

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Barrington Woods - Option 3

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 5,000	\$ 75,080
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Replace GPS Controls (35)	0.565	\$ 17,500	\$ 9,879
20	Replace GP (35)	0.565	\$ 77,000	\$ 43,469
20	salvage value #3	-0.565	\$ 361,000	\$ (203,798)
	(This may be a negative value)		TOTAL Present Value	\$ (75,369)

August, 2018

Total Project cost = \$ 902,000

Present worth is = Project cost + Total Present Value \$ 826,631

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015 2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 722,000	40	20	\$ 361,000

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Preble - Option 1

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 10,000	\$ 150,160
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.942		\$ -
6		0.842		\$ -
7		0.920		\$ -
8		0.796		\$ -
9		0.898		\$ -
10		0.751		\$ -
11		0.877		\$ -
12		0.710		\$ -
13		0.856		\$ -
14		0.670		\$ -
15		0.836		\$ -
16		0.633		\$ -
17		0.816		\$ -
18		0.598		\$ -
19		0.797		\$ -
20	Flow Meter & Controls	1.000	\$ 12,000	\$ 12,000
20	LS Control Replacement	1.000	\$ 10,000	\$ 10,000
20	salvage value #3	-0.565	\$ 967,000	\$ (545,907)
	(This may be a negative value)		TOTAL Present Value	\$ (373,748)

August, 2018

Total Project cost = \$ 2,417,000

Present worth is = Project cost + Total Present Value \$ 2,043,252

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 1,934,000	40	20	\$ 967,000

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Preble - Option 2

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 15,000	\$ 225,239
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Flow Meter & Controls	0.565	\$ 12,000	\$ 6,774
20	LS Control Replacement	0.565	\$ 10,000	\$ 5,645
20	Replace GPS Controls (15)	0.565	\$ 7,500	\$ 4,234
20	Replace GP (15)	0.565	\$ 33,000	\$ 18,630
20	salvage value #3	-0.565	\$ 933,000	\$ (526,713)
	(This may be a negative value)		TOTAL Present Value	\$ (266,190)

August, 2018

Total Project cost = \$ 2,332,000

Present worth is = Project cost + Total Present Value \$ 2,065,810

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 1,866,000	40	20	\$ 933,000

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Preble - Option 3

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 15,000	\$ 225,239
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Flow Meter & Controls	0.565	\$ 12,000	\$ 6,774
20	LS Control Replacement	0.565	\$ 10,000	\$ 5,645
20	Replace GPS Controls (37)	0.565	\$ 18,500	\$ 10,444
20	Replace GP (37)	0.565	\$ 81,400	\$ 45,953
20	salvage value #3	-0.565	\$ 857,000	\$ (483,808)
	(This may be a negative value)		TOTAL Present Value	\$ (189,752)

August, 2018

Total Project cost = \$ 2,142,000

Present worth is = Project cost + Total Present Value \$ 1,952,248

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015 2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 1,714,000	40	20	\$ 857,000

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Peterson - Option 1

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 10,000	\$ 150,160
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Replace LS Controls	0.565	\$ 10,000	\$ 5,645
20	Replace LS Pump	0.565	\$ 8,000	\$ 4,516
20	Replace GPS Controls (8)	0.565	\$ 4,000	\$ 2,258
20	Replace GP (8)	0.565	\$ 17,600	\$ 9,936
20	salvage value #3	-0.565	\$ 468,500	\$ (264,486)
	(This may be a negative value)		TOTAL Present Value	\$ (91,970)

August, 2018

Total Project cost = \$ 1,171,000

Present worth is = Project cost + Total Present Value \$ 1,079,030

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 937,000	40	20	\$ 468,500

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Peterson - Option 2

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 5,000	\$ 75,080
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Replace GPS Controls (27)	0.565	\$ 13,500	\$ 7,621
20	Replace GP (27)	0.565	\$ 59,400	\$ 33,534
20	salvage value #3	-0.565	\$ 280,500	\$ (158,353)
	(This may be a negative value)		TOTAL Present Value	\$ (42,118)

August, 2018

Total Project cost = \$ 701,000

Present worth is = Project cost + Total Present Value \$ 658,882

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 561,000	40	20	\$ 280,500

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Monmouth Extended

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 5,000	\$ 75,080
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Replace GPS Controls (30)	0.565	\$ 15,000	\$ 8,468
20	Replace GP (30)	0.565	\$ 66,000	\$ 37,259
20	salvage value #3	-0.565	\$ 273,000	\$ (154,119)
	(This may be a negative value)		TOTAL Present Value	\$ (33,311)

August, 2018

Total Project cost = \$ 682,000

Present worth is = Project cost + Total Present Value \$ 648,689

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 546,000	40	20	\$ 273,000

Life Cycle Cost Calculation

Project name: ACRSD 2018

Alternative: Clem's Lake

Year of repair replacement	Item / event #2	2014 Federal discount rate conversion factor #1	Cost of event in todays dollars	Present value
1	Annual O&M Costs	15.016	\$ 5,000	\$ 75,080
1		0.972		\$ -
2		0.944		\$ -
3		0.918		\$ -
4		0.892		\$ -
5		0.867		\$ -
6		0.842		\$ -
7		0.819		\$ -
8		0.796		\$ -
9		0.773		\$ -
10		0.751		\$ -
11		0.730		\$ -
12		0.710		\$ -
13		0.690		\$ -
14		0.670		\$ -
15		0.651		\$ -
16		0.633		\$ -
17		0.615		\$ -
18		0.598		\$ -
19		0.581		\$ -
20	Replace GPS Controls (42)	0.565	\$ 21,000	\$ 11,855
20	Replace GP (42)	0.565	\$ 92,400	\$ 52,163
20	salvage value #3	-0.565	\$ 388,500	\$ (219,323)
	(This may be a negative value)		TOTAL Present Value	\$ (80,224)

August, 2018

Total Project cost = \$ 971,000

Present worth is = Project cost + Total Present Value \$ 890,776

The O&M costs are the annual recurring cost for 20 years, the rate conversion factor is for uniform present value (UPV)

$$UPV = \text{Cost} \times \frac{(1+i)^n - 1}{i(1+i)^n}$$

n=20
i=interest rate

The conversion factor for present value of a cost that occurs in a specific year (SPV)

$$SPV = \text{Cost} \times \frac{1}{(1+i)^n}$$

n=year
i=interest rate

#1. The Federal discount interest rate from OMB Circular A94 for 2015

2.9%

#2. Explain each item in great detail on a separate sheet, do not lump items together
Supporting documentation may be requested on the life and cost of each item.

#3. Salvage value in the present worth calculations.

Use straight line depreciation.

The salvage value is subtracted from the other present values to obtain the total present value.

Assumed life of the project is 40 years

Construction cost is the cost to construct the system not including the engineering, legal, contingency, interest, and other non construction costs.

construction cost	useful life	years remaining	Value
\$ 777,000	40	20	\$ 388,500



Appendix “E”

Historical Documentation

**2018 Sanitary Sewer Improvements
Preliminary Engineering Report
(PER)
For The
Adams County Regional Sewer District
Adams County, Indiana**

IHSSI (County Survey)

Survey Number: 001-155-05023

Rating: Contributing

Historic Name: Reynolds Cemetery

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Root	Decatur

Address: 7900 Winchester Road

City: -

Location Notes: 0.5 miles north of County Road 750 North

Coordinates

Easting	Northing
671891	4525333

Common Name: -

Category: Site

Visible?:

Historic District?:

Historic District Name: -

Ownership: public-local

Use: Present

Residence:

Commercial:

Vacant:

Other:

Describe: Cemetery

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Describe: Cemetery

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic Landmark:

Local Designation:

Protective Covenants:

Other:

Areas of Significance: RELIGION

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 1

Environment: Rural

Bibliography: From 1994 Survey:
Plat map of 1876, Nola Pains; C. Allen Lehman

Structure Type

Bridge:

Cemetery:

Cemetery Registry Number: CR-01-43

Other:

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Time Period(s): c. 1837-c. 1955

Condition: Good

Integrity: Slightly Altered

Alterations: -

Approximate Number of
Stones: -

Date of Earliest Burial: -

Most Recent Burials: -

Associated With: -

Fence or Enclosure: -

Landscape Features: -

Prominent Names: -

Grouped Burials: -

Arrangement of Stones: -

Type of Stone: -

Ethnic Significance: -

Artistic Value: -

Statement of Significance: Good integrity

Architectural Description: From 1994 Survey:

c. 1840-1961

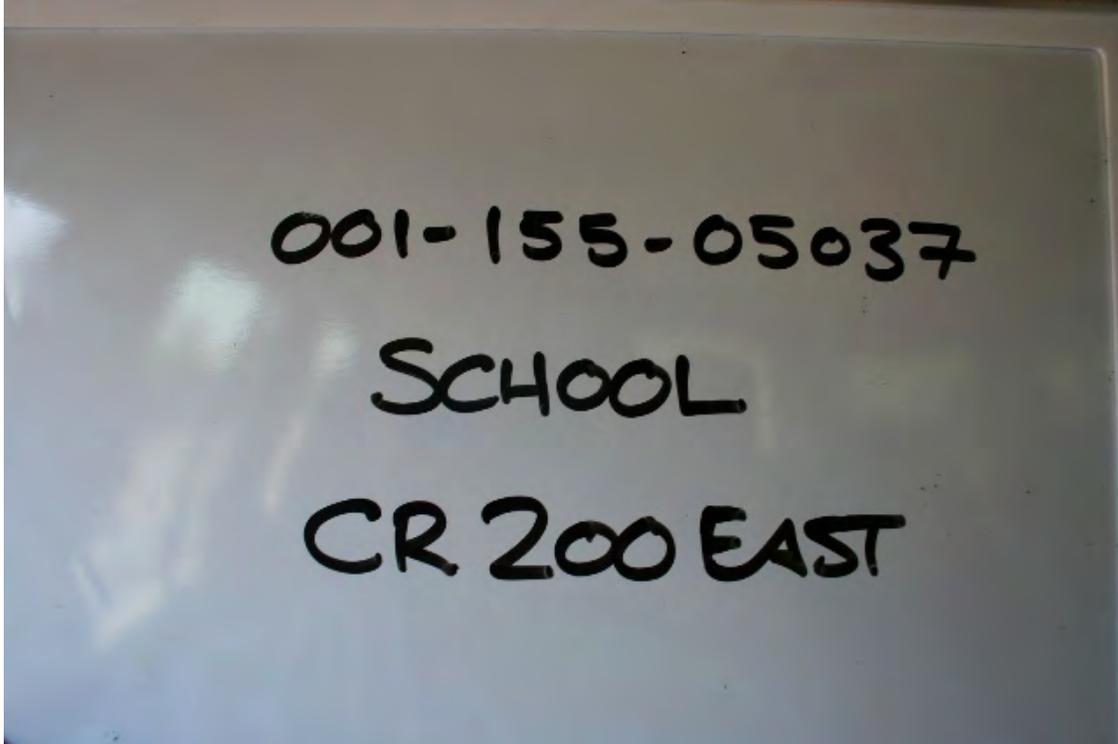
Markers removed

A rural cemetery along the St. Mary's river, accessible down an unpaved lane. It is surprisingly large, includes picket fences around burial sites. Names include Spangler, Reynolds, Mangold, Merryman, Sheets, Baker, Archbold, Heller- primarily Yankee names-all early settlers.

It is a beautiful wooded site, but adjacent to a large concrete factory. Part of the cemetery is grown over. Off the Winchester Road, aka the Old Quaker Trail, early route to Randolph County.

There are two Revolutionary War Veterans buried in Adams County and one of them is here.

IHSSI (County Survey)



Survey Number: 001-155-05037

Rating: Contributing

Historic Name: Root Township Number 1 School,
Dent School

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Root	Decatur

Address: County Road 200 East

City: -

Location Notes: At corner with County Road 700 North

Coordinates

Easting	Northing
677045	4523970

Common Name: From 1994 Survey: Sharon and Jerry Norman

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Describe: School

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: ARCHITECTURE,
EDUCATION

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing
Resources: 1

Number of
Non-
contributing
Resources: 1

Environment: Rural/Outskirts of Decatur

Bibliography: From 1994 Survey:

"Monmouth Students Detail Root Township History" Decatur Daily Democrat, Aug. 27, 1960; Heller, Dick D. The 1979 History of Adams County Indiana Vol I, Dallas Texas: Taylor 1980

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1894

Condition: Fair

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: Romanesque

Type/Vernacular: 1 1/2 New England Cottage

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
 Other:

Additions

Siding: Wings:
 Other:
 Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
 Other:

Plan

Rectangular: Polygonal:
 L: T: X: U:
 Irregular: Other:

Depth

Single-Pile: Double-Pile:
 Irregular/Massed: Other:

Number of Bays: 2**Foundation:** STONE**Foundation Description:** -**Walls Description:** Corbeled cornice, side wing**Other Walls:** -**Roof**

Side-Gable: Front-Gable: Cross-Gable:
 Hip: Pyramidal: Mansard:
 Other:

Material: STONE: Slate

Features: Base of bell tower

Porches

Front: Side: Back:

Notes: -

Openings: Metal sliding single light

Interior: -

Outbuildings: Shed

Notes: Non-Contributing modern construction shed

Statement of Significance: School with good integrity

Architectural Description: From 1994 Survey:
 1894
 Romanesque Revival
 Bell tower, original door sashes removed
 Door sashes replacement
 Garage with breezeway additions
 1 story
 Rectangular and additions
 Coursed ashlar, rock face foundation
 Brick running bond with corbelling
 Intersecting gable wide slope slate
 Original recessed round arch entries, infilled, small porch on wrought iron posts on breezeway
 Door on infilled corner entry and breezeway, 3 ranked facade on side
 1/1 2 levels
 Attached garage
 Significant for architecture and education, township school, larger, than usual, nameplate mounted on bell tower: Root Tp. Dist. No. 1 1894, Isaac Brown Trustee
 This school replaced an earlier school, also called Dent School, which was the first brick school in the county. Built in 1872 by Trustee John Cristen Senior it cost \$500

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IHSSI (County Survey)



Survey Number: 001-155-05038

Rating: Contributing

Historic Name: Commercial Block

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Root	Decatur

Address: County Road East

City: -

Location Notes: 0.05 miles south of County Road 700 North

Coordinates

Easting	Northing
677046	4523925

Common Name: From 1994 Survey: David Ellsworth

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**National Register: State Register: Hoosier Homestead: National Historic
Landmark: Local Designation: Protective
Covenants: Other: Areas of Significance: ARCHITECTURE,
COMMERCE

Other Significance: -

Endangered: Yes

Explanation: Vacant, deteriorating

Number of
Contributing
Resources: 1Number of
Non-
contributing
Resources: 0

Environment: Rural

Bibliography: -

Structure TypeBridge: Cemetery: Other:

Time Period(s): c. 1930

Condition: Deteriorated

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: Other

Type/Vernacular: -

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
 Other:

Additions

Siding: Wings:
 Other:
 Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
 Other:

Plan

Rectangular: Polygonal:
 L: T: X: U:
 Irregular: Other:

Depth

Single-Pile: Double-Pile:
 Irregular/Massed: Other:

Number of Bays: 2**Foundation:** CONCRETE**Foundation Description:** -**Walls Description:** (facade), glazed tile**Other Walls:** -**Roof**

Side-Gable: Front-Gable: Cross-Gable:
 Hip: Pyramidal: Mansard:
 Other:

Material: ASPHALT

Features: Hip roof dormers, exposed rafter tails, brick chimney

Porches

Front: Side: Back:

Notes: -

Openings: Wood 1/1 double hung, wood single light fixed, wood 4/1 double hung

Interior: -

Outbuildings: -

Notes: -

Statement of Significance: Commercial building with good integrity

Architectural Description: Type/Style: Craftsman

From 1994 Survey:

c. 1930

Craftsman

1.5 stories

Rectangular plan

Concrete and tile block

Brick front facade, running bond, tile block side walls

Low pitch hip and round with 3 hip dormers, asphalt slate

Wide, overhanging shed roof

Center door with side lights, two 1 light show room windows, 10 ranked side facades, 2 doors, 4/1 double hung sash craftsman windows

Privy, junked cars

Significant for architecture and commerce

IHSSI (County Survey)

Survey Number: 001-280-05028

Rating: Notable

Historic Name: John Christian, Senior Farm

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Root	Hoagland

Address: 9100 North County Road 00

City: -

Location Notes: -

Coordinates

Easting	Northing
673708	4527212

Common Name: From 1994 Survey: Mrs. Ferd Christen

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: AGRICULTURE,
ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing 3
Resources:

Number of
Non-
contributing 5
Resources:

Environment: Rural

Bibliography: From 1994 Survey:
1876 plat map of Root Township; Maps of Indiana Counties in 1876, reprint Indiana
Historical Society, Indianapolis 1968; Heller, Dick D. The 1979 History of Adams
County Indiana Vol I, Dallas Texas: Taylor 1979; Tyndall, John W. and D.E. Lesh,
Standard History of Adams and Wells Counties Indiana Vol II Chicago and NY Lewis
Publishing 1918

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1875
 Condition: Good
 Year Demolished: -
 Integrity: Slightly Altered
 Date Moved: -
 Alterations: -
 Style: Italianate
 Type/Vernacular: -

Architect/Builder	Architectural Firm	Affiliation
-------------------	--------------------	-------------

-	-	-
---	---	---

Replacement

Windows: Roof:
 Other:

Additions

Siding: Wings:
 Other:
 Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
 Other:

Plan

Rectangular: Polygonal:
 L: T: X: U:
 Irregular: Other:

Depth

Single-Pile: Double-Pile:
 Irregular/Massed: Other:

Number of Bays: 2

Foundation: UNKNOWN

Foundation Description: -

Walls Description: Running bond, cornice board with brackets and dentils, rear wing

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
 Hip: Pyramidal: Mansard:
 Other:
 Material: STONE: Slate
 Features: Brick chimney

Porches

Front: Side: Back:
 Notes: Flat roof, modern metal supports and cornice

Openings: Vinyl 1/1 double hung

Interior: -

Outbuildings: Bank/basement barn,
Garage,
Grain bin,
House,
Machine shed,
Smokehouse

Notes: House Non-Contributing; metal gable roof bank barn with vertical wood weatherboard; non-contributing altered garage and machine shed; brick smokehouse

Statement of Significance: Good integrity; notable as good example of brick Italianate style farm house; one of the best in Root Township

Architectural Description: From 1994 Survey:
 Hoosier Homestead
 1875
 Italianate
 John Christian Senior Builder
 Original porch removed
 Wrought iron rails and posts added
 Rear addition
 2 stories
 Rectangular plan
 Concrete covered, smooth ashlar water table
 Brick common bond walls
 Hip low pitch slate roof
 Full width porch with decorative wrought iron rails and balustrade above
 3 ranked front facade original 4/4 double hung sash windows 4 off center door,
 smooth ashlar lintels and sills, 3 ranked side facade with segmental arch
 Smokehouse, small house, banked barn, granary, c. 1920 garage
 Significant for architecture. Barn says 1850 for settlement 1876 atlas map gives
 as "J. Christen 40 acres".
 John Christen Senior and Elizabeth Schaas came from Canton Berne Switzerland
 in 1850, originally living in a log house. The house has stayed in the same family
 going to John Junior, Edward S. and Ferd E.
 The Christens have been Adams County contractors and builders for several
 generations. John Senior built the Dent School and several others. A building of
 Charles N. Christian, a grandson, list building built under Christen and Mann,
 Christen and Co. in the 1918 history.

IHSSI (County Survey)

Survey Number: 001-280-05030

Rating: Contributing

Historic Name: Alpha Cemetery,
Alpha Cemetery

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Root	Hoagland

Address: County Road 100 West

City: -

Location Notes: SW corner of County Road 100 East and County Road 900 North

Coordinates

Easting

Northing

675301

4527058

Common Name: -

Category: Site

Visible?:

Historic District?:

Historic District Name: -

Ownership: public-local

Use: Present

Residence:

Commercial:

Vacant:

Other:

Describe: Cemetery

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Describe: Cemetery

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: RELIGION

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing
Resources: 1

Number of
Non-
contributing
Resources: 0

Environment: Rural/Suburban

Bibliography: From 1994 Survey:

Paula Eliseo (neighbor); Abstract of Ads. Property, "Monmouth Students Detail Root Township History" Decatur Daily Democrat Aug 20 1960, Aug 30 1960; Heller, Dick D. The 1979 History of Adams County Indiana Vol I, Dallas Texas: Taylor 1979; Barton, Rev. N. Paul A Short History of Methodism on Bobo Charge, Decatur Journal Print 1899 (reprint)

Structure Type

Bridge:

Cemetery:

Cemetery Registry
Number: CR-01-39

Other:

Architect/Builder	Architectural Firm	Affiliation
-	-	-
Time Period(s): c. 1840-c. 1923		
Condition: Good		
Integrity: Unaltered		
Alterations: -		
Approximate Number of Stones: -		
Date of Earliest Burial: -		
Most Recent Burials: -		
Associated With: -		
Fence or Enclosure: -		
Landscape Features: -		
Prominent Names: -		
Grouped Burials: -		
Arrangement of Stones: -		
Type of Stone: -		
Ethnic Significance: -		
Artistic Value: -		
Statement of Significance: Good integrity		
Architectural Description: From 1994 Survey: c. 1840 Early burial cemetery, NW surrounded by suburban housing and dominated by 2 large as trees. Names include Broome, Cline, McConnety, Bell, Lenhart, Rice. Site of the first church in Root Township, originally log erected in 1840. About 23 years later a frame church was built, both called Alpha Methodist; earlier residents on north Adams County are buried here. "First Leaders" are listed as Benjamin Rice, JR Peoples, Isaiah Lewis, William Pillars. William Pillars had the land in 1836, sold to, Benjamin J. Rice in 1859. According to the abstract of adjacent property (South) the church was Methodist Episcopal. Originally one acres, it was later listed at 1.5 acres, according to local history this was on the corner of Sampson Rice's farm and David Rice tore the building down about 90 years after it was built c. 1953 and moved the pieces to his farm using it to build a barn. In 1892 Alpha was on a circuit with Mt Tabor, Pleasant Mills and Mount Pleasant.		
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IHSSI (County Survey)

Survey Number: 001-361-51001

Rating: Contributing

Historic Name: House

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: 6796 Water Street

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666352	4501154

Common Name: Denver Burns - 1995

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 0

Environment: Small town of Linn Grove, secondary street

Bibliography: 1995- Leonard Grandlinard

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1865

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: -

Type/Vernacular: Central passage

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 3

Foundation: STONE

Foundation Description: -

Walls Description: Composite shingle, rear wings

Other Walls: Composite

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: -

Porches

Front: Side: Back:

Notes: Half hip roof, turned post wood supports with brackets, spindled cornice, "picket" balustrade

Openings: Wood 1/1 double hung with crowns-pediments, vinyl 1/1 double hung

Interior: -

Outbuildings: -

Notes: -

Statement of Significance: Good integrity

Architectural Description: From 1995 Survey:
c. 1860
I-House with Italianate porch
West additions; garage
1.5 stories
Rectangular additions
Uncoursed rock facade ashlar foundation
Asbestos shingle walls

End gable roof, wide slope

3 bay center front porch, on turned posts with spindles, brackets, cutwork balustrade

5 bay front facade, 1 gable ends with 1/1 double hung sash, pointed lintels, symmetrical fenestration

Attached garage

Significant for architecture, very early house NE river, a similar house sits across the street, has recently been completely remodeled, including windows, walls and trim

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IHSSI (County Survey)

Survey Number: 001-361-51002

Rating: Contributing

Historic Name: House

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: 6788 Second Street

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666243	4501164

Common Name: Bill Kipfer - 1995

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:
 National Historic Landmark: Local Designation: Protective Covenants:
 Other:

Areas of Significance: ARCHITECTURE

Other Significance: -
 Endangered: No
 Explanation: -

Number of Contributing Resources: 1 Number of Non-contributing Resources: 1

Environment: Small town of Linn Grove, secondary street
 Bibliography: From 1995 Survey: Leonard Granduward

Structure Type

Bridge:
 Cemetery:
 Other:

Time Period(s): c. 1915
 Condition: Good
 Year Demolished: -
 Integrity: Severely Altered
 Date Moved: -
 Alterations: -
 Style: -
 Type/Vernacular: California Bungalow

Architect/Builder	Architectural Firm	Affiliation
Sears and Roebuck Company	-	-

Replacement

Windows: Roof:
 Other:

Additions

Siding: Wings:
 Other:
 Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2

Foundation: CONCRETE

Foundation Description: Quarry face concrete block

Walls Description: Horizontal wood clapboard, knee braces, vinyl siding

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: -

Porches

Front: Side: Back:

Notes: Gable, CMU piers, square wood supports with battering, new supports under construction

Openings: Wood 10/1, 3/1, 4/1 double hung vinyl 1/1 double hung

Interior: -

Outbuildings: Garage

Notes: Non-Contributing modern construction garage

Statement of Significance: House with good integrity
House under remodeling during survey
Similar kit house

Architectural Description: From 1995 Survey:
c. 1925
Craftsman Bungalow
Rock face concrete block foundation
Narrow clapboard walls with water table, bay on each side
Gable front with side gable over bay, exposed rafters, eaves, extend on knee

brackets, verge board

Partial width porch, gable on battered wood piers, concrete block (rock face)

pedestals, closed wood rail, rear enclosed with metal awnings

Off center door, picture window with 4 transom, 3 part bay on front, 2 side bays
under gables, two 3 part windows

Newer garage

Significant for architecture, unaltered bungalow, it was a Sears house built by
frank Nussbaum, a Linn Grove barber

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IHSSI (County Survey)

Survey Number: 001-361-51003

Rating: Contributing

Historic Name: House

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: 5065 Janndey Street

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666217	4501202

Common Name: -

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 1

Environment: Small town of Linn Grove, secondary street

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1890

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: Queen Anne, T-Plan

Type/Vernacular: -

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 3

Foundation: OTHER

Foundation Description: Panel faced CMU

Walls Description: Quarry faced CMU, patterned clapboard in gable ends, rear shed roof wing, concrete water table

Other Walls: CMU

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: Brick chimney

Porches

Front: Side: Back:

Notes: Half-hipped roof, metal supports and balustrade

Openings: Wood 1/1 double hung, vinyl single light awning

Interior: -

Outbuildings: Garage

Notes: Non-Contributing altered garage

Statement of Significance: House with good integrity

Architectural Description: -

IHSSI (County Survey)

Survey Number: 001-361-51004

Rating: Contributing

Historic Name: Commercial Building

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: Janndey Street

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666189	4501177

Common Name: Citizens Telephone Company

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE, COMMERCE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 0

Environment: Small town of Linn Grove, secondary street

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1948

Condition: Good

Year Demolished: -

Integrity: Unaltered

Date Moved: -

Alterations: -

Style: 20th Century Functional

Type/Vernacular: -

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2

Foundation: CONCRETE

Foundation Description: -

Walls Description: Brick, rusticated brick

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other: Description: Flat

Material: SYNTHETICS: Rubber

Features: Rubber membrane material

Porches

Front: Side: Back:
Notes: -

Openings: Glass block

Interior: -

Outbuildings: -

Notes: -

Statement of Significance: Good integrity

Architectural Description: -

IHSSI (County Survey)

Survey Number: 001-361-51005

Rating: Contributing

Historic Name: Commercial Building,
Linn Grove Bank Building

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: 5041 West 700 South

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666359	4501040

Common Name: -

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE, COMMERCE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 0

Environment: Small town of Linn Grove, secondary street

Bibliography: From 1995 Survey: Leonard Grandward

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1890

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: Commercial Style

Type/Vernacular: -

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2
Foundation: CONCRETE
Foundation Description: Parged
Walls Description: Cornice and storefront obscured
Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other: Description: Shed
Material: UNKNOWN
Features: Brick parapet cornice "shaved" off

Porches

Front: Side: Back:
Notes: -

Openings: Vinyl 1/1 double hung, stone flat arch lintels with keystones

Interior: -

Outbuildings: -

Notes: -

Statement of Significance: Good integrity

Architectural Description: From 1995 Survey:
c. 1910
1st story windows, doors removed
Small window, covered transom replaced
2 stories
Rectangular plan
Brick running bond walls
Parapet roof, ashlar trim, metal cornice partially gone
3 bay facade, 2 entries, center window now infilled, three 1/1 double hung sash

above, 1 covered, with ashlar continuous lintels, keystones, east bays, 3 doors
Significant for architecture, commerce. The bank was robbed a couple of times.
It closed during the Depression. The vault is still there.

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IHSSI (County Survey)

Survey Number: 001-361-51006

Rating: Contributing

Historic Name: Linn Grove Hardware,
Klopfenstein Hardware

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: 5055 West 700 South

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666339	4501020

Common Name: Linn Grove Hardware; Loyal Lee Mast(1995)

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE, COMMERCE

Other Significance: -

Endangered: Yes

Explanation: Unknown

Number of Contributing Resources: 2

Number of Non-contributing Resources: 0

Environment: -

Bibliography: Owner of the hardware business

From 1995 Survey:
Mrs. Loyal Mast; Leonard Grandlinard

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1920

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: 20th Century Functional

Type/Vernacular: -

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:

Other:

Plan

Rectangular: Polygonal:

L: T: X: U:

Irregular: Other:

Depth

Single-Pile: Double-Pile:

Irregular/Massed: Other:

Number of Bays: 2

Foundation: BRICK,
CONCRETE

Foundation Description: -

Walls Description: Intact storefront

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:

Hip: Pyramidal: Mansard:

Other:

Material: ASPHALT

Features: -

Porches

Front: Side: Back:

Notes: Half hip roof, metal supports

Openings: Wood 4/1 double hung

Interior: -

Outbuildings: -

Notes: c. 1950 garage/storage building, metal roof and cladding

Statement of Significance: Has been a hardware store for 80+ years
Building beside was a mechanic shop but now a warehouse for hardware store
Also houses Linn Grove Post Office
Sold gas until 1999
Good integrity

Architectural Description: From 1995 Survey:
c. 1890
Italianate
Porch posts, roof altered (tornado) removed
Windows, iron replaced
East side addition added
Coursed ashlar foundation
Brick walls
Gable front with hip canopy
Canopy, hip, for early gas station used (new pumps)
Entry door recessed with recessed 4/1 window, 4/1 pairs on each side, 3 bay facade, 2 on side, 4/4 double hung sash, loading door
Corner lot of downtown, abuts street
Significant for architecture, commerce, social history. Small hardware and general store in Linn Grove, also sells gas
165 tornado picked up roof, sucking out some contents of the building, sat is down again, there are articles still engaged in eaves
Original Klopfenstein house, then Studler grocery, then hardware run by Joe Eckrote, then Leonard Grandlinard

IHSSI (County Survey)

Survey Number: 001-361-51007

Rating: Contributing

Historic Name: House

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: 5070 West 700 South

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666319	4500983

Common Name: -

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 1

Environment: Small town of Linn Grove, principal E/W street

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1890

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: -

Type/Vernacular: Gabled ell

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 3

Foundation: CONCRETE

Foundation Description: Parged

Walls Description: Metal siding, vinyl siding on rear wing

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: -

Porches

Front: Side: Back:

Notes: Quarry faced CMU piers, cast concrete balustrade and support columns

Openings: Wood 4/4 double hung with crowns, 12 light wood bay window

Interior: -

Outbuildings: Garage

Notes: Non-Contributing modern construction garage

Statement of Significance: Good integrity

Architectural Description: -

IHSSI (County Survey)

Survey Number: 001-361-51008

Rating: Contributing

Historic Name: House

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: 5132 West 700 South

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666181	4500925

Common Name: -

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:
 National Historic Landmark: Local Designation: Protective Covenants:
 Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 1

Environment: Small town, principal east/west street

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1910

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: -

Type/Vernacular: American foursquare

Architect/Builder	Architectural Firm	Affiliation
-------------------	--------------------	-------------

-	-	-
---	---	---

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2

Foundation: OTHER

Foundation Description: Quarry face CMU

Walls Description: Stucco, metal siding in gable end, concrete water table

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: -

Features: -

Porches

Front: Side: Back:

Notes: Half hipped with entry gable, metal supports

Openings: Wood 1/1, 2/2 double hung

Interior: -

Outbuildings: Garage

Notes: Non-Contributing modern construction garage

Statement of Significance: Good integrity

Architectural Description: -

IHSSI (County Survey)

Survey Number: 001-361-51010

Rating: Contributing

Historic Name: Grain Elevator

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: 5180 West County Road 700 South

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666123	4500910

Common Name: Steiner Family-1995

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: AGRICULTURE,
ARCHITECTURE,
COMMERCE

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing Resources: 10

Number of
Non-contributing Resources: 0

Environment: Small town of Linn Grove, secondary street

Bibliography: 1995-Mrs. Steiner; Mr. George Steiner

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1910

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: 20th Century Functional

Type/Vernacular: -

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 3

Foundation: CONCRETE

Foundation Description: -

Walls Description: Horizontal wood weatherboard, stepped parapet, drive thru

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: METAL

Features: -

Porches

Front: Side: Back:

Notes: -

Openings: Wood 1/1 double hung, vinyl 1/1

Interior: -

Outbuildings: Grain bin,
Silo

Notes: Glazed block and CMU silos, metal grain bins

Statement of Significance: Good integrity-grain elevator

Architectural Description: From 1995 Survey:
c. 1918
Commercial style
1 + elevation
Irregular plan
Concrete foundation
Shiplap walls and tongue and groove siding, tile block
Stepped parapet roof with standing seam tin

Overhanging on rear section

Center drive through with two 1/1 double hung sash on each side, sliding doors on east

Multiple grain bin concrete, corrugated metal and tall keystone shaped tile block silo

Significant as early grain elevator with multi-extant fabric, still presenting.

Agricultural commerce.

One of 4 started by Berne equity exchange (others were in Berne, IN and Chattanooga, Ohio). The interurban once ran east, adjacent to building.

Elevator tornado damage in 1965, palm Sunday storm, part was off foundation, the center was ripped out, facade damaged.

IHSSI (County Survey)

Survey Number: 001-361-51011

Rating: Contributing

Historic Name: House,
Sam and Rachel Nussbaum House

Year Dataset Compiled: 2010

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Hartford	Linn Grove

Address: 5191 West 700 South

City: Linn Grove

Location Notes: -

Coordinates

Easting	Northing
666091	4500934

Common Name: From 1995 Survey: Alvin Herman

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 2

Number of Non-contributing Resources: 0

Environment: Small town of Linn Grove, principal E/W street

Bibliography: From 1995 Survey: Al Herman

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1905

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: Dutch Colonial

Type/Vernacular: -

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2

Foundation: CONCRETE

Foundation Description: -

Walls Description: -

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: Gambrel, gambrel roof dormers, brick chimney

Porches

Front: Side: Back:

Notes: Half hip roof, metal balustrade and supports

Openings: Wood 1/1 double hung, vinyl 1/1 sliding, vinyl single light casement

Interior: -

Outbuildings: Garage

Notes: Hip roof garage with horizontal wood clapboard

Statement of Significance: Good integrity

Architectural Description: From 1995 Survey:
c. 1910
Dutch Colonial Revival
Sam Nussbaum Architect/Builder
Side east window and porch posts removed
Glass sliding door and iron post replacements
Deck on east and rear addition added
1.5 stories
Rectangular plan

Clapboard, plain wood shingle up walls
Cross gambrel roof
Full with porch on wrought iron posts
Center door, flanking picture windows with transom, 2 diamond windows
Tool shed
Significant for architecture, there are 4 summer houses in Linn Grove, the others are considerably more altered, originally a small farm, the barn and chicken house were demolished in the 1965 tornado.
Sam Nussbaum built, current owner is 2nd owner

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IHSSI (County Survey)

Survey Number: 001-523-10036

Rating: Contributing

Historic Name: Standard Oil Repair Shed

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Preble	Preble

Address: State Road 224

City: -

Location Notes: 0.1 mile west of 300 West

Coordinates

Easting	Northing
668565	4522066

Common Name: -

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing
Resources: 1

Number of
Non-
contributing
Resources: 0

Environment: Rural

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1900

Condition: Good

Year Demolished: -

Integrity: Unaltered
Date Moved: -
Alterations: -
Style: -
Type/Vernacular: Gable front

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 1

Foundation: UNKNOWN

Foundation Description: -

Walls Description: Horizontal wood weatherboard

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: OTHER

Features: Composite shingle

Porches

Front:

Side:

Back:

Notes: -

Openings: Wood sashes obscured

Interior: -

Outbuildings: -

Notes: -

Statement of Significance: Commercial building with good integrity

Architectural Description: Repair shed for Indiana Pipeline Company

IHSSI (County Survey)

Survey Number: 001-523-10037

Rating: Notable

Historic Name: Indiana Pipeline Company

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Preble	Preble

Address: West State Road 224

City: -

Location Notes: -

Coordinates

Easting	Northing
667927	4522089

Common Name: -

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: ARCHITECTURE,
COMMERCE,
INDUSTRY

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing 7
Resources:

Number of
Non-
contributing 0
Resources:

Environment: Rural, on busy State Road 224

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1890

Condition: Good

Year Demolished: -
Integrity: Slightly Altered
Date Moved: -
Alterations: -
Style: Italianate
Type/Vernacular: -

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 6

Foundation: BRICK

Foundation Description: -

Walls Description: Common bond, crobelled cornice, buttressed

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:

Other:

Material: METAL

Features: -

Porches

Front:

Side:

Back:

Notes: -

Openings: Wood 15/15 double hung

Interior: -

Outbuildings: Garage,
Other,
Pumphouse,
Shed,
Workshop

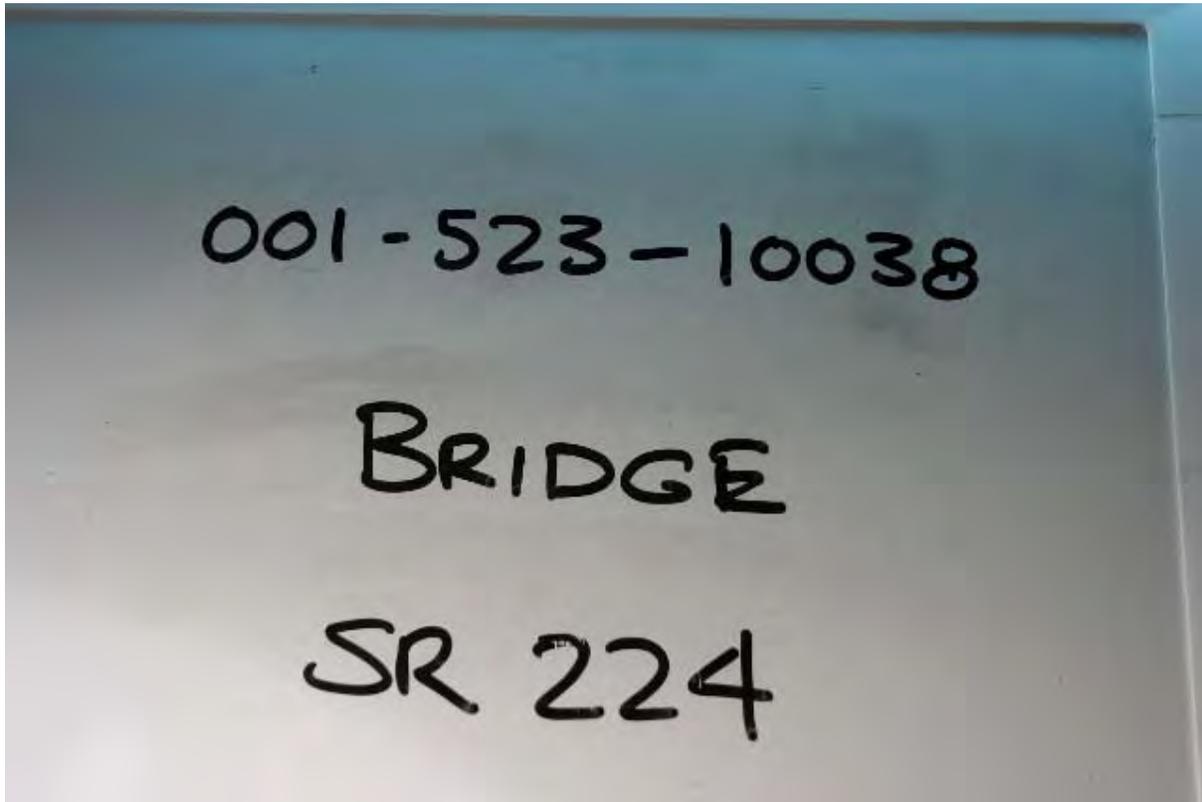
Description: Office; Flag Pole/Stand

Notes: Brick outbuildings, field stone pumphouse

Statement of Significance: Commercial building with good integrity

Notable as rare industrial complex with rural location. Associated with Indiana gas boom and early state industrialization. Pumping station and storage facility for oil and gas. Part of Standard Oil Conglomerate.

Architectural Description: -

IHSSI (County Survey)

Survey Number: 001-523-10038

Rating: Contributing

Historic Name: Bridge

Year Dataset Compiled: 2009

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	Preble	Preble

Address: State Road 224

City: -

Location Notes: Over Scheery Ditch

Coordinates

Easting	Northing
667711	4522025

Common Name: -

Category: Structure

Visible?:

Historic District?:

Historic District Name: -

Ownership: public-local

Use: Present

Residence:

Commercial:

Vacant:

Other:

Describe: Bridge

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Describe: Bridge

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic Landmark:

Local Designation:

Protective Covenants:

Other:

Areas of Significance: ENGINEERING

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 0

Environment: Rural/Outskirts of unincorporated town of Preble

Bibliography: -

Structure Type

Bridge:

Historic Bridge Number: HB-3139

Cemetery:

Other:

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Time Period(s): c. 1920

Condition: Good

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Truss or Arch Type	Connection Type	Number of Panels	Number of Spans	Span Length
Unknown	-	-	1	-

Total Number of Spans: 1

Skew Angle: -

Structure Material: CONCRETE

Deck Material: ASPHALT,
CONCRETE

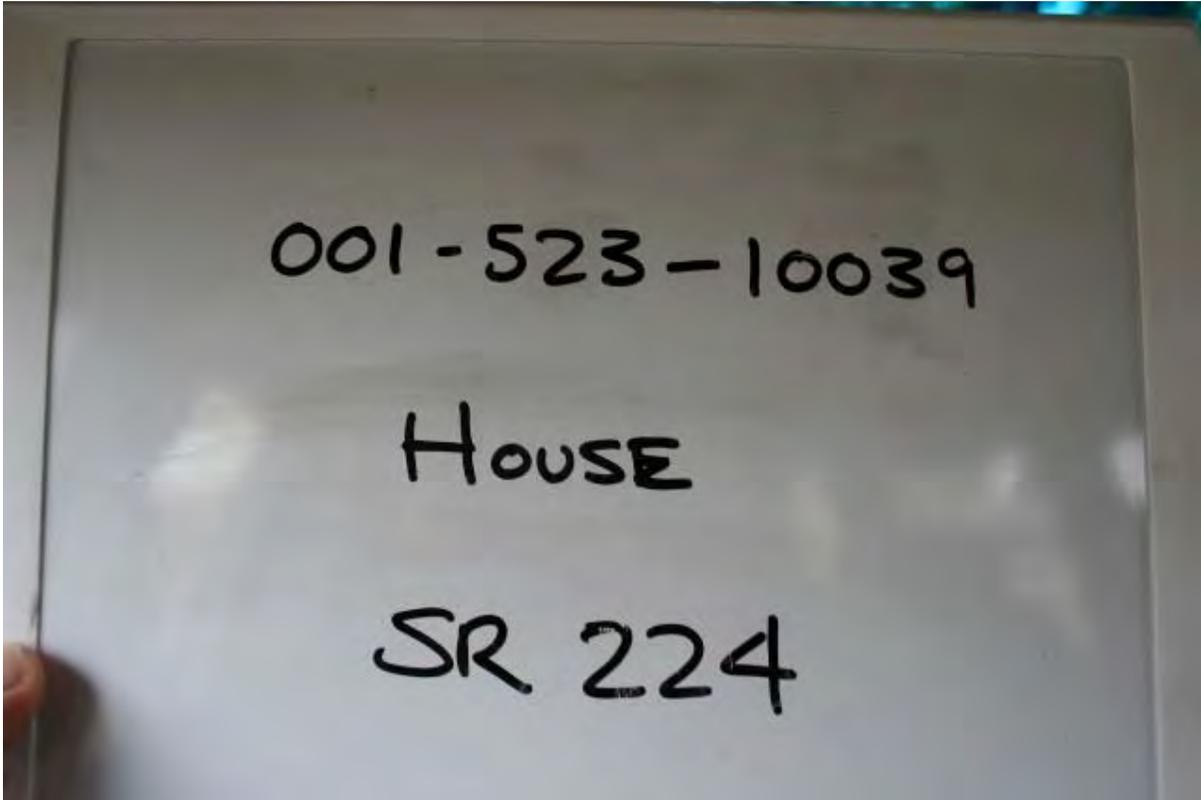
Abutments & Wingwalls: CONCRETE

Builder Plaque: -

Decorative Features: Guardrail with recessed panels

Statement of Significance: -

Architectural Description: Flat bridge

IHSSI (County Survey)

Survey Number: 001-523-10039

Rating: Contributing

Historic Name: Grandstaff-Zeser House,
Doctor Grandstaff House and Office

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Preble	Preble

Address: 3843 West State Road 224

City: -

Location Notes: -

Coordinates

Eastings

Northings

667626

4522021

Common Name: -

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic Landmark:

Local Designation:

Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 1

Environment: Unincorporated town of Preble

Bibliography: From 1994 Survey:
Mrs. Mildred Germann; Leo Hoffman; Bob Kolter; Heller, Dick D. "1979 History of Adams County Indiana", Dallas: Taylor Publ. 1979

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1915

Condition: Good
Year Demolished: -
Integrity: Slightly Altered
Date Moved: -
Alterations: -
Style: Bungalow/Craftsman
Type/Vernacular: Dormer Front Bungalow

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2
Foundation: OTHER
Foundation Description: Quarry Faced CMU
Walls Description: Square oriel bay
Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:

Hip: Pyramidal: Mansard:

Other:

Material: OTHER

Features: Composite shingle; gable roof dormer

Porches

Front: Side: Back:

Notes: Quarry faced CMU plinths, square wood supports with battering, partially enclosed, stucco balustrade

Openings: Wood 1/1 double hung

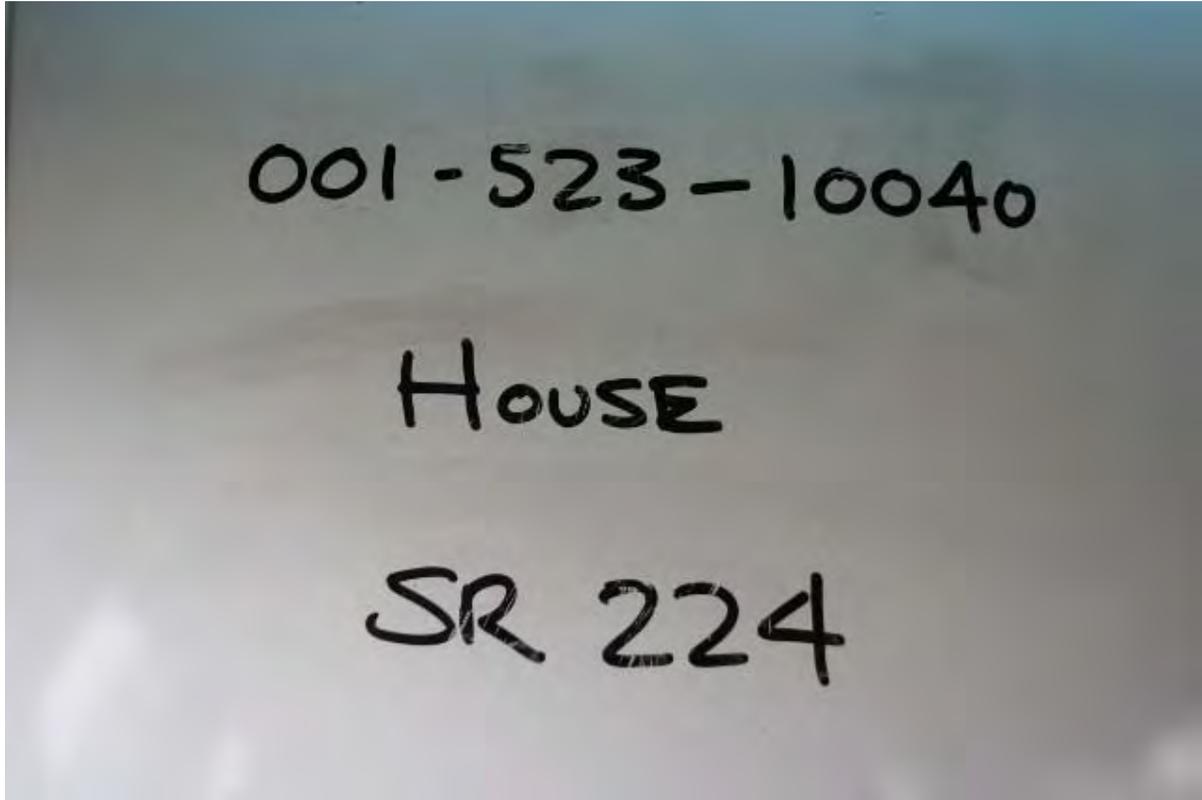
Interior: -

Outbuildings: Garage

Notes: Pyramid roof garage (non-contributing) with composite siding and modern doors

Statement of Significance: House with god integrity

Architectural Description: From 1994 Survey:
c. 1920
Craftsman Bungalow
1.5 stories
Rectangular plan
Concrete block foundation, 1/1 rock face pattern with basement
Stucco walls with wood trim
Wide slope with gabled dormer, composite shingle
Full width under extended eaves with 3/4 screened with pointed arch openings,
1/4 sun porch
Off center screen door with transom, 11 double hung sash windows, single and
paired, side oriel
Hip roof garage
Significant for architecture, small house across alley was Dr. Grandstaff's office;
Dr. Grandstaff built this house later. A native of Monmouth Adams County, he
taught school in Root Township 5 years before studying medicine in Cincinnati.
He located his office in Preble in 1901, practiced till his death in 1939.

IHSSI (County Survey)

Survey Number: 001-523-10040

Rating: Contributing

Historic Name: Werling Tile House

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Preble	Preble

Address: 3923 West State Road 224

City: -

Location Notes: -

Coordinates

Easting	Northing
667484	4522017

Common Name: From 1994 Survey: Lloyd Knous

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: ARCHITECTURE,
INDUSTRY

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing 2
Resources:

Number of
Non-
contributing 0
Resources:

Environment: Unincorporated town of Preble

Bibliography: From 1994 Survey:

Bieberich, Frederick W. and Irene Ewell Bieberich, Preble History 1884-1984, June 1984, N.P., Mrs. Mildred Werling German; L.D. Hoffman; Heller, Dick D. "The 1979 History of Adams County, Indiana, Vol I Dallas TX: Taylor Publ. 1979

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1903

Condition: Good
Year Demolished: -
Integrity: Slightly Altered
Date Moved: -
Alterations: -
Style: -
Type/Vernacular: American foursquare

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2

Foundation: CONCRETE

Foundation Description: Parged

Walls Description: Glazed Tile

Other Walls: Tile

Roof

Side-Gable: Front-Gable: Cross-Gable:

Hip: Pyramidal: Mansard:

Other:

Material: ASPHALT

Features: -

Porches

Front: Side: Back:

Notes: Half hipped roof, turned post wood supports, wood balustrade

Openings: Vinyl 1/1 double hung

Interior: -

Outbuildings: Transverse-frame barn

Notes: Glazed tile, metal roof

Statement of Significance: Good integrity

Architectural Description: Building and barn were part of local tile industry

From 1994 Survey:

1906

Foursquare

Porch being replaced removed

2 stories

Square plan

Concrete with basement foundation

Hollun tile block walls

Hip high pitch roof, composite shingle

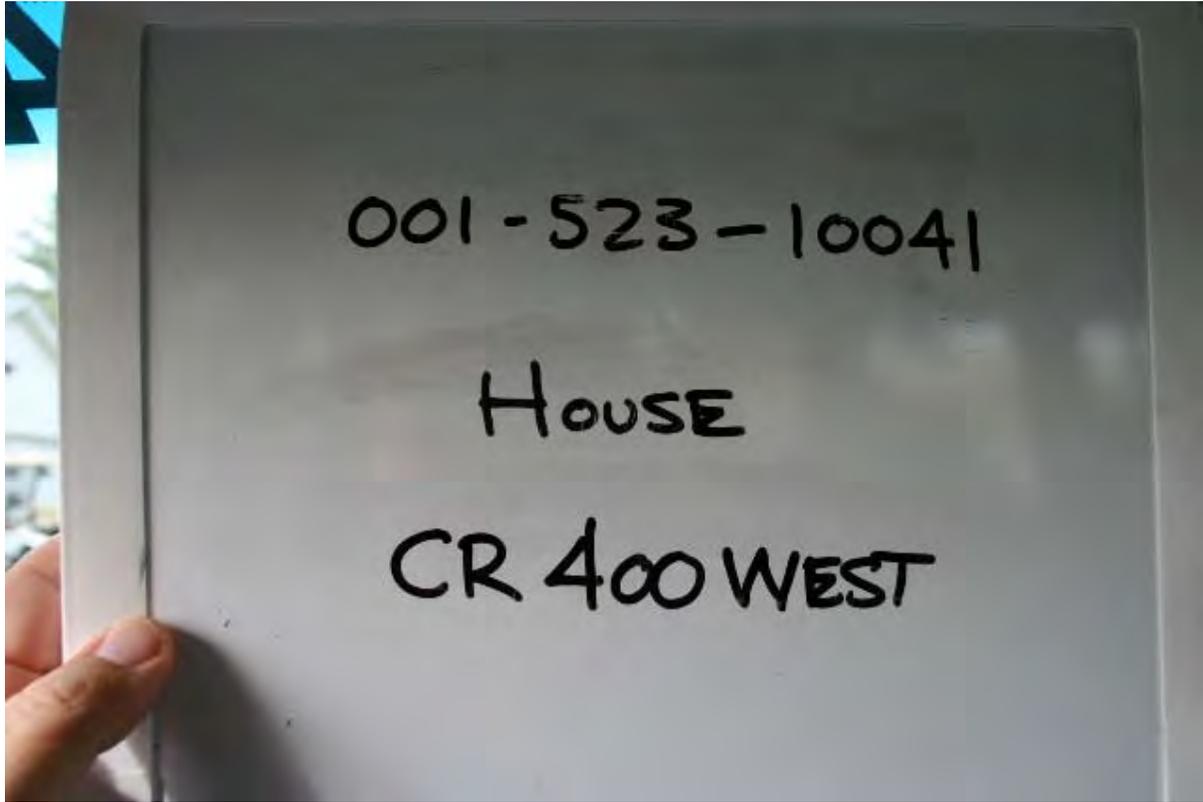
Full width porch, posts being rear partial width porch with stacked round tile posts

3 ranked front facade with center door, 1/1 double hung sash windows with ashlar sills and lintels, 2 ranked sides

Outstanding tile block barn/carriage house

Connected to the Werling Tile Mill, started by David Werling; also associated with the sawmill and oil pumping station. This house and barn were built by his son Albert "Peck" Werling 1906. The tile mill was moved to this site adjacent to the tracks when the 1st mill burned. The mill was known for clay field tile and hollow tile blocks.

The 1984 history states the building and equipment were moved to the east edge of Toscin (Well County), when the mill ceased operation.

IHSSI (County Survey)

Survey Number: 001-523-10041

Rating: Contributing

Historic Name: House

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Preble	Preble

Address: 6410 North County Road 400 West

City: -

Location Notes: -

Coordinates

Easting	Northing
667328	4522670

Common Name: -

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing
Resources: 1

Number of
Non-
contributing
Resources: 0

Environment: Rural

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1955

Condition: Good

Year Demolished: -

Integrity: Slightly Altered
Date Moved: -
Alterations: -
Style: Modern
Type/Vernacular: -

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 3

Foundation: CONCRETE

Foundation Description: -

Walls Description: Metal siding, hyphen to garage

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: -

Porches

Front:

Side:

Back:

Notes: -

Openings: Wood 2/2 double hung, wood Chicago with 2/2 double hung

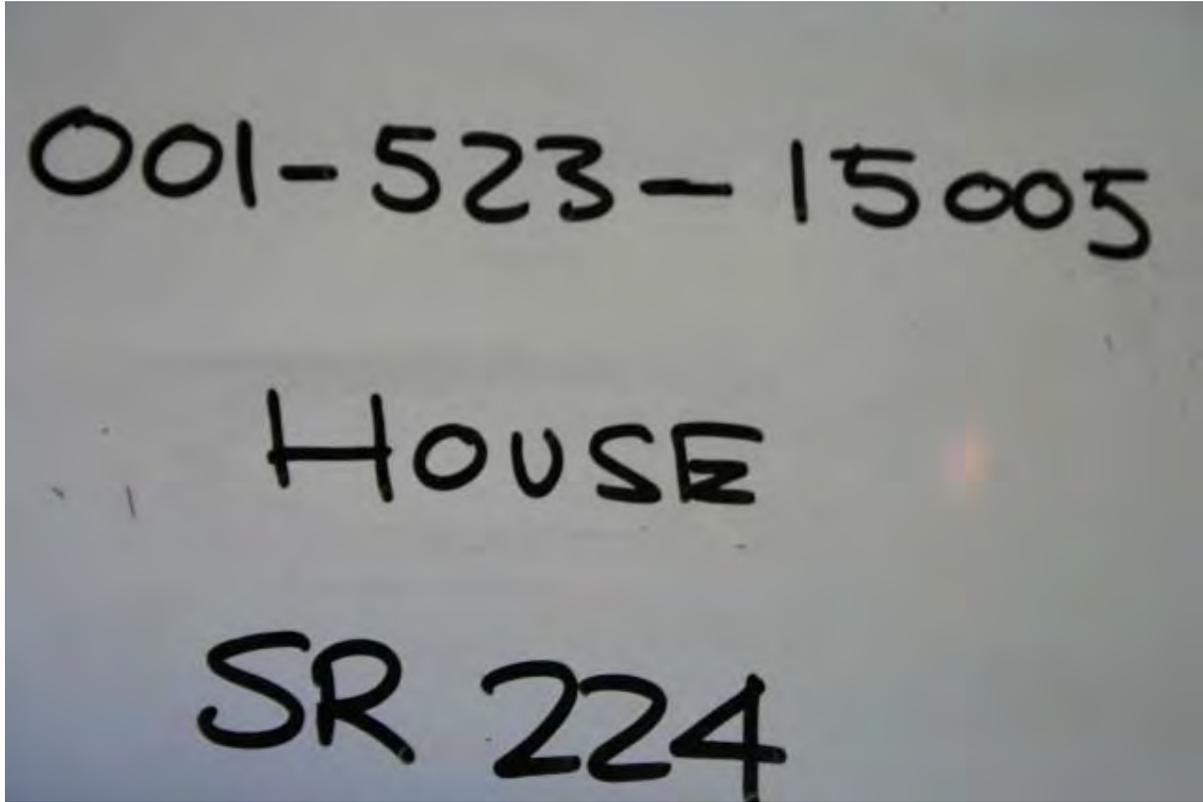
Interior: -

Outbuildings: Garage

Notes: -

Statement of Significance: House with good integrity

Architectural Description: -

IHSSI (County Survey)

Survey Number: 001-523-15005

Rating: Notable

Historic Name: David Werling Farm

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Kirkland	Preble

Address: 3838 West State Road 224

City: -

Location Notes: -

Coordinates

Easting	Northing
667658	4522027

Common Name: Mr and Mrs Bob Bucher (1994)

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: AGRICULTURE,
ARCHITECTURE,
INDUSTRY

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing 5
Resources:

Number of
Non-
contributing 3
Resources:

Environment: Unincorporated town

Bibliography: Mrs. Mildred Wrling Germmann (granddaughter)

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1900

Condition: Good

Year Demolished: -
Integrity: Slightly Altered
Date Moved: -
Alterations: -
Style: T-Plan
Type/Vernacular: -

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 3

Foundation: STONE

Foundation Description: -

Walls Description: Concrete water table

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:

Other:

Material: ASPHALT

Features: -

Porches

Front:

Side:

Back:

Notes: Shed roof, pedimented corner entries, wrap around square wood supports and balustrade

Openings: Vinyl 1/1 double hung

Interior: -

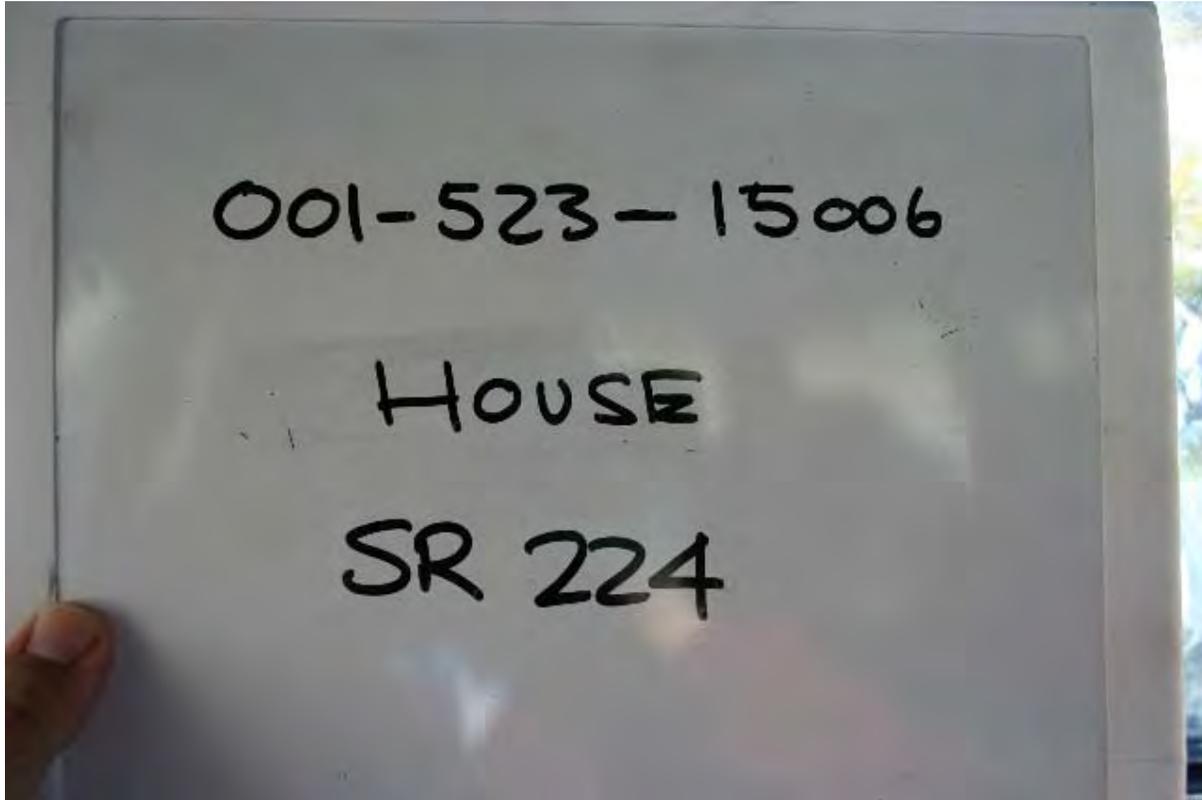
Outbuildings: Drive-thru corncrib,
Garage,
Grain bin,
Livestock barn,
Machine shed,
Milk house

Notes: Brick milk house with metal gable roof, gable front 1 car garage

Statement of Significance: Good integrity

Notable for quality of architecture and association with David Werling, local entrepreneur and treasurer of Indiana Pipeline Co.

Architectural Description: From 1994 Survey:
Queen Anne style
Original porch posts removed
Square posts and balustrade replaced
Rear porch added
Latin Cross Plan
Coursed Ashlar foundation
Cross gable roof, slate, aluminium part
Wrap porch with center gabled cornice, enclosed rear porch added on
Pole barn, chicken house, garage, animal pen, brick summer kitchen
Significant for architecture, a brick Queen Anne farmhouse at east edge of
village, David Werling and owned land where pipeline was built, was treasure of
Indiana Pipeline company. He also was involved in the sawmill and most Preble
enterprises.

IHSSI (County Survey)

Survey Number: 001-523-15006

Rating: Contributing

Historic Name: Clarence Smith House

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Kirkland	Preble

Address: 3884 West State Road 224

City: -

Location Notes: -

Coordinates

Easting	Northing
667533	4521988

Common Name: -

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing
Resources: 2

Number of
Non-
contributing
Resources: 0

Environment: Unincorporated town

Bibliography: 1994: Heller, Dick D., The 1979 History of Adams County Indiana, Vol. I, Taylor and Dallas, 1980; Leo Hortman

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1920

Condition: Good

Year Demolished: -

Integrity: Slightly Altered
Date Moved: -
Alterations: -
Style: Bungalow/Craftsman
Type/Vernacular: California Bungalow

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2

Foundation: OTHER

Foundation Description: Quarry faces CMU

Walls Description: -

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: Brick chimney

Porches

Front: Side: Back:

Notes: Gable roof, square wood supports with battering enclosed with wood 1/1 double hung

Openings: Wood 4/1 double hung

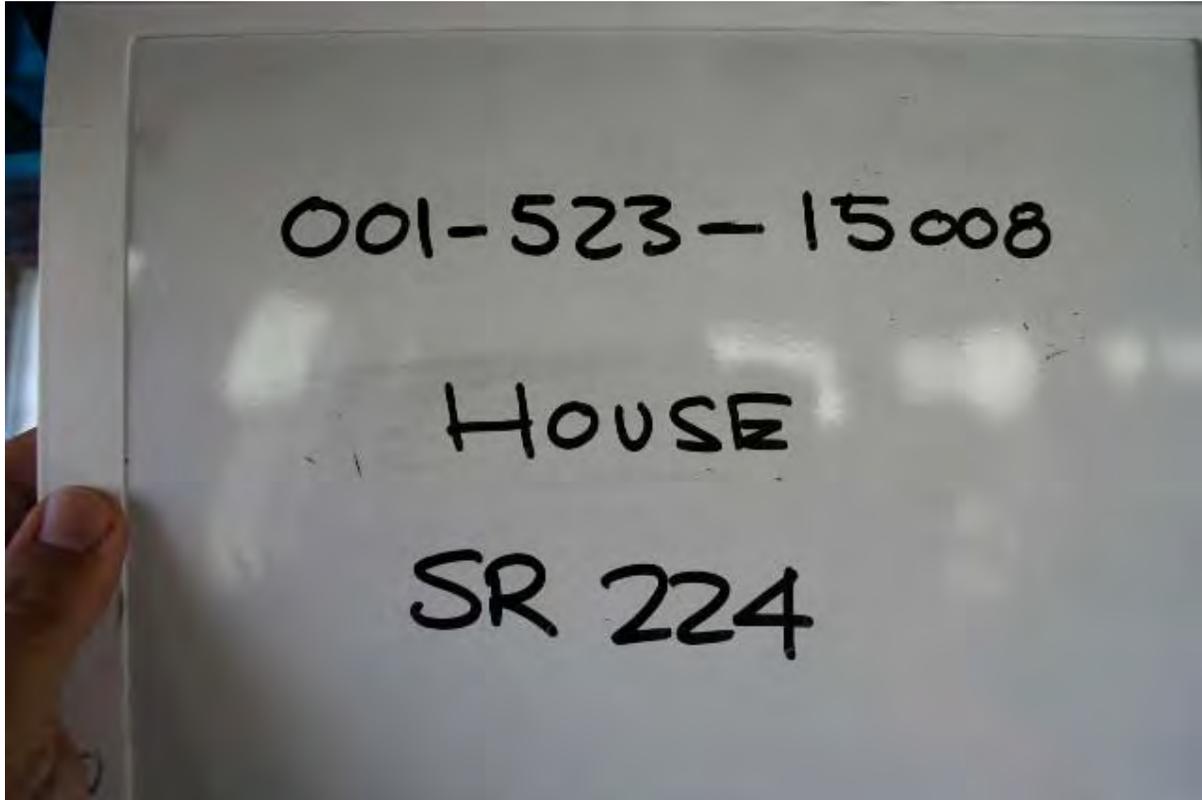
Interior: -

Outbuildings: Garage

Notes: Pyramid composite shingle roof, vinyl siding

Statement of Significance: Good integrity

Architectural Description: From 1994 Survey:
c. 1925 - Craftsman Bungalow
Windows on porch added
Concrete block foundation, rock face with basement
Plain wood shingle walls
Wide slop gable front, composite shingle
Near, full width gable front porch on wood battered columns, plain wood shingle closed rear
Hip roof garage
Significant for architecture, small bungalow with few alterations. Clarence Smith was the banker who came to town after IU-ness forced Mr. Lewis Adler, the original cashier, to move to Colorado in 1920. Mr. Smith came from Monroe.

IHSSI (County Survey)

Survey Number: 001-523-15008

Rating: Contributing

Historic Name: House

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Kirkland	Preble

Address: 3952 West State Road 224

City: -

Location Notes: -

Coordinates

Easting	Northing
667439	4521999

Common Name: -

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing
Resources: 2

Number of
Non-
contributing
Resources: 0

Environment: Unincorporated town

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1900

Condition: Good

Year Demolished: -

Integrity: Slightly Altered
Date Moved: -
Alterations: -
Style: -
Type/Vernacular: Gabled ell

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 3

Foundation: CONCRETE BLOCK: Rock Faced

Foundation Description: -

Walls Description: -

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: Brick chimney

Porches

Front:

Side:

Back:

Notes: Gabled, modern wood supports

Openings:

Wood 4/1 double hung

Interior:

-

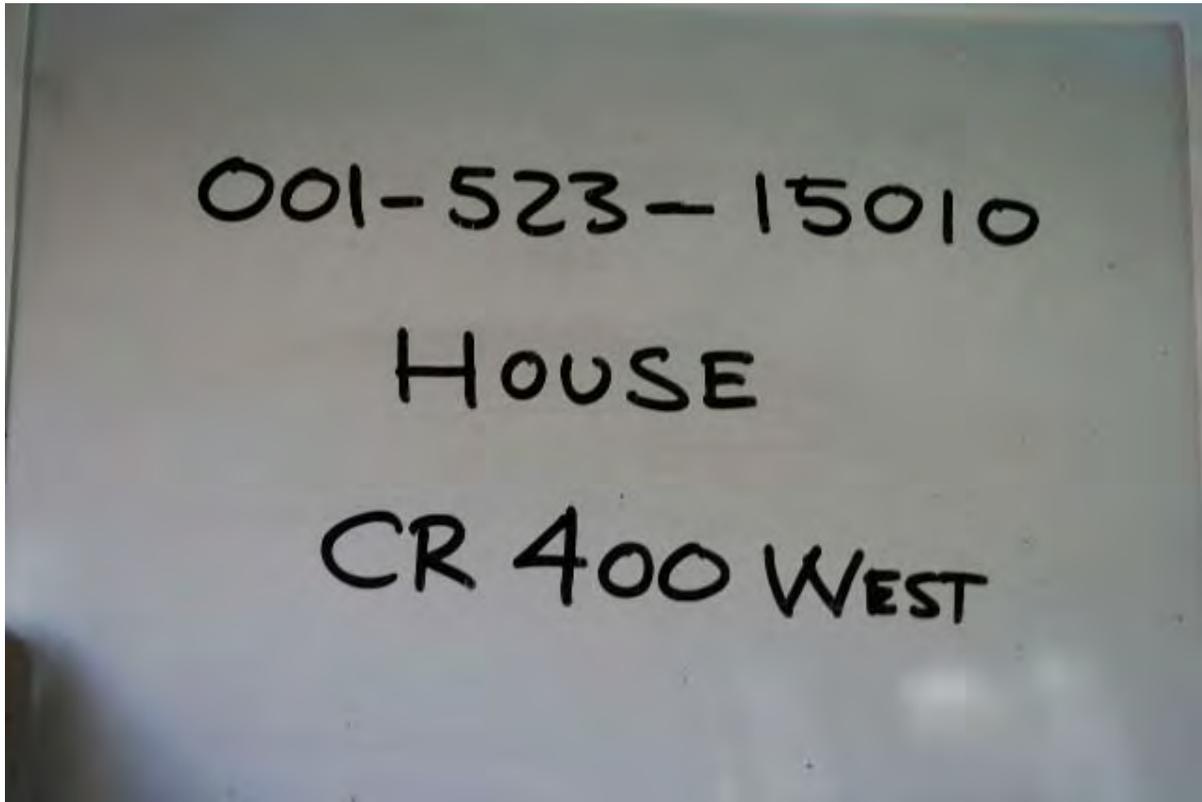
Outbuildings:

Garage

Notes: Hip metal roof, horizontal wood weather board

Statement of Significance: Good integrity

Architectural Description: -

IHSSI (County Survey)

Survey Number: 001-523-15010

Rating: Contributing

Historic Name: Miltbrown House

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Kirkland	Preble

Address: 4885 North County Road 400 West

City: -

Location Notes: -

Coordinates

Easting	Northing
667444	4520061

Common Name: -

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing
Resources: 1

Number of
Non-
contributing
Resources: 0

Environment: Rural

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1920

Condition: Good

Year Demolished: -

Integrity: Slightly Altered
Date Moved: -
Alterations: -
Style: Dutch Colonial
Type/Vernacular: -

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2

Foundation: BRICK

Foundation Description: -

Walls Description: Brick, vertical wood weather board in gable ends, rear garage wing

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: Gambrel, brick chimney, hip roof dormer

Porches

Front: Side: Back:

Notes: Square brick supports and balustrade

Openings: Wood 6/1 double hung, wood 14/1 double hung

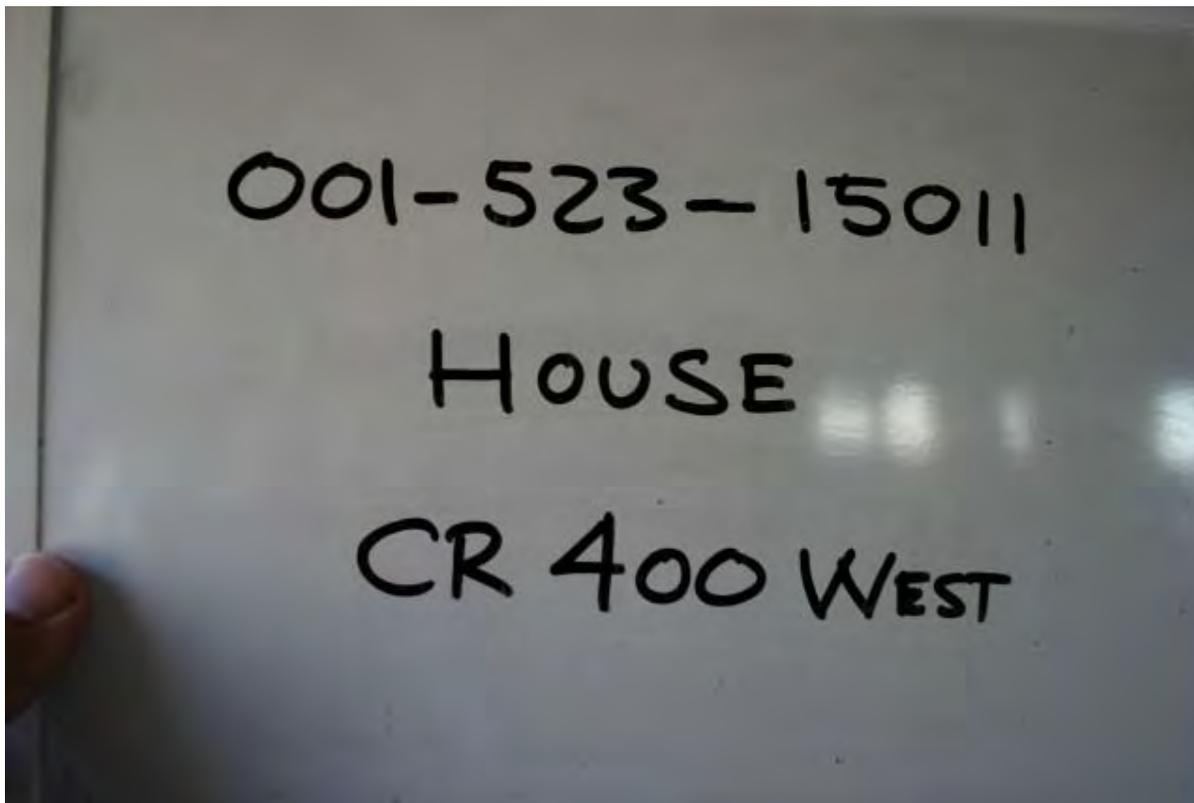
Interior: -

Outbuildings: -

Notes: -

Statement of Significance: Good integrity

Architectural Description: From 1994 Survey:
Siding on 2nd story gable added
Basement
Brick running bond walls with board and batten gable
Gable front gambrel with hip dormer, returns, frieze board
Full width 1 story on square brick columns with closed brick rail, rear enclosed porch
Center craftsman door with picture windows with 14 light transom, 1/1 double hung sash windows with 9/1 double hung sash, 6/1 double hung sash pro windows in gable, side entry, segmental arch opening
Gambrel roof garage (new) early 20th century small gambrel roof barn
Significant for architecture

IHSSI (County Survey)

Survey Number: 001-523-15011

Rating: Contributing

Historic Name: George Bright House

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Kirkland	Preble

Address: 4834 North County Road 400 West

City: -

Location Notes: -

Coordinates

Easting	Northing
667440	4520003

Common Name: -

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing
Resources: 1

Number of
Non-
contributing
Resources: 1

Environment: Rural/Unincorporated Town

Bibliography: 1994: Mrs. Baumbarence

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1915

Condition: Good

Year Demolished: -

Integrity: Slightly Altered
Date Moved: -
Alterations: -
Style: Bungalow/Craftsman
Type/Vernacular: Dormer Front Bungalow

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
Other:

Additions

Siding: Wings:
Other:
Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 2

Foundation: BRICK

Foundation Description: -

Walls Description: Composite shingle, rear wings

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: OTHER

Features: Composite shingles, shed roof dormer with exposed rafter tails

Porches

Front: Side: Back:

Notes: Brick supports and balustrade

Openings: Wood 18/1 double hung, 12/1 double hung

Interior: -

Outbuildings: Garage

Notes: -

Statement of Significance: Good integrity

Architectural Description: Dining room bay on south side

From 1994 Survey:

c. 1920 Craftsman Bungalow style

Basement

Metal walls

High pitch side gable with front shed dormer, exposed rafters

Full width porch under extended eaves on brick square columns, brick rail, metal hood in rear porch/side

Off center door, east/north two 18/1 transom on front windows, side oriels with three 12/1 double hung sash, three 8/1 double hung sash dormer windows, 12/1 double hung sash other

Early shed/garage, small frame shed, rear shed, second garage

Significant for architecture

IHSSI (County Survey)

Survey Number: 001-523-15014

Rating: Contributing

Historic Name: Farm

Year Dataset Compiled: 2009

National Register File
Number: -

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Kirkland	Preble

Address: 5909 North County Road 450 West

City: -

Location Notes: -

Coordinates

Easting	Northing
666603	4521831

Common Name: -

Category: Building

Visible?:

Historic District?:

Historic District Name: -

Ownership: private

Use: Present

Residence:

Commercial:

Vacant:

Other:

Other:

Use: Past

Residence:

Commercial:

Vacant:

Other:

Other:

Surveys/Legal Protections

National Register:

State Register:

Hoosier Homestead:

National Historic
Landmark:

Local Designation:

Protective
Covenants:

Other:

Areas of Significance: AGRICULTURE,
ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of
Contributing 6
Resources:

Number of
Non-
contributing 1
Resources:

Environment: Rural

Bibliography: 1876 Plat Map; Richard Greber

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1880

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: -

Type/Vernacular: Gable front

Architect/Builder	Architectural Firm	Affiliation
-	-	-

Replacement

Windows: Roof:
 Other:

Additions

Siding: Wings:
 Other:
 Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
 Other:

Plan

Rectangular: Polygonal:
 L: T: X: U:
 Irregular: Other:

Depth

Single-Pile: Double-Pile:
 Irregular/Massed: Other:

Number of Bays: -

Foundation: CONCRETE BLOCK: Rock Faced

Foundation Description: -

Walls Description: Horizontal wood clapboard, cornice and corner boards

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
 Hip: Pyramidal: Mansard:
 Other:

Material: METAL

Features: -

Porches

Front: Side: Back:

Notes: Shed roof

Openings: Wood 4/4 double hung

Interior: -

Outbuildings: Drive-thru corncrib,
English barn,
Other,
Privy,
Shed,
Summer kitchen,
Transverse-frame barn

Description: Cottage

Notes: Clapboard summer kitchen, metal gable roof English barn with vertical wood weather board

Statement of Significance: Ourstanding integrity for a mofit vernacular farm

Good collection of contributing outbuildings

Architectural Description: From 1994 Survey:
c. 1870
Vernacular
Main house burned 1971
Mobile home replacement
1 story
Rectangle
Raised cellar
Clapboard walls
Rolled metal roof
Entry door with plain transom, 4/4 double hung sash
Summer kitchen, previous house, barn, granary, metal shed, mobile home
House burned in 1971; significant for vernacular buildings, grandparents residence, remains as well as fire summer kitchen, barn with slate roof spelling H.S. 1890. Henry Scherry Junior built this farm, bought from Kirshners, original Christian Scherry's farm was across the road in north

IHSSI (County Survey)

Survey Number: 001-693-30004

Rating: Notable

Historic Name: Mount Tabor Methodist Church

Year Dataset Compiled: 2009

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	St. Marys	Wren

Address: 5156 East County Road 450 North

City: -

Location Notes: -

Coordinates

Easting	Northing
682338	4520166

Common Name: 1994- Mount Tabor Worship Center

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other:

Describe: Church

Other: **Use: Past**Residence: Commercial: Vacant: Other:

Describe: Church

Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE, RELIGION

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 1

Environment: Unincorporated town of Rivarre

Bibliography: 1994- Myrtle Clements

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1901

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: Gothic Revival

Type/Vernacular: -

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: Steeple (on ground)

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 1

Foundation: STONE

Foundation Description: -

Walls Description: Brick, concrete water table, buttresses, gable roof, wall dormer

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: STONE: Slate

Features: Decorative patterned shingle, brick chimney, one side of roof with metal cladding

Porches

Front: Side: Back:
Notes: -

Openings: Gothic arched, wood sash double hung 1/1, round window

Interior: -

Outbuildings: -

Notes: -

Statement of Significance: Church with good integrity

Notable as best Gothic Revival church in the township

Architectural Description: Steeple removed between 2001 and 2009, 2001 Adams County GIS information card shows the steeple in place

From 1994 Survey:
1890-1901
Henry Colter -Lumber
Bell removed

Rear handicap ramp added

Ashlar rock face foundation coursed with cellar; rock face ashlar water table

Brick running bond walls, divided by piers with smooth ashlar trim

High pitch gable front roof, slate, cornice bell tower with open trim

2 corner entry porches, 1 with ashlar steps

4 ranked side walls with Gothic art glass windows, corner doors with 4 narrow

lancet windows, lancet tympanum round arch glass windows above lancet

windows and in corner tower, rear south wall

Interior unaltered, added choir section

Privy

Significant for architecture and religion-very few alterations

Mt. Tabor, originally located on Piqua Road, built this church in 1901. The

parsonage has been built here earlier near railroad.

Henry Colter furnished the wood from his saw mill.

Handmade pews in choir loft are from the old church as are chairs and pulpit.

This church building was started around 1890. The bell is on property of Myrtle Clements.

IHSSI (County Survey)

Survey Number: 001-693-30005

Rating: Notable

Historic Name: Bobo Graded School District Number 4

Year Dataset Compiled: 2009

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	St. Marys	Wren

Address: 5111 East County Road 450 North

City: -

Location Notes: -

Coordinates

Easting	Northing
682244	4520166

Common Name: Faulnker - 1994

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other:

Describe: School

Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE, EDUCATION

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 1

Environment: Unincorporated town of Rivarre

Bibliography: 1994 Myrtle Clements

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1913

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: Neoclassical

Type/Vernacular: Neoclassical

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: -

Foundation: CONCRETE

Foundation Description: -

Walls Description: Concrete string course, decorative brick patterning

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: Hip roof dormers

Porches

Front: Side: Back:

Notes: -

Openings: Vinyl 1/1 double hung, wood 1/1 double hung

Interior: -

Outbuildings: Garage

Notes: Modern construction garage/machine work shop

Statement of Significance: School with good integrity

Notable as rare remaining pre-consolidation district school in Adams County.
Good example of craftsman style school architecture.

Architectural Description: From 1994 Survey:
1913
Craftsman Prairie
Oscar Hoffman Decatur (architect/builder?)
Bell tower, original doors and sashes removed
Hood, infill, shorter sashes replacements

Irregular plan

Concrete with above grade basement foundation, ashlar facing and water table

Brick running bond walls, ashlar trim

High pitch hip roof, slate, hip dormer, polygonal bell tower base

Round arch entry has added shed roof entry with shingle

Round arch entry with ashlar voussoirs, dated keystone, triple and paired 1/1

double hung sash windows, triple comp. arch openings above entry door with brick voussoirs, symmetrical fenestration, no windows on ends

Significant for architecture and education

Keystone reads:

"1913"

Left name plate:

"BOBO GRADED SCHOOL F.J. SIMAN, TRUSTEE"

Right:

"ADVISORY BOARD: JOHN W. BROADECK JOHN H. HELM ANDREW J. CASE"

This was the first "modern" school in Adams county, according to Myrtle Clements, who taught there for over 20 years

IHSSI (County Survey)

Survey Number: 001-693-30006

Rating: Contributing

Historic Name: House

Year Dataset Compiled: 2009

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	St. Marys	Wren

Address: 5122 East Walter Street

City: -

Location Notes: -

Coordinates

Easting	Northing
682240	4520109

Common Name: -

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 1

Environment: Unincorporated town of Rivarre

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1950

Condition: Fair

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: -

Type/Vernacular: Ranch

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 4

Foundation: CONCRETE

Foundation Description: -

Walls Description: Horizontal wood clapboard, hyphen to garage

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: ASPHALT

Features: -

Porches

Front: Side: Back:

Notes: -

Openings: Wood 1/1 double hung, wood Chicago with 3 light casements

Interior: -

Outbuildings: Shed

Notes: Lawn/Garden shed - Non-Contributing

Statement of Significance: House with good integrity

Architectural Description: -

IHSSI (County Survey)

Survey Number: 001-693-30007

Rating: Contributing

Historic Name: Rivarre Cemetery

Year Dataset Compiled: 2009

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	St. Marys	Wren

Address: State Road 101

City: -

Location Notes: .001 mile north of County Road 450 North

Coordinates

Easting	Northing
682076	4520212

Common Name: -

Category: Site

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other:

Describe: Cemetery

Other: **Use: Past**Residence: Commercial: Vacant: Other:

Describe: Cemetery

Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: RELIGION

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 1

Number of Non-contributing Resources: 2

Environment: Unincorporated town of Rivarre

Bibliography: -

Structure Type

Bridge:

Cemetery:

Cemetery Registry Number: CR-01-49

Other:

Architect/Builder

Architectural Firm

Affiliation

- - -

Time Period(s): c. 1885-c. 1971

Condition: Good

Integrity: Unaltered

Alterations: -

Approximate Number of Stones: 36

Date of Earliest Burial: c. 1885

Most Recent Burials: c. 1971

Associated With: Religious

Fence or Enclosure: -

Landscape Features: -

Prominent Names: -

Grouped Burials: -

Arrangement of Stones: -

Type of Stone: -

Ethnic Significance: English

Artistic Value: -

Statement of Significance: Good integrity

Architectural Description: Other Ethnic Significance: Dutch
Religious affiliation: United Brethren
Established: c. 1885
Cemetery is not active
There is access to the cemetery
No archaeology has been complete on site
A church and a classroom are on site
Markers are damaged due to time and nature
Cemetery is well maintained

From 1994 Survey:

c. 1900

Fence removed

Significant as a cemetery, connected to the Rivarre UB Church-named for the Anthony Rivarre Reserve. Names include Koos, Chronister, Shell, Welker

IHSSI (County Survey)

Survey Number: 001-693-30008

Rating: Contributing

Historic Name: Farm

Year Dataset Compiled: 2009

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	St. Marys	Wren

Address: 4311 North State Road 101

City: -

Location Notes: -

Coordinates

Easting	Northing
682058	4519867

Common Name: -

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: AGRICULTURE, ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 3

Number of Non-contributing Resources: 0

Environment: Rural

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1890

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: T-Plan

Type/Vernacular: -

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
 Other:

Plan

Rectangular: Polygonal:
 L: T: X: U:
 Irregular: Other:

Depth

Single-Pile: Double-Pile:
 Irregular/Massed: Other:

Number of Bays: 3**Foundation:** CONCRETE**Foundation Description:** Parged**Walls Description:** -**Other Walls:** -**Roof**

Side-Gable: Front-Gable: Cross-Gable:
 Hip: Pyramidal: Mansard:
 Other:

Material: ASPHALT

Features: Brick chimney

Porches

Front: Side: Back:

Notes: Metal supports, rear shed roof

Openings: Wood 2/2 double hung**Interior:** -**Outbuildings:** English barn,
Garage

Notes: Metal gambrel roof English barn, vertical board wood siding

Statement of Significance: Good integrity**Architectural Description:** -

IHSSI (County Survey)

Survey Number: 001-693-30010

Rating: Contributing

Historic Name: Welker-Hower Farm,
Sarah C. Welker Farm

Year Dataset Compiled: 2009

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	St. Marys	Wren

Address: 4822 North State Road 101

City: -

Location Notes: -

Coordinates

Easting	Northing
682086	4520667

Common Name: -

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: AGRICULTURE, ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 9

Number of Non-contributing Resources: 1

Environment: Rural

Bibliography: 1994-1896 Plat Map
c. 1925 Plat Map

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1870

Condition: Fair

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: Upright & Wing

Type/Vernacular: Upright and wing

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:

Other:

Plan

Rectangular: Polygonal:

L: T: X: U:

Irregular: Other:

Depth

Single-Pile: Double-Pile:

Irregular/Massed: Other:

Number of Bays: 2

Foundation: OTHER

Foundation Description: Quarry faced CMU

Walls Description: Composite siding, corner boards, cornice boards

Other Walls: Composite

Roof

Side-Gable: Front-Gable: Cross-Gable:

Hip: Pyramidal: Mansard:

Other:

Material: ASPHALT

Features: Brick chimney

Porches

Front: Side: Back:

Notes: Front half hip roof, turned post supports, wood weather board balustrade; rear shed roof, wood supports

Openings: Wood 2/2 double hung

Interior: -

Outbuildings: English barn,
Garage,
Grain bin,
Machine shed,
Pumphouse,
Shed,
Windmill

Notes: Metal gable roof outbuildings with wood weather board

Statement of Significance: Good integrity

Good collection of Contributing outbuildings

Architectural Description: From 1994 Survey:
Vernacular Upright and Wing
Addition and porch on wing added
1.5 and 1 stories
Irregular plan - originally an L Plan
Ashlar, concrete block foundation
Asbestos slate walls, wide frieze board
Gable front roof with side gable wing, medium slope, interlock asphalt shingle
Full width porch on gable front with turned posts, closed rail, enclosed porch off
wind with drip scroll brackets, enclosed, enclosed rear porch
3 ranked gable front with center door, 2/2 double hung sash windows, small 1/1
double hung sash, frieze windows, doors on rear and side enclosed porch
Garage, board and batter spring house, early gabled barn, B & B shed, milk
house, machine shed
Significant for early vernacular, farm building, owned by Sarah C. Welker 1896,
T. Durkin c. 1925

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IHSSI (County Survey)

Survey Number: 001-693-30011

Rating: Contributing

Historic Name: House

Year Dataset Compiled: 2009

National Register File
Number: -**Survey County**

County	Legal Township(s)	Quad Name(s)
Adams	St. Marys	Wren

Address: County Road 450 North

City: -

Location Notes: 0.1 mile west of SR 101

Coordinates

Easting	Northing
681956	4520061

Common Name: -

Category: Building

Visible?: Historic District?:

Historic District Name: -

Ownership: private

Use: PresentResidence: Commercial: Vacant: Other: Other: **Use: Past**Residence: Commercial: Vacant: Other: Other: **Surveys/Legal Protections**

National Register: State Register: Hoosier Homestead:

National Historic Landmark: Local Designation: Protective Covenants:

Other:

Areas of Significance: ARCHITECTURE

Other Significance: -

Endangered: No

Explanation: -

Number of Contributing Resources: 2

Number of Non-contributing Resources: 0

Environment: Rural

Bibliography: -

Structure Type

Bridge:

Cemetery:

Other:

Time Period(s): c. 1885

Condition: Good

Year Demolished: -

Integrity: Slightly Altered

Date Moved: -

Alterations: -

Style: -

Type/Vernacular: Shotgun

Architect/Builder

Architectural Firm

Affiliation

-

-

-

Replacement

Windows:

Roof:

Other:

Additions

Siding:

Wings:

Other:

Removals: -

Stories

1: 1 1/2: 2: 2 1/2:
Other:

Plan

Rectangular: Polygonal:
L: T: X: U:
Irregular: Other:

Depth

Single-Pile: Double-Pile:
Irregular/Massed: Other:

Number of Bays: 1

Foundation: UNKNOWN

Foundation Description: -

Walls Description: -

Other Walls: -

Roof

Side-Gable: Front-Gable: Cross-Gable:
Hip: Pyramidal: Mansard:
Other:

Material: METAL

Features: -

Porches

Front: Side: Back:

Notes: Half hipped metal roof, turned post wood supports

Openings: Wood 2/2 double hung

Interior: -

Outbuildings: Shed

Notes: Metal roof, wood weather board

Statement of Significance: House with good integrity

Architectural Description: -

Cemetery Registry



Cemetery Active:

Cemetery Name: Alpha,
Valley United Brethren,
Alpha

IHSSI Number: 003-280-05030

Rating: Contributing

Year Dataset Compiled: 2009

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Root	Hoagland

Address: southeast corner of 900N abd 100E

City: Decatur

Quarter Sections

1/4:	1/4:	1/4:	1/4:	Section:	Township:	Range:
-	NE	NE	NE	22	28N	14E

Terrestrial Coordinates (in decimal degrees)

Latitude: 40.8758

Longitude: 84.9192

Coordinates

Easting

Northing

675270	4527122
675323	4527125
675335	4527030
675275	4527030

Time Period(s): 1845-1923

National Register File Number: -

Cultural Period(s)

Confidential

-

Ethnic Group(s): German, Irish

Religious Affiliation: Methodist/Wesleyan

Affiliated Group(s): Veterans

Other Affiliated Group: -

Source of Cemetery Information

Visited Site:

Cemetery Registry:

County History:

Map:

Family/Community Lore:

Other:

Description: interim report

Supporting Documentation: -

Year Established: -

Date of First Burial: 1845

Date of Most Recent Burial: 1923

Number of Stones: 174

Number of Burial Spaces: -

Total Occupied Spaces: -

Access to cemetery:

Buildings/Structures on property: -

Architectural Description: -

Fence/Enclosure

Fence/enclosure surrounds cemetery:

Material: -

Condition: -

Other natural features in
the cemetery: -

Damage

Marker damage:

Source of damage: Time and nature

Other source of damage: -

Location

Cemetery has been
moved:

Previous Location: -

Number of Graves Moved: -

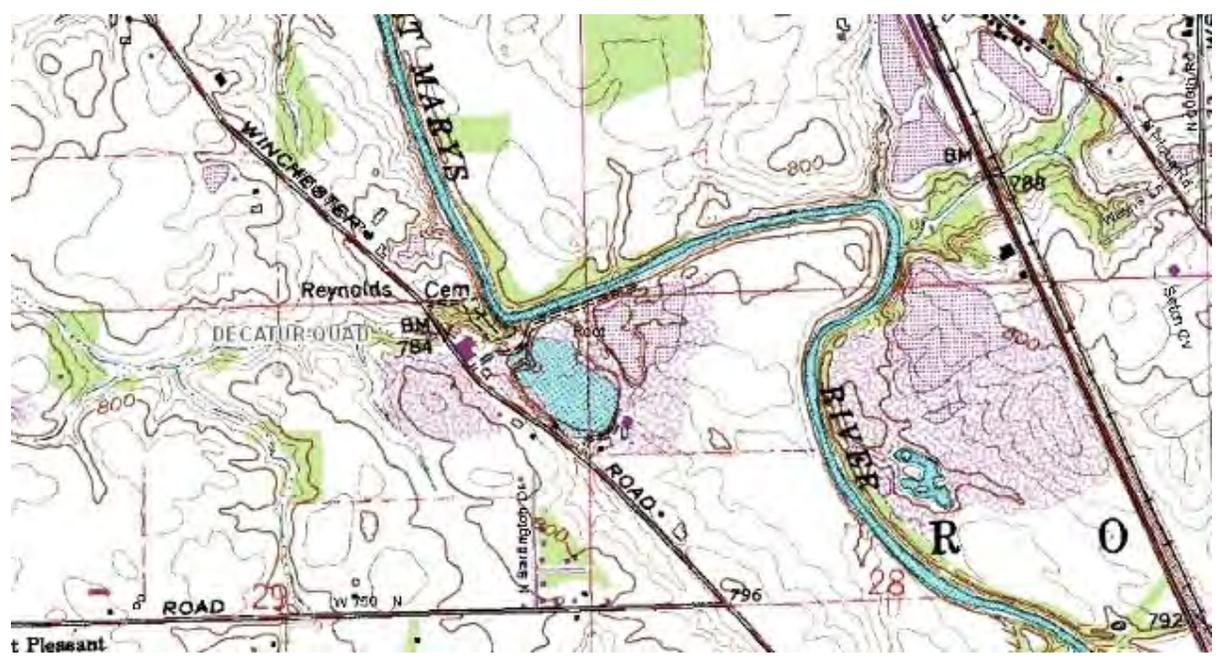
Date Moved: -

Future encroachment or
danger: -

Other pertinent
information: -

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Cemetery Registry



Cemetery Active:

Cemetery Name: Reynolds

IHSSI Number: 001-155-05023

Rating: Contributing

Year Dataset Compiled: 2009

Survey County

County	Legal Township(s)	Quad Name(s)
Adams	Root	Decatur

Address: 7900 Winchester Road
 City: Decatur

Quarter Sections

1/4:	1/4:	1/4:	1/4:	Section:	Township:	Range:
-	NW	NE	NE	29	28N	14E

Terrestrial Coordinates (in decimal degrees)

Latitude: 40.8608
 Longitude: 84.9603

Coordinates

Easting	Northing
671876	4525365
671959	4525297
671838	4525349
671970	4525278
671896	4525253

Time Period(s): 1837-1955

National Register File Number: -

Cultural Period(s)	Confidential
-	-

Ethnic Group(s): English, German, Irish

Religious Affiliation: -

Affiliated Group(s): Veterans

Other Affiliated Group: -

Source of Cemetery Information

Visited Site:

Cemetery Registry:

County History:

Map:

Family/Community Lore:

Other:

Description: interim report

Supporting Documentation: -

Year Established: -

Date of First Burial: 1837

Date of Most Recent Burial: 1955

Number of Stones: 155

Number of Burial Spaces: -

Total Occupied Spaces: -

Access to cemetery:

Buildings/Structures on property: -

Architectural Description: -

Fence/Enclosure

Fence/enclosure surrounds cemetery:

Material: WOOD

Condition: -

Other natural features in the cemetery: also metal fencing

Damage

Marker damage:

Source of damage: Custodial care

Other source of damage: time and nature

Location

Cemetery has been moved:

Previous Location: -

Number of Graves Moved: -

Date Moved: -

Future encroachment or danger: -

Other pertinent information: -



Appendix “F”

Completed Farmland Conversion Impact Rating Form AD-1006

2018 Sanitary Sewer Improvements Preliminary Engineering Report (PER) For The Adams County Regional Sewer District Adams County, Indiana

August 21, 2018

Chris Ripke, E.I.
Commonwealth Engineers, Inc.
9604 Coldwater Road, Suite 203
Fort Wayne, Indiana 46825

Dear Mr. Ripke:

The proposed project to make seven improvements to sanitary sewer extension 1 and sanitary sewer extension 2 in Adams County, Indiana, as referred to in your letter received August 8, 2018, will not cause a conversion of prime farmland.

If you need additional information, please contact Rick Neilson at 317-295-5875.

Sincerely,

 Digitally signed by JERRY
RAYNOR
Date: 2018.08.28 14:37:55
-04'00'

JERRY RAYNOR
State Conservationist

Enclosures





August 8, 2018

U.S. Department of Agriculture
Soil Conservation Service
6013 Lakeside Boulevard
Indianapolis, IN 46278

Attn: Rick Neilson
Acting State Soils Scientist

Re: Sanitary Sewer System Improvements
Adams County Regional Sewer District
Adams County, Indiana

Dear Rick,

Enclosed herewith please find three partially completed Farmland Conversion Impact Rating Form, Form AD-1006, in addition to appropriate site plan for the proposed project area alternatives. The submittal of this form is required for inclusion within the Preliminary Engineering Report generated to satisfy the funding requirements of the IDEM - State Revolving Fund Agency.

The seven proposed projects consist of the construction of new gravity and/or low pressure sanitary collection sewers coupled with grinder pump stations. Three of the areas will have lift stations and transmission force mains. The discharge of these projects will be to the City of Decatur or Berne for treatment. The projects will service existing residential development served by failing individual, on-site septic systems. The soils and geology of the project areas will not be adversely impacted by the proposed projects. All proposed utility work will occur in road right-of-way, existing easements and areas previously disturbed by construction within the following areas:

Sanitary Sewer System Extensions #1

- A) Linn Grove
- B) Rivare (Bobo)
- C) Barrington Woods
- D) Preble

Sanitary Sewer System Extensions #2

- A) Peterson
- B) Monmouth Extended
- C) Clem's Lake

If there are any further questions or concerns with the proposed project or the completed portions of the Form, please feel free to contact the author.

Respectfully yours,

COMMONWEALTH ENGINEERS, INC.



Chris Ripke, E.I.

encl.

cc: Shannon Smitley, President, ACRSD

FARMLAND CONVERSION IMPACT RATING

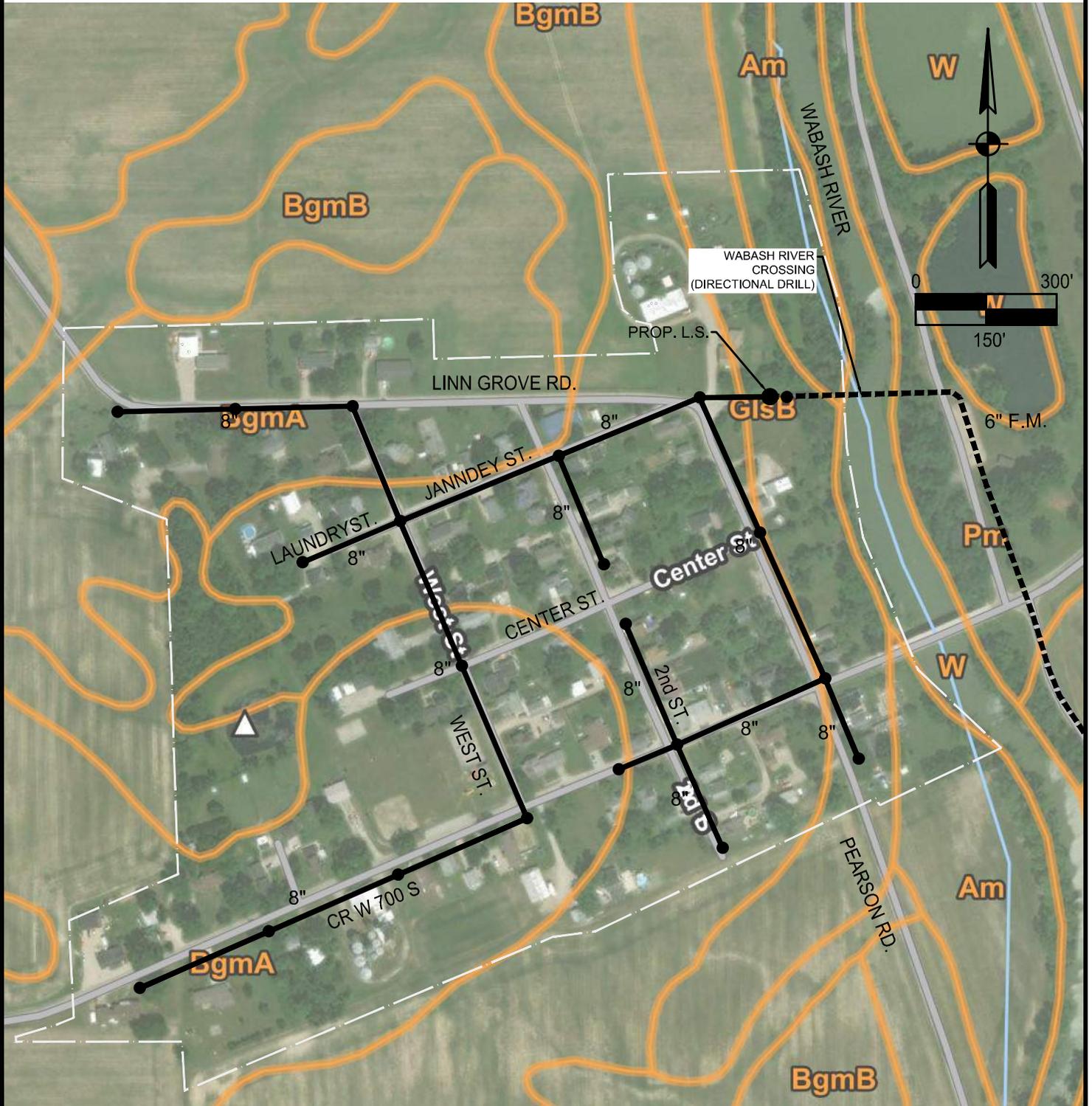
PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 8-6-2018				
Name of Project Sanitary Sewer Extensions #1		Federal Agency Involved IDEM-SRF				
Proposed Land Use Urban Use		County and State Adams County, Indiana				
PART II (To be completed by NRCS)		Date Request Received By NRCS		Person Completing Form:		
Does the site contain Prime, Unique, Statewide or Local Important Farmland? (If no, the FPPA does not apply - do not complete additional parts of this form)		YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size	
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %				
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS				
PART III (To be completed by Federal Agency)		Alternative Site Rating				
		Site A	Site B	Site C	Site D	
A. Total Acres To Be Converted Directly						
B. Total Acres To Be Converted Indirectly						
C. Total Acres In Site						
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland						
B. Total Acres Statewide Important or Local Important Farmland						
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted						
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value						
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)						
PART VI (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)		Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use		(15)				
2. Perimeter In Non-urban Use		(10)				
3. Percent Of Site Being Farmed		(20)				
4. Protection Provided By State and Local Government		(20)				
5. Distance From Urban Built-up Area		(15)				
6. Distance To Urban Support Services		(15)				
7. Size Of Present Farm Unit Compared To Average		(10)				
8. Creation Of Non-farmable Farmland		(10)				
9. Availability Of Farm Support Services		(5)				
10. On-Farm Investments		(20)				
11. Effects Of Conversion On Farm Support Services		(10)				
12. Compatibility With Existing Agricultural Use		(10)				
TOTAL SITE ASSESSMENT POINTS		160	0	0	0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	0	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	0	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	0	0	0	0
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>				
Reason For Selection:						
Name of Federal agency representative completing this form:					Date:	

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 8-6-2018			
Name of Project Sanitary Sewer Extensions #2		Federal Agency Involved IDEM-SRF			
Proposed Land Use Urban Use		County and State Adams County, Indiana			
PART II (To be completed by NRCS)		Date Request Received By NRCS		Person Completing Form:	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %			
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS			
PART III (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site					
PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide Important or Local Important Farmland					
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)					
PART VI (To be completed by Federal Agency) Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use		(15)			
2. Perimeter In Non-urban Use		(10)			
3. Percent Of Site Being Farmed		(20)			
4. Protection Provided By State and Local Government		(20)			
5. Distance From Urban Built-up Area		(15)			
6. Distance To Urban Support Services		(15)			
7. Size Of Present Farm Unit Compared To Average		(10)			
8. Creation Of Non-farmable Farmland		(10)			
9. Availability Of Farm Support Services		(5)			
10. On-Farm Investments		(20)			
11. Effects Of Conversion On Farm Support Services		(10)			
12. Compatibility With Existing Agricultural Use		(10)			
TOTAL SITE ASSESSMENT POINTS		160	0	0	0
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	0	0	0
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>			
Reason For Selection:					
Name of Federal agency representative completing this form:					Date:

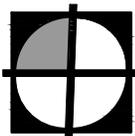
LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION



7256 Company Dr.
Indianapolis, IN 46237
(317) 888-1177

9604 Coldwater Road,
Suite 203
Fort Wayne, IN 46825
(260) 494-3223



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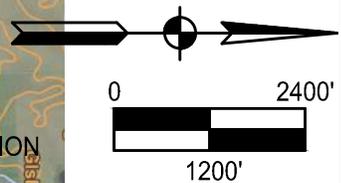
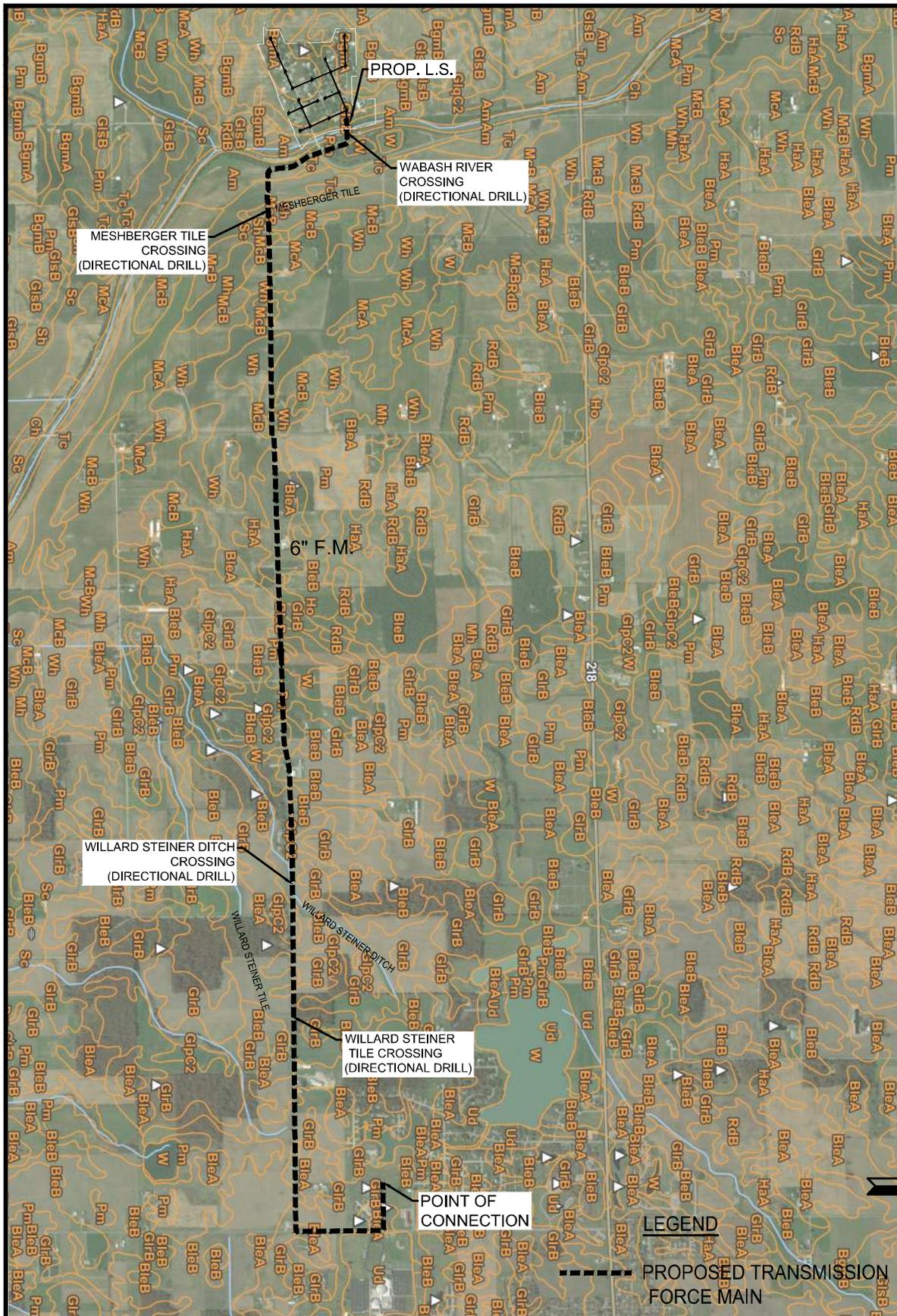
1419 W. Lloyd Expressway,
Suite 401
Evansville, IN 47710
(812) 474-1177

**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

LINN GROVE - SOILS MAP

FIGURE

3C-1



LEGEND

----- PROPOSED TRANSMISSION FORCE MAIN

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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

LINN GROVE - SOILS MAP

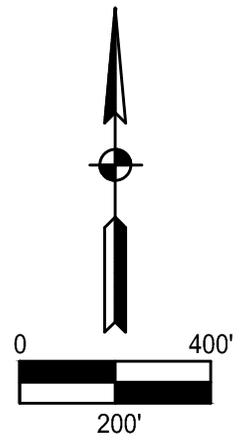
FIGURE

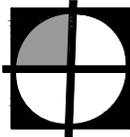
3C-2



LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION

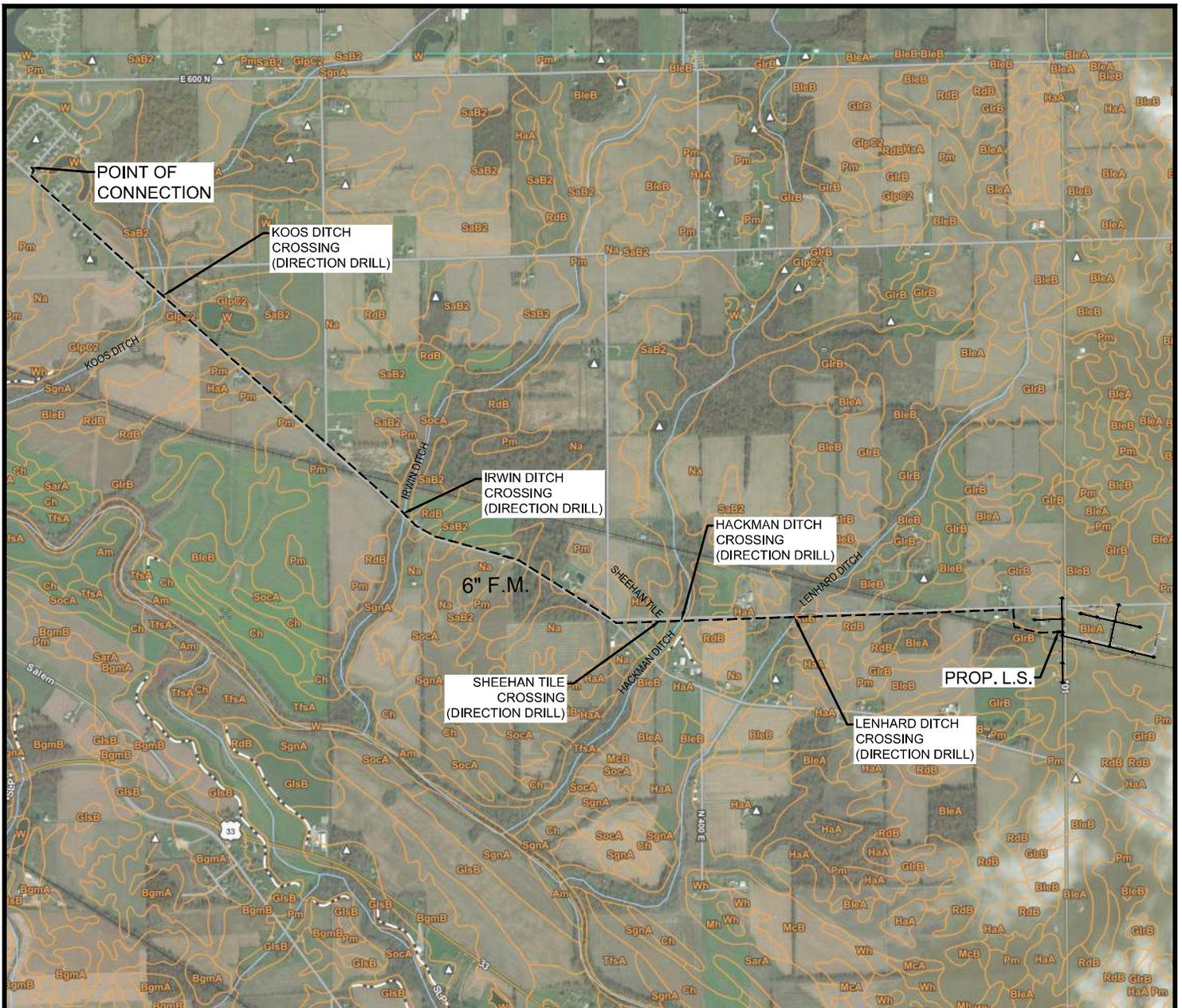


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<p>9604 Coldwater Road, Suite 203 Fort Wayne, IN 46825 (260) 494-3223</p>	<p>1419 W. Lloyd Expressway, Suite 401 Evansville, IN 47710 (812) 474-1177</p>	

**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

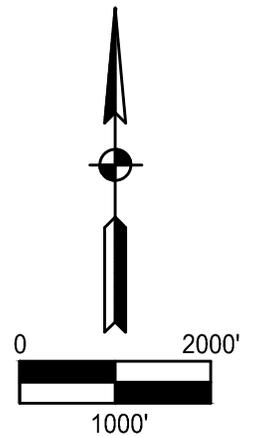
RIVARE (BOBO) - SOILS MAP

**FIGURE
4C-1**

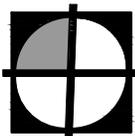


LEGEND

----- PROPOSED TRANSMISSION
FORCE MAIN



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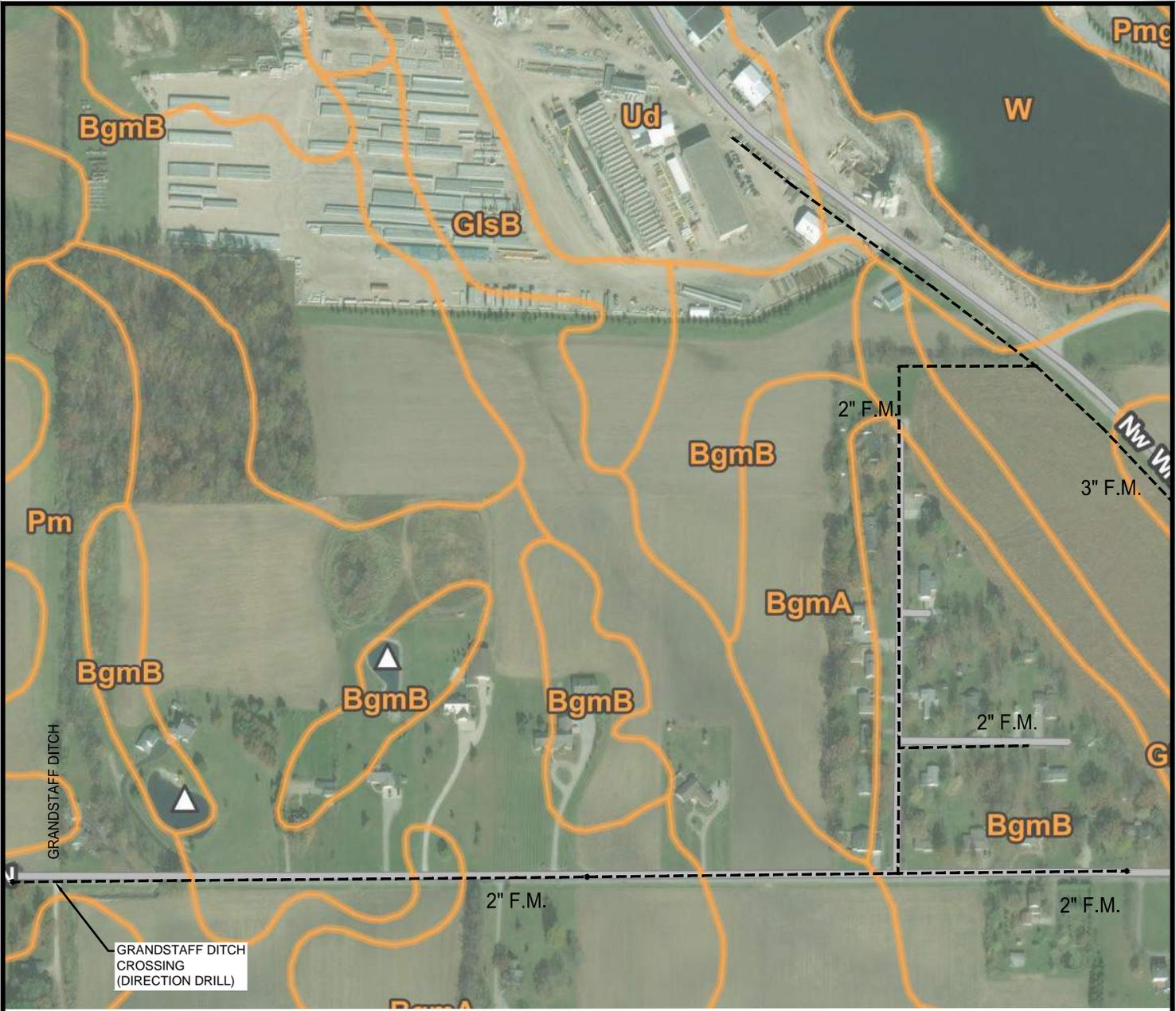
**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

RIVARE (BOBO) - SOILS MAP

FIGURE

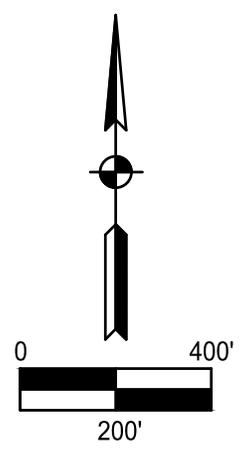
4C-2

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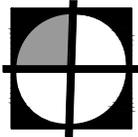


LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION



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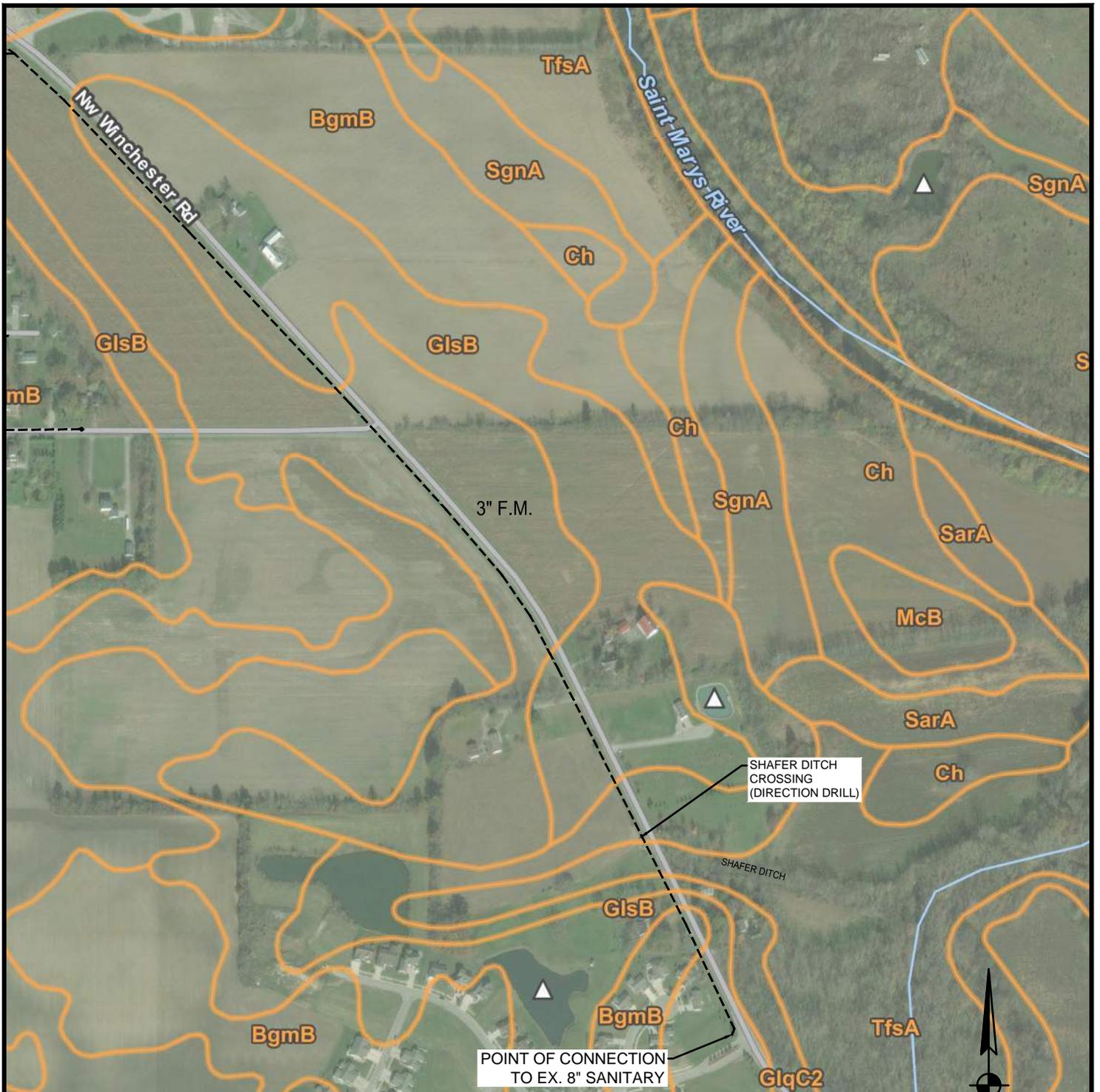
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

BARRINGTON WOODS - SOILS MAP

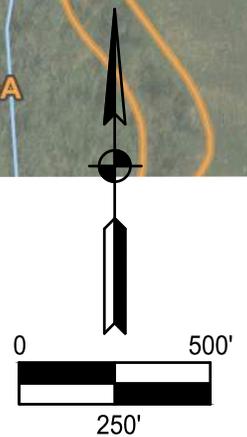
FIGURE

5C-1

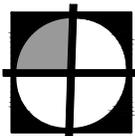


LEGEND

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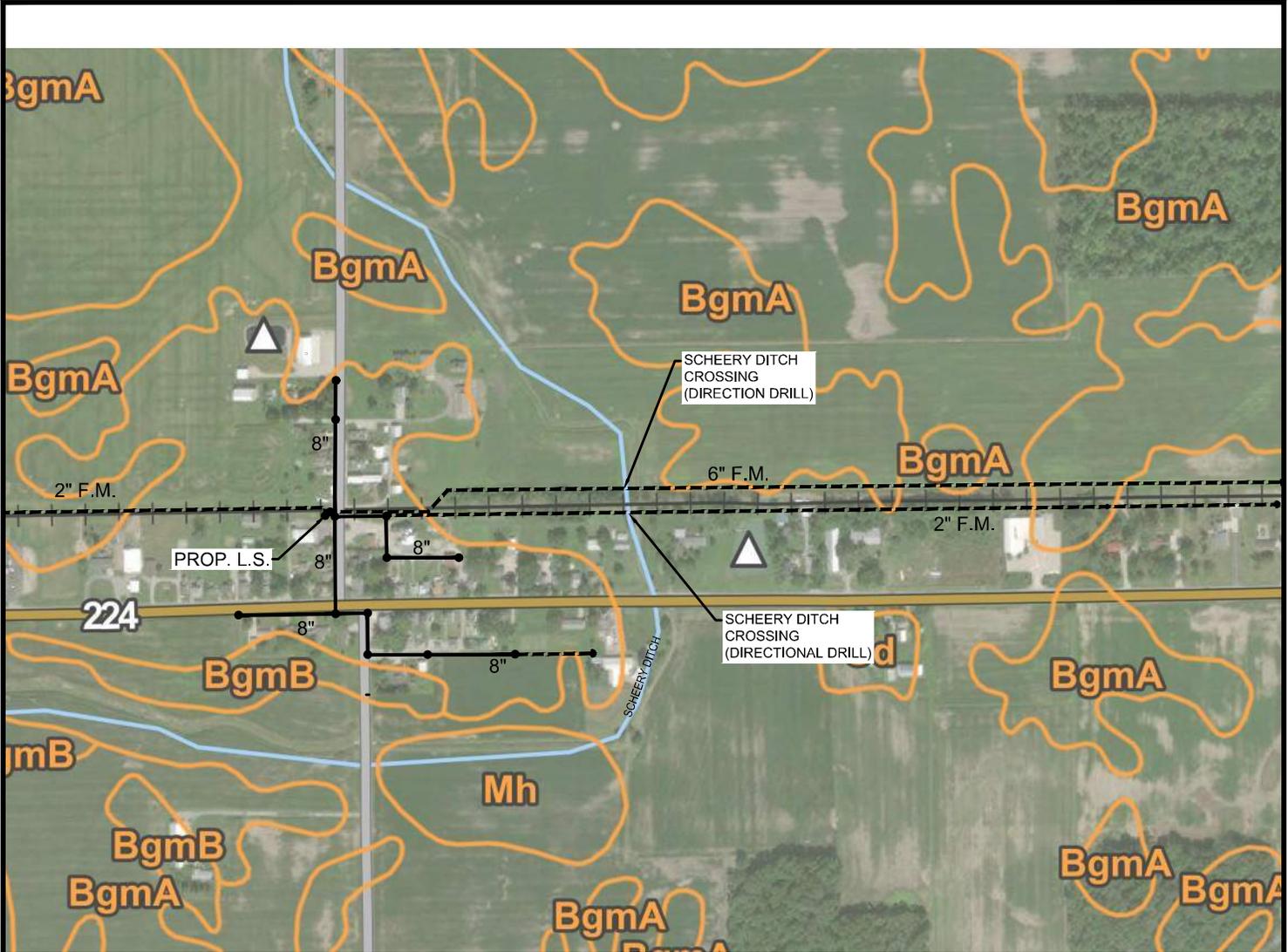
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ADAMS COUNTY, INDIANA**

BARRINGTON WOODS - SOILS MAP

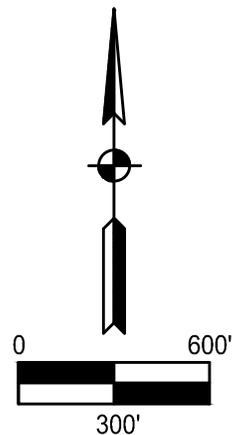
FIGURE

5C-2



LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION



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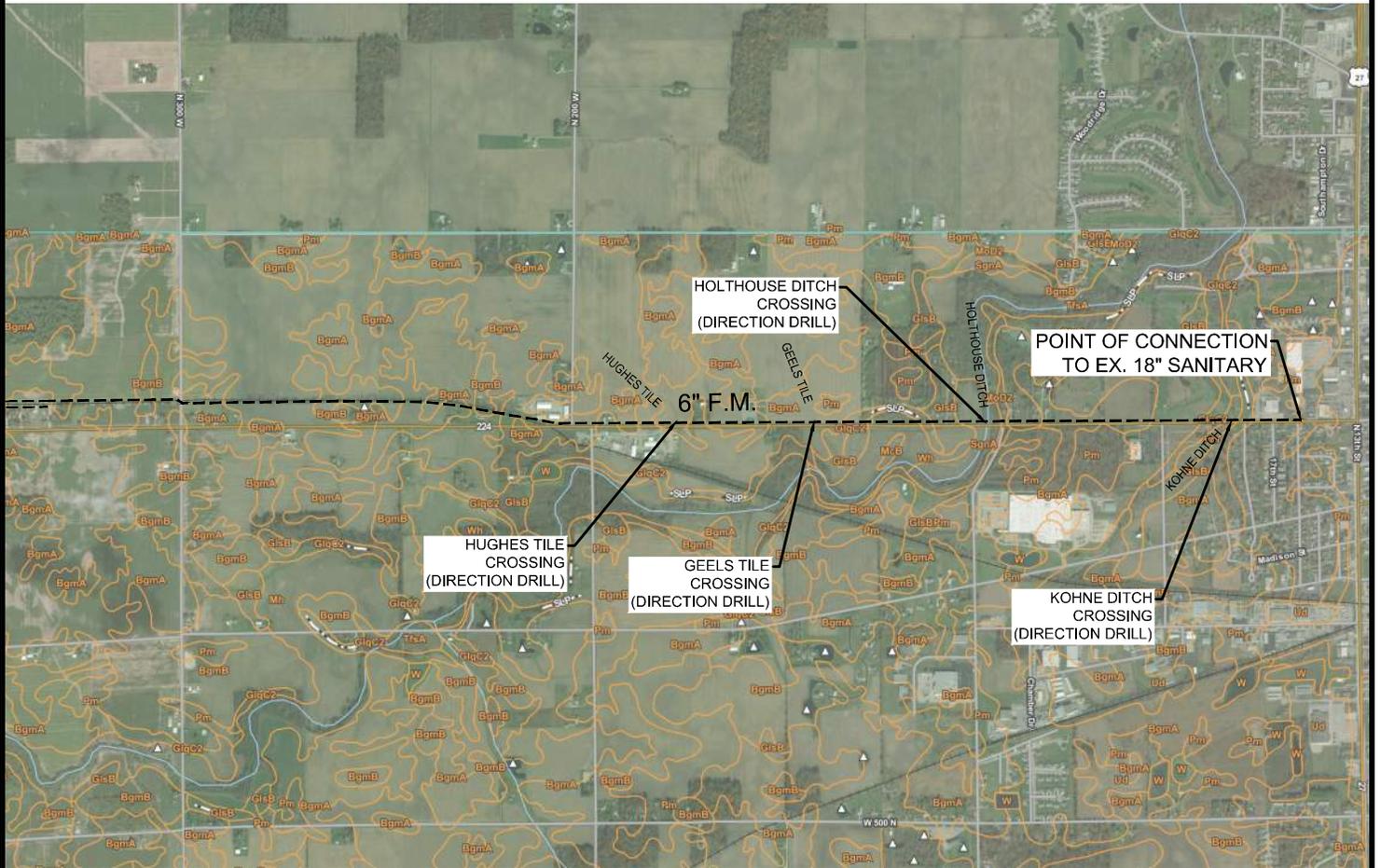
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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

PREBLE - SOILS MAP

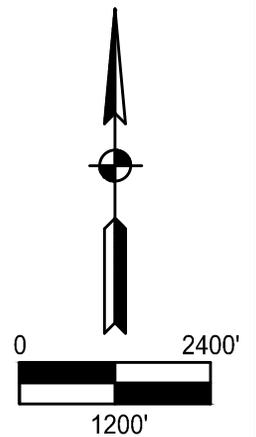
FIGURE

6C-1



LEGEND

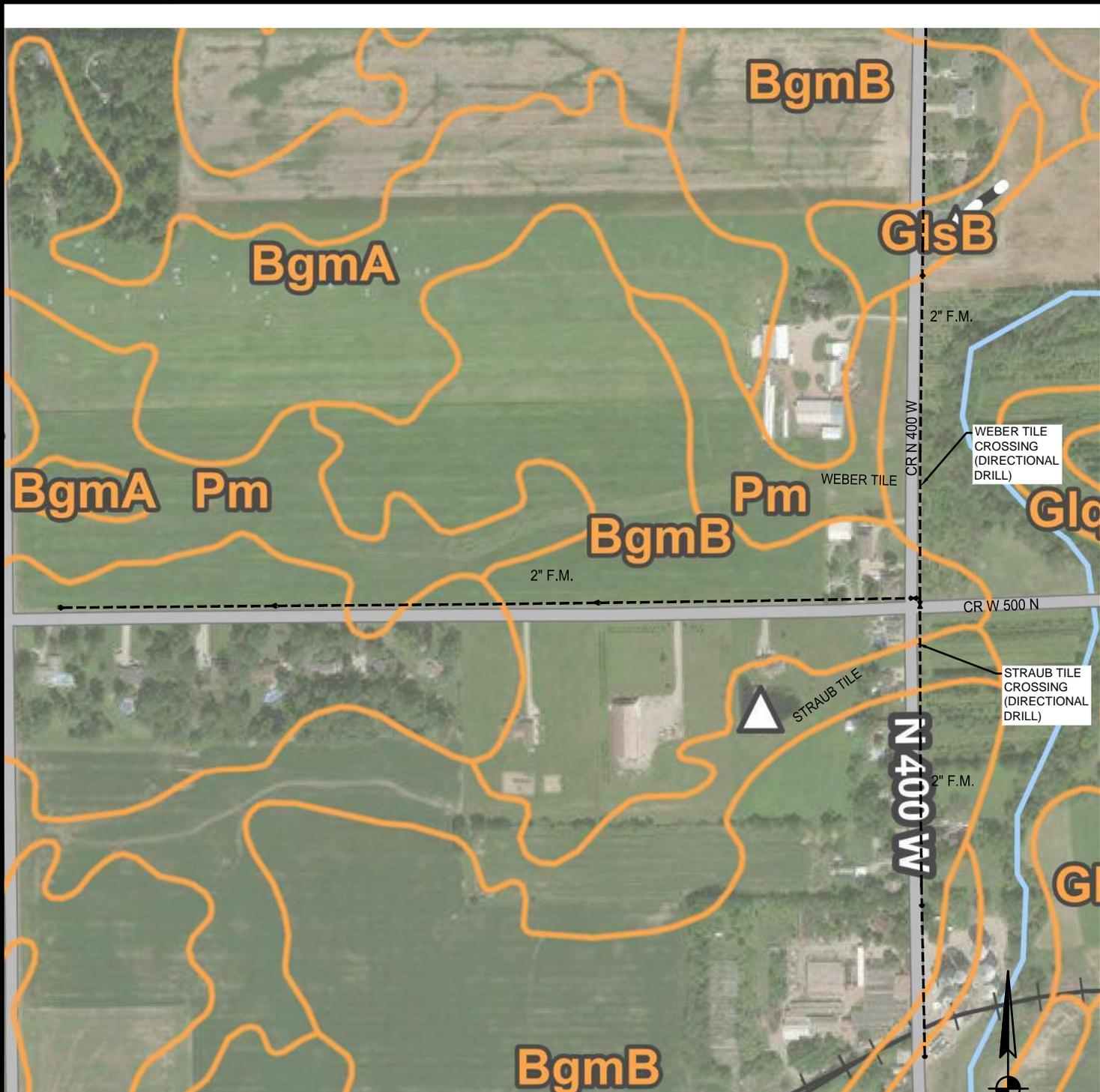
----- PROPOSED TRANSMISSION FORCE MAIN



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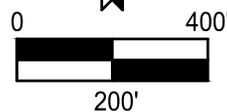
<p>ADAMS COUNTY REGIONAL SEWER DISTRICT ADAMS COUNTY, INDIANA</p>
<p>PREBLE - SOILS MAP</p>

<p>FIGURE</p>
<p>6C-2</p>

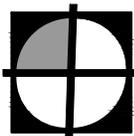


LEGEND

- PROPOSED TRANSMISSION FORCE MAIN
- PROPOSED GRAVITY SEWER WITH MANHOLE
- PROPOSED LIFT STATION



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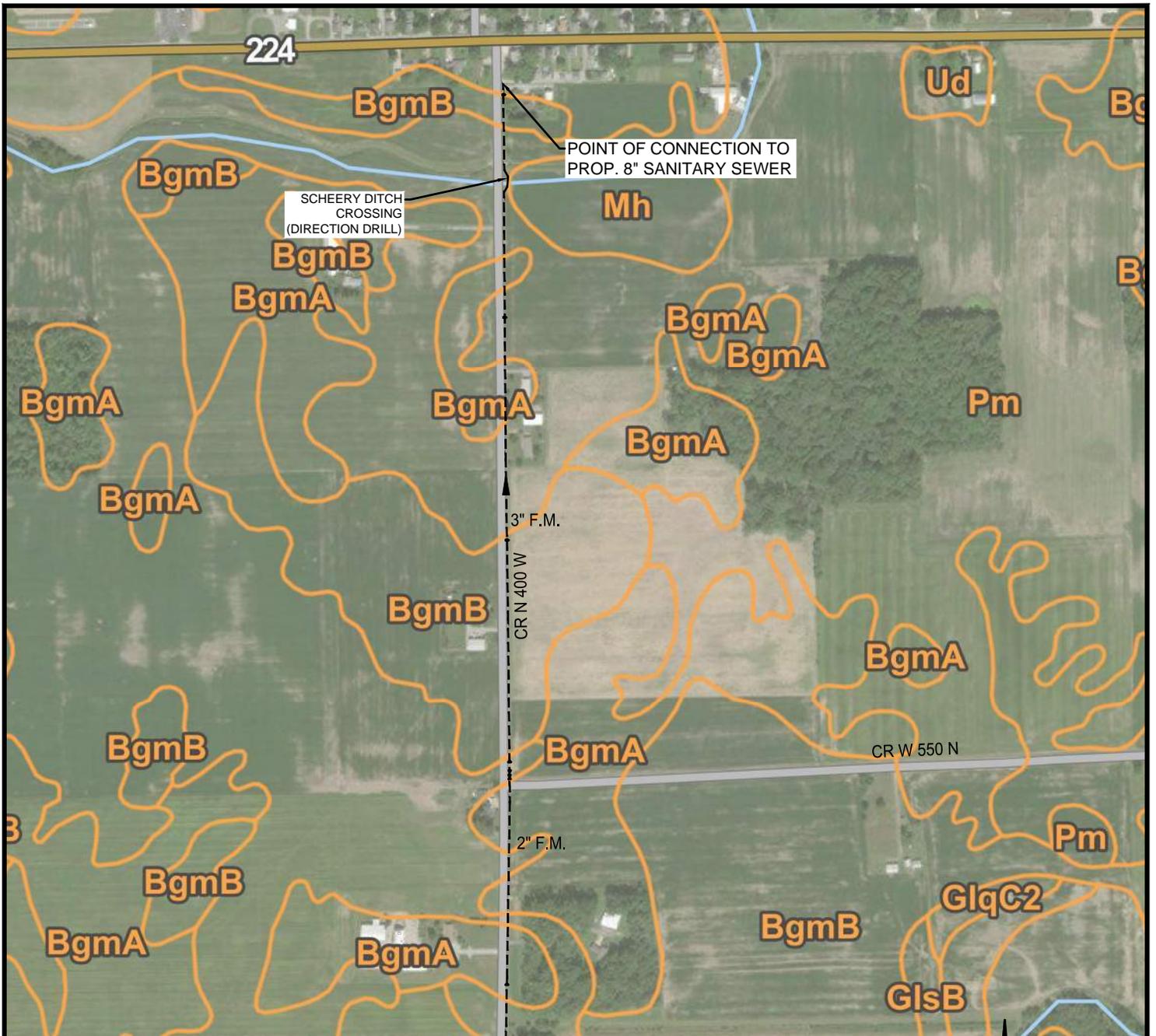
ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

PETERSON - SOILS MAP

FIGURE

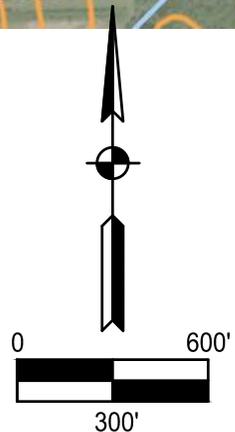
7C-1

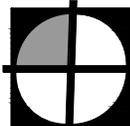
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LEGEND

-  PROPOSED TRANSMISSION FORCE MAIN
-  PROPOSED GRAVITY SEWER WITH MANHOLE
-  PROPOSED LIFT STATION



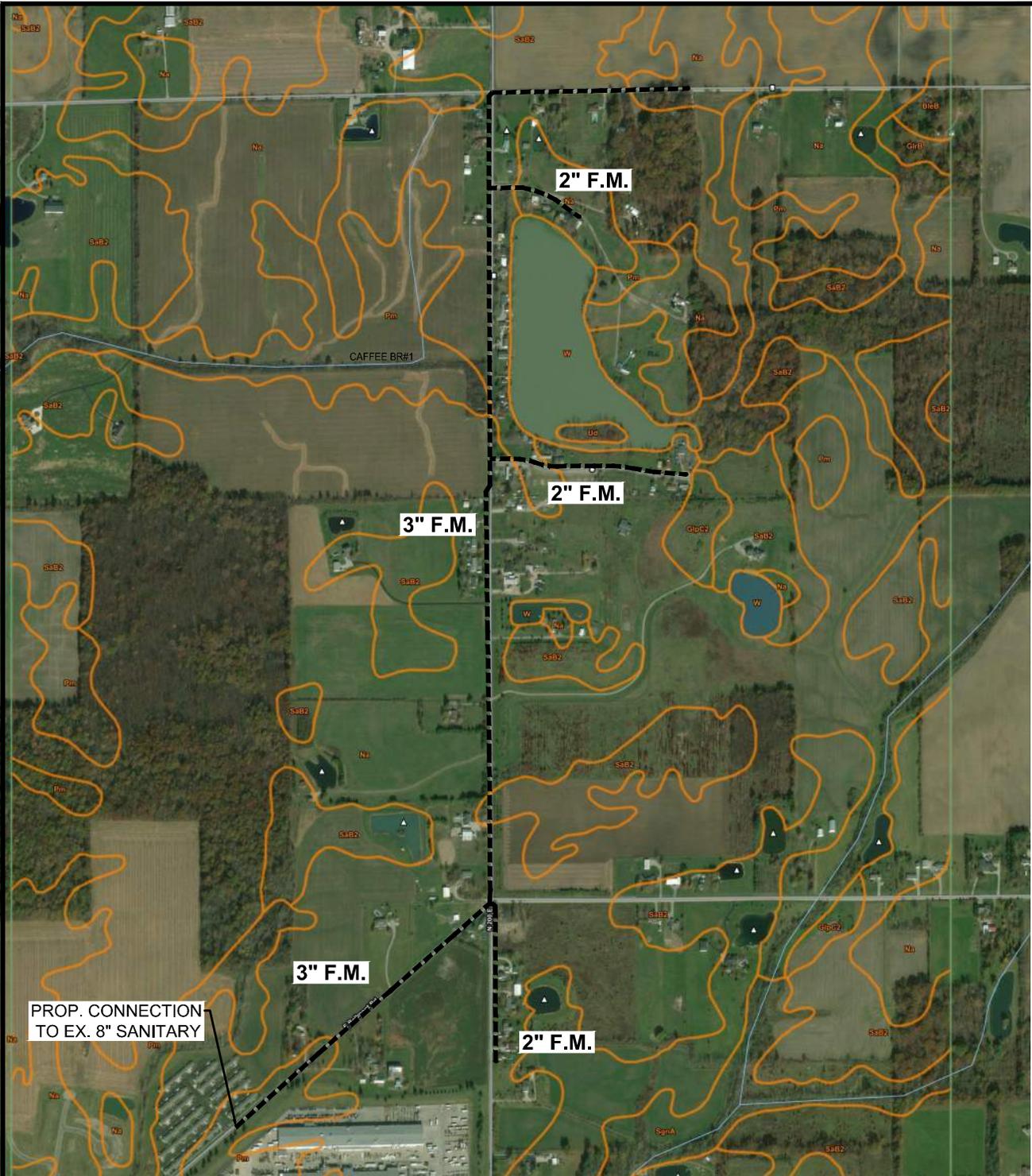
<p>7256 Company Dr. Indianapolis, IN 46237 (317) 888-1177</p>	 <p>COMMONWEALTH ENGINEERS, INC. A wealth of resources to master a common goal.</p>	<p>104 N. Main St. Crown Point, IN 46307 (219) 900-9177</p>
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ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

PETERSON - SOILS MAP

FIGURE

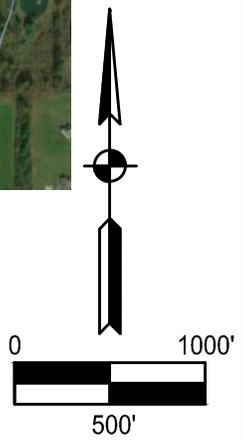
7C-2



PROP. CONNECTION
TO EX. 8" SANITARY

LEGEND

 PROPOSED FORCE MAIN WITH GRINDER PUMP STATION



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**ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA**

CLEM'S LAKE - SOILS MAP

FIGURE

9C-1



Appendix “G”

Preliminary Design Summary

**2018 Sanitary Sewer Improvements
Preliminary Engineering Report
(PER)
For The
Adams County Regional Sewer District
Adams County, Indiana**

**Sanitary Sewer System Improvements
Adams County Regional Sewer District
Adams County, IN
Preliminary Design Summary-2018**

III. Treatment Units

Plant Site Lift Station (N/A)

1. Location: *
2. Type of pump: *
3. Number of pumps: 2
4. Constant or variable speed: *
5. Capacity of pumps: *
6. RPM and TDH: *
7. Volume of the wet well: *
8. Detention time in the wet well: *
9. A gate valve and a check valve in the discharge line: *
10. A gate valve on suction line: *
11. Ventilation: *
12. Standby power: *
13. Alarm: Yes
14. Breakwater tank: *
15. Bypass or overflow: *

Flow Equalization (N/A)

1. Number and size of units: *
2. Method of flow diversion to unit: *
3. Air and mixing provided: *
4. Method and control of flow return: *
5. Description of unit operation: *
6. Lagoon sealing: *
7. Method of sludge removal: *

Flow Meters (N/A)

1. Type: *
2. Location: *
3. Indicating, recording and totalizing: *

Grit Chamber (N/A)

1. Type of grit chamber: *
2. Number of units: *
3. Size of unit: *
4. Method of velocity (aeration) control: *

5. Velocity (aeration) in the chamber: *
6. Drain provided: *

7. Flow restrictions: *
8. Facilities to isolate: *

Comminutors (N/A)

1. Type:
2. Location:
3. Maximum capacity:
4. By-pass (over flow) bar screen:

Screens (N/A)

1. Type: Bar Screen
2. Number and capacity: One
3. Bar spacing and slope: Unknown
4. Method of cleaning: Manual
5. Disposal of screenings: Unknown

Primary Settling (N/A)

1. Type of clarifier: *
2. Number and size of units: *
3. Surface settling rate (gpd/sf)
 - a. at the design flow: *
 - b. at the influent pumping rate: *
 - c. at the equalized flow rate: *
4. Detention time: (hrs): *
5. Type of sludge removal mechanism: *
6. Weir overflow rate: *
7. Disposition of scum: *
8. Location of overflow weir: *
9. Facilities to isolate: *

Activated Sludge (N/A)

1. Type of activated sludge process: *
2. Number and size of units: *
3. Detention time (hrs): *
4. Organic loading (lb BOD/1000 cf): *
5. Type of aeration equipment: *
6. Type and size of blowers: *
7. Air required (itemize, cfm): *
8. Provisions of speed adjustment: *
9. Air provided: *
10. Ventilation in the blower room: *
11. Number and capacity of return sludge pump: *
12. Method of return sludge rate control: *
13. Return sludge rate as % of design flow: *
14. Provisions for return rate metering: *
15. Location of return sludge discharge: *

16. Facilities to isolate units: *
17. Facilities for flow split control: *

Oxidation Ditch (N/A)

1. Number and size of units:
2. Detention time (hrs):
3. Organic loading (lb BOD /1000 cf):
4. Type and efficiency of aeration equipment (lb O /HP-hr):
5. Oxygen required: *
6. Oxygen provided:
7. Flow velocity in ditch:
8. Number and capacity of return sludge pump:
9. Method of return sludge rate control:
10. Return sludge rate as % of design flow:
11. Provisions for return sludge metering:
12. Location of return sludge discharge:
13. Facilities to isolate units:
14. Facilities for flow split control:

Trickling Filters (N/A)

1. Number and size of units: *
2. Type of media: *
3. Hydraulic loading (gpm/cf): *
4. Organic loading (lb BOD /1000 cf): *
5. Recirculation: *
6. Ventilation: *

Rotating Biological Contactor (N/A)

1. Size and number of units: *
2. Type of media: *
3. Detention time (min.): *
4. Organic loading (lb BOD /1000 sf): *
5. Hydraulic loading (gpd/sf): *
6. Method of shaft drive: *
7. Supplemental air: *
8. Facilities to isolate: *
9. Facilities for flow split control: *

Sequential Batch Reactors (N/A)

1. Type of Activated Sludge Process:
2. Number and Size of Units
3. Detention Time (Hours):
 - a. Low water level:
 - b. High water level:
 - c. Total cycle:
4. Organic Loading (lb BOD/1000cf)

- a. At low water level
- b. At high water level
- 5. Type of aeration equipment: *
- 6. Type and size of blowers: *
- 7. Air required (itemize, cfm): *
- 8. Provisions of speed adjustment: *
- 9. Air provided: *
- 10. Ventilation in the blower room: *
- 11. Number and capacity of waste sludge pump: *
- 12. Decanter rated at average flow (GPM):
at peak flow (GPM):
- 13. Facilities to isolate units: *
- 14. Facilities for flow split control: *

Lagoons (N/A)

- 1. Type of lagoons *
- 2. Number and size of lagoons *
- 3. Organic loading *
- 4. Type of aeration equipment (if applicable): *
- 5. Type and size of blowers (if applicable): *
- 6. Air required (if applicable): *
- 7. Air provided (if applicable): *
- 8. Controlled discharge facilities: *
- 9. Maximum water level: *
- 10. Freeboard: *
- 11. Soil boring data and permeability data: *
- 12. Slope of embankment and top width: *
- 13. Fence: *
- 14. Detention time: *
- 15. Stream gage: *
- 16. Lagoon seal: *
- 17. Facilities for multi-level lagoon discharge: *
- 18. Scum control: *

Secondary Clarifier (New)

- 1. Type of clarifiers:
- 2. Number and size of units:
- 3. Surface settling rate (gpd/sf): *
 - a. at the design flow:
 - b. at the influent pumping rate: *
 - c. at the equalized flow rate: *
- 4. Detention time (hrs): *
- 5. Type of sludge removal mechanism:
- 6. Weir overflow rate:
- 7. Disposal of scum:

8. Facilities for unit isolation:
9. Facilities for flow split control:

Rapid Sand Filtration (N/A)

1. Number and size of filters: *
2. Filtration rate: *
 - a. at peak flow rate: *
 - b. at average flow rate: *
3. Type, depth, and gram size of filter media: *
4. Backwash rate: *
5. Air scour
6. Capability to chlorinate ahead of the filter: *
7. Backwash pumps (number and capacity): *
8. Method of rate control: *
9. Source of capacity of backwash water:
10. Holding capacity or dirty water tank: *
11. Facilities for unit isolation: *

Micro-strainers (N/A)

1. Number and size of strainers: *
2. Screen material: *
3. Filtration rate: *
4. Backwash rate: *
5. Number and capacity of backwash pumps: *
6. Facilities for unit isolation: *
7. Slime control provisions: *

Two-day Lagoon (N/A)

1. Number and size of lagoon cells: *
2. Detention time (days): *
3. Type of chemical: *
4. Location of chemical injection: *
5. Number and size of chemical feed pumps: *
6. Rate adjustment capabilities: *
7. Capacity of chemical storage tank: *
8. Capacity of spill storage space: *
9. Expected daily use of chemical (dosage and solution): *
10. Lagoon seal: *
11. Parallel or series operation: *
12. Sludge removal facilities: *
13. Method of draining: *
14. Multi-level discharge: *
15. Scum control: *

Post-aeration (N/A)

1. Type of aeration: *

2. Number of units: *
3. Size of units: *
4. Aeration provided: *
5. Expected effluent DO: *

Nitrification System (N/A)

1. Type of nitrification system: *
2. Ammonia loading: *
3. Additional oxygen demand: *
4. Air supply system: *
5. Hydraulic detention time: *
6. Mean cell residence time (days): *

Phosphorus Removal Facilities (N/A)

1. Type of chemical to be used: *
2. Location of chemical injection: *
3. Number and size of chemical feed pumps: *
4. Size of chemical; storage tank: *
5. Capacity of spill storage space: *
6. Chemical dosage: *
7. Daily chemical consumption expected: *
8. Rapid mix tank: *
9. Slow mixing equipment: *
10. Other facilities - describe: *

Disinfection (N/A)

1. Type of disinfectant used: *
2. Size of contact tank: *
3. Contact time: *
4. Type of disinfectant feeders: *
5. Capacity of the feeders:*
6. Disinfectant dosage: *
7. Scum control baffle: *
8. Source of the disinfectant feed water: *
9. Breakwater tank for the feed water: *
10. Bypass: *
11. Drain for tank: *
12. Ventilation in chlorine room: *
13. Safety equipment: *

De-Chlorination (N/A)

1. Chemical used: *
2. Type of feeders: *
3. Capacity of feeders: *
4. Dosage: *
5. Type of diffuser: *

6. Diffuser location: *
7. Equipment location: *
8. Ventilation provided: *
9. Safety equipment: *

UV Disinfection (N/A)

1. Type: *
2. Location: *
3. Size of channel: *
4. Contact time: *
5. Dosage: *
6. Bypass: *
7. Safety Equipment: *
8. Cleaning Equipment: *
9. Intensity Monitoring: *

Sludge Thickening (N/A)

1. Number and size of thickeners: *
2. Type of sludge thickeners: *
3. Hydraulic loading: *
4. Solids loading: *
5. Provisions to chlorinate: *

Anaerobic Digesters (N/A)

1. Number and size of units:
2. Total volume: *
3. Organic loading: *
4. Hydraulic detention time: *
5. Volume per capita: *
6. Type of mixing: *
7. Heating: internal or external

Aerobic Digesters (N/A)

1. Number and size of units: *
2. Detention time: *
3. Organic loading: *
4. Air supply: *
5. Decanting method: *

Wet-Oxidation (N/A)

1. Number of units: *
2. Type of heat treatment: *
3. Temperature and pressure to be used: *
4. Capacity of the unit: *
5. Daily sludge production for heat treatment: *

Sludge Drying Beds (N/A)

1. Number and size of drying beds: *
2. Filter area per capita: *
3. Under-drain system: *
4. Discharge location of filtrate: *
5. Accessibility of dry sludge removal equipment: *

Mechanical Dewatering (N/A)

1. Type of dewatering units: *
2. Number and size of dewatering units: *
3. Capacity of dewatering units: *
4. Daily solids production for dewatering: *
5. Type of chemicals to be used: *

Sludge Disposal

1. Ultimate disposal method of sludge: *
2. Expected solids content of sludge (by the principal method of disposal): *
3. Location of disposal site: *
4. Ownership of the disposal site: *
5. Availability of sludge transport equipment: *

IV - Sewer Collection Systems

Linn Grove

Pump Stations – (New)

- | | | |
|---|---|---|
| 1. Location | - | Just east of the intersection of Linn Grove Rd. and Water St. |
| 2. Type of Pump | - | Submersible |
| 3. Number of Pumps | - | 2 |
| 4. Constant or Variable Speed | - | TBD |
| 5. Capacity of Pumps | - | TBD |
| 6. RPM & TDH | - | TBD |
| 7. Volume of the Wet Well | - | TBD |
| 8. Detention Time in the Wet Well | - | 30 minutes or less |
| 9. Gate & Check Valve in the Discharge Line | - | Gate and check valve |
| 10. Gate Valve in the Suction Line | - | N/A |
| 11. Ventilation | - | 4" diameter vent |
| 12. Standby Power | - | TBD |
| 13. Alarm | - | Audio & Visual Alarms |
| 14. Breakwater Tanks | - | No |
| 15. Bypass or Overflow | - | No |
| 16. Type of Force Main | - | HDPE DR-11 |
| 17. Diameter & Length of Force Main | - | 22,770 LF of 6" |

Sewers - New Collection Sewers

- | | | |
|--|---|---|
| 1. Type of Sewer Material | - | PVC |
| 2. Diameter & Length of Sewer | - | 5,230 LF of 8" and 1,650 LF of 6" (service lines). All gravity. |
| 3. Stream, Highway & Railroad Crossing | - | Force main – (Wabash River, Meshberger Tile, Willard Steiner Ditch, Willard Steiner Tile) |
| 4. Separation of Combined Sewers or New Sewers | - | New Sewers |
| 5. Number of Manholes | - | 20 |
| 6. Water Main Protection | - | 10' of Horizontal Separation & 1.5' of Vertical Separation |

Rivare (Bobo)

Pump Stations – (New)

- | | | |
|---|---|--|
| 1. Location | - | Westside of the intersection of S.R. 101 and Johns St. |
| 2. Type of Pump | - | Submersible |
| 3. Number of Pumps | - | 2 |
| 4. Constant or Variable Speed | - | TBD |
| 5. Capacity of Pumps | - | TBD |
| 6. RPM & TDH | - | TBD |
| 7. Volume of the Wet Well | - | TBD |
| 8. Detention Time in the Wet Well | - | 30 minutes or less |
| 9. Gate & Check Valve in the Discharge Line | - | Gate and check valve |
| 10. Gate Valve in the Suction Line | - | N/A |
| 11. Ventilation | - | 4" diameter vent |
| 12. Standby Power | - | TBD |
| 13. Alarm | - | Audio & Visual Alarms |
| 14. Breakwater Tanks | - | No |
| 15. Bypass or Overflow | - | No |
| 16. Type of Force Main | - | HDPE DR-11 |
| 17. Diameter & Length of Force Main | - | 17,800 LF of 8" |

Sewers - New Collection Sewers

- | | | |
|--|---|--|
| 1. Type of Sewer Material | - | PVC, HDPE DR-11 |
| 2. Diameter & Length of Sewer | - | PVC - 4,500 LF of 8", 810 LF of 6" (service lines)
HDPE - 3,300 LF of 2" and 3,200 LF of 1.5" (service lines off of force main).
Gravity and low pressure. |
| 3. Stream, Highway & Railroad Crossing | - | Koos Ditch, Irwin Ditch, Lenhard Ditch, Sheehan Tile, Hackman Dich |
| 4. Separation of Combined Sewers or New Sewers | - | New Sewers |
| 5. Number of Manholes | - | 16 |

- 6. Water Main Protection - 10' of Horizontal Separation & 1.5' of Vertical Separation

Individual Grinder Pumps – Simplex Grinder Pump Stations (26)

- 1. Location - The force main will connect the lift station with Decatur’s collection system by extending west along C.R. E 440 N to N Piqua Road; then northwest along N Piqua Road to Twin Lakes Drive. A low pressure sewer extension would extend from the force main to the southeast along the north side of N Piqua Road and also north along the east side of C.R. N 300 E.
- 2. Number of Pumps - 1 per station
- 3. Capacity of Pumps - Max. Capacity of 30 GPM
- 4. RPM & TDH - 3,450 RPM w/Shut-off Head of 200’
- 5. Volume of the Wet Well - 37 gallons/per foot of depth (30” Dia. Basin)
- 6. Gate Valve & Check Valve in the Discharge Line - Yes – Ball Valve & Check Valve
- 7. Ventilation - 2” diameter vent
- 8. Alarm - Audio & Visual Alarms

Barrington Woods

Pump Stations – N/A

- 1. Location -
- 2. Type of Pump -
- 3. Number of Pumps -
- 4. Constant or Variable Speed -
- 5. Capacity of Pumps -
- 6. RPM & TDH -
- 7. Volume of the Wet Well -
- 8. Detention Time in the Wet Well -
- 9. Gate & Check Valve in the Discharge Line -
- 10. Gate Valve in the Suction Line -
- 11. Ventilation -
- 12. Standby Power -
- 13. Alarm -
- 14. Breakwater Tanks -
- 15. Bypass or Overflow -
- 16. Type of Force Main -
- 17. Diameter & Length of Force Main -

Sewers - New Collection Sewers

- 1. Type of Sewer Material - HDPE DR-11
- 2. Diameter & Length of Sewer - 2,700 LF of 3”, 7,000 LF of 2” and 6,600 LF

- 3. Stream, Highway & Railroad Crossing - of 1.5" (service lines). All pressure. Grandstaff Ditch, Shafer Ditch
- 4. Separation of Combined Sewers or New Sewers - New Sewers
- 5. Number of Manholes - 0
- 6. Water Main Protection - 10' of Horizontal Separation & 1.5' of Vertical Separation

Individual Grinder Pumps – Simplex Grinder Pump Stations (35)

- 1. Location - Pressure sewer would extend to the north from the intersection of Winchester Road and Tiger's Trail to Prestress Services Industries, LLC. The pressure sewer will also extend west to N Barrington Road; then south to C.R. W 750 N. The pressure sewer will extend west 2,400' and east 600' along C.R. W 750 N.
- 2. Number of Pumps - 1 per station
- 3. Capacity of Pumps - Max. Capacity of 30 GPM
- 4. RPM & TDH - 3,450 RPM w/Shut-off Head of 200'
- 5. Volume of the Wet Well - 37 gallons/per foot of depth (30" Dia. Basin)
- 6. Gate Valve & Check Valve in the Discharge Line - Yes – Ball Valve & Check Valve
- 7. Ventilation - 2" diameter vent
- 8. Alarm - Audio & Visual Alarms
- 6. Gate Valve & Check Valve in the Discharge Line - Yes – Ball Valve & Check Valve
- 7. Ventilation - 2" diameter vent
- 8. Alarm - Audio & Visual Alarms

Preble

Pump Stations – (New)

- 1. Location - North intersection of US 224 and C.R. N 400 W on the westside of C.R. N 400 W.
- 2. Type of Pump - Submersible
- 3. Number of Pumps - 2
- 4. Constant or Variable Speed - TBD
- 5. Capacity of Pumps - TBD
- 6. RPM & TDH - TBD
- 7. Volume of the Wet Well - TBD
- 8. Detention Time in the Wet Well - 30 minutes of less
- 9. Gate & Check Valve in the Discharge Line - Gate and check valve
- 10. Gate Valve in the Suction Line - N/A
- 11. Ventilation - 4" diameter vent
- 12. Standby Power - TBD

- 13. Alarm - Audio & Visual Alarms
- 14. Breakwater Tanks - No
- 15. Bypass or Overflow - No
- 16. Type of Force Main - HDPE DR-11
- 17. Diameter & Length of Force Main - 20,800 LF of 8"

Sewers - New Collection Sewers

- 1. Type of Sewer Material - PVC, HDPE DR-11
- 2. Diameter & Length of Sewer - PVC – 2,600 LF of 8", 600 LF of 6" (service lines)
HDPE – 4,700 LF of 2" and 3,000 LF of 1.5" (service lines off of force main).
Gravity and low pressure.
- 3. Stream, Highway & Railroad Crossing - Scheery Ditch, Hughes Tile, Geels Tile, Holthouse Ditch, Kohne Ditch, US 224
- 4. Separation of Combined Sewers or New Sewers - New Sewers
- 5. Number of Manholes - 12
- 6. Water Main Protection - 10' of Horizontal Separation & 1.5' of Vertical Separation

Individual Grinder Pumps – Simplex Grinder Pump Stations (15)

- 1. Location - Pressure sewer would extend to the west and east from the lift station to service existing structures. An extension will also be located east of C.R. 400 E and south of US 224 to service existing structures.
- 2. Number of Pumps - 1 per station
- 3. Capacity of Pumps - Max. Capacity of 30 GPM
- 4. RPM & TDH - 3,450 RPM w/Shut-off Head of 200'
- 5. Volume of the Wet Well - 37 gallons/per foot of depth (30" Dia. Basin)
- 6. Gate Valve & Check Valve in the Discharge Line - Yes – Ball Valve & Check Valve
- 7. Ventilation - 2" diameter vent
- 8. Alarm - Audio & Visual Alarms
- 6. Gate Valve & Check Valve in the Discharge Line - Yes – Ball Valve & Check Valve
- 7. Ventilation - 2" diameter vent
- 8. Alarm - Audio & Visual Alarms

Peterson

Pump Stations – N/A

- 1. Location -
- 2. Type of Pump -
- 3. Number of Pumps -
- 4. Constant or Variable Speed -

- 5. Capacity of Pumps -
- 6. RPM & TDH -
- 7. Volume of the Wet Well -
- 8. Detention Time in the Wet Well -
- 9. Gate & Check Valve in the Discharge Line -
- 10. Gate Valve in the Suction Line -
- 11. Ventilation -
- 12. Standby Power -
- 13. Alarm -
- 14. Breakwater Tanks -
- 15. Bypass or Overflow -
- 16. Type of Force Main -
- 17. Diameter & Length of Force Main -

Sewers - New Collection Sewers

- 1. Type of Sewer Material - HDPE DR-11
- 2. Diameter & Length of Sewer - 2,900 LF of 3", 6,400 LF of 2" and 3,400 LF of 1.5" (service lines). All pressure.
- 3. Stream, Highway & Railroad Crossing - Strub Tile, Weber Tile, Ehlerding Tile, Sheery Ditch
- 4. Separation of Combined Sewers or New Sewers - New Sewers
- 5. Number of Manholes - 0
- 6. Water Main Protection - 10' of Horizontal Separation & 1.5' of Vertical Separation

Individual Grinder Pumps – Simplex Grinder Pump Stations (27)

- 1. Location - Pressure sewer would extend 2,400' to the west and 1,300' to the south of the intersection of C.R. W 500 N and C.R. N 400 W. The pressure sewer will also extend north along C.R. W 500 N to connect with the proposed Preble sanitary sewer.
- 2. Number of Pumps - 1 per station
- 3. Capacity of Pumps - Max. Capacity of 30 GPM
- 4. RPM & TDH - 3,450 RPM w/Shut-off Head of 200'
- 5. Volume of the Wet Well - 37 gallons/per foot of depth (30" Dia. Basin)
- 6. Gate Valve & Check Valve in the Discharge Line - Yes – Ball Valve & Check Valve
- 7. Ventilation - 2" diameter vent
- 8. Alarm - Audio & Visual Alarms
- 6. Gate Valve & Check Valve in the Discharge Line - Yes – Ball Valve & Check Valve
- 7. Ventilation - 2" diameter vent
- 8. Alarm - Audio & Visual Alarms

Monmouth Extended

Pump Stations – N/A

1. Location -
2. Type of Pump -
3. Number of Pumps -
4. Constant or Variable Speed -
5. Capacity of Pumps -
6. RPM & TDH -
7. Volume of the Wet Well -
8. Detention Time in the Wet Well -
9. Gate & Check Valve in the Discharge Line -
10. Gate Valve in the Suction Line -
11. Ventilation -
12. Standby Power -
13. Alarm -
14. Breakwater Tanks -
15. Bypass or Overflow -
16. Type of Force Main -
17. Diameter & Length of Force Main -

Sewers - New Collection Sewers

1. Type of Sewer Material - HDPE DR-11
2. Diameter & Length of Sewer - 2,900 LF of 3", 4,300 LF of 2" and 4,600 LF of 1.5" (service lines). All pressure.
3. Stream, Highway & Railroad Crossing - Kukelhan Tile
4. Separation of Combined Sewers or New Sewers - New Sewers
5. Number of Manholes - 0
6. Water Main Protection - 10' of Horizontal Separation & 1.5' of Vertical Separation

Individual Grinder Pumps – Simplex Grinder Pump Stations (30)

1. Location - Pressure sewer would start 700' east of the intersection of C.R. E 900 N and C.R. N 000 Road and continue along C.R. E 900 N to 900' east of C.R. N 100 E. The pressure sewer will also extend 1,500' south along C.R. N 100 E.
2. Number of Pumps - 1 per station
3. Capacity of Pumps - Max. Capacity of 30 GPM
4. RPM & TDH - 3,450 RPM w/Shut-off Head of 200'
5. Volume of the Wet Well - 37 gallons/per foot of depth (30" Dia. Basin)
6. Gate Valve & Check Valve in the Discharge Line - Yes – Ball Valve & Check Valve
7. Ventilation - 2" diameter vent

- | | | |
|---|---|--------------------------------|
| 8. Alarm | - | Audio & Visual Alarms |
| 6. Gate Valve & Check Valve in the Discharge Line | - | Yes – Ball Valve & Check Valve |
| 7. Ventilation | - | 2” diameter vent |
| 8. Alarm | - | Audio & Visual Alarms |

Clem’s Lake

Pump Stations – N/A

- | | |
|---|---|
| 1. Location | - |
| 2. Type of Pump | - |
| 3. Number of Pumps | - |
| 4. Constant or Variable Speed | - |
| 5. Capacity of Pumps | - |
| 6. RPM & TDH | - |
| 7. Volume of the Wet Well | - |
| 8. Detention Time in the Wet Well | - |
| 9. Gate & Check Valve in the Discharge Line | - |
| 10. Gate Valve in the Suction Line | - |
| 11. Ventilation | - |
| 12. Standby Power | - |
| 13. Alarm | - |
| 14. Breakwater Tanks | - |
| 15. Bypass or Overflow | - |
| 16. Type of Force Main | - |
| 17. Diameter & Length of Force Main | - |

Sewers - New Collection Sewers

- | | | |
|--|---|--|
| 1. Type of Sewer Material | - | HDPE DR-11 |
| 2. Diameter & Length of Sewer | - | 5,100 LF of 3”, 6,200 LF of 2” and 6,300 LF of 1.5” (service lines). All pressure. |
| 3. Stream, Highway & Railroad Crossing | - | None |
| 4. Separation of Combined Sewers or New Sewers | - | New Sewers |
| 5. Number of Manholes | - | 0 |
| 6. Water Main Protection | - | 10' of Horizontal Separation & 1.5' of Vertical Separation |

Individual Grinder Pumps – Simplex Grinder Pump Stations (42)

- | | | |
|-------------|---|--|
| 1. Location | - | Pressure sewer would start on E. Belmont Road, 2,800’ southwest of the intersection of E. Belmont Road and C.R. E 700 N. The pressure sewer would extend northeast along E. Belmont Road and then north along C.R. N 200 E to C.R. E 800 N. The pressure sewer would also extend east along C.R. E |
|-------------|---|--|

800 N 1,300', east along an access road 650' and east along E Lake Drive 1,300' from C.R. N 200 E. The pressure sewer would also extend 1000' south of the intersection of E. Belmont Road and C.R. N 200 E.

- | | | |
|---|---|---|
| 2. Number of Pumps | - | 1 per station |
| 3. Capacity of Pumps | - | Max. Capacity of 30 GPM |
| 4. RPM & TDH | - | 3,450 RPM w/Shut-off Head of 200' |
| 5. Volume of the Wet Well | - | 37 gallons/per foot of depth (30" Dia. Basin) |
| 6. Gate Valve & Check Valve in the Discharge Line | - | Yes – Ball Valve & Check Valve |
| 7. Ventilation | - | 2" diameter vent |
| 8. Alarm | - | Audio & Visual Alarms |
| 6. Gate Valve & Check Valve in the Discharge Line | - | Yes – Ball Valve & Check Valve |
| 7. Ventilation | - | 2" diameter vent |
| 8. Alarm | - | Audio & Visual Alarms |



Appendix “H”

Rare & Endangered Species within the Planning Area

**2018 Sanitary Sewer Improvements
Preliminary Engineering Report
(PER)
For The
Adams County Regional Sewer District
Adams County, Indiana**

Indiana County Endangered, Threatened and Rare Species List

County: Adams

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Epioblasma triquetra	Snuffbox	LE	SE	G3	S1
Obovaria subrotunda	Round Hickorynut	C	SE	G4	S1
Pleurobema clava	Clubshell	LE	SE	G1G2	S1
Ptychobranthus fasciolaris	Kidneyshell		SSC	G4G5	S2
Toxolasma lividus	Purple Lilliput	C	SSC	G3Q	S2
Villosa fabalis	Rayed Bean	LE	SE	G2	S1
Reptile					
Clonophis kirtlandii	Kirtland's Snake	C	SE	G2	S2
Bird					
Haliaeetus leucocephalus	Bald Eagle		SSC	G5	S2
Lanius ludovicianus	Loggerhead Shrike		SE	G4	S3B
Mammal					
Mustela nivalis	Least Weasel		SSC	G5	S2?
High Quality Natural Community					
Forest - flatwoods central till plain	Central Till Plain Flatwoods		SG	G3	S2

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
 State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list
 GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
 SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked



Appendix “I”

SRF Documents

2018 Sanitary Sewer Improvements Preliminary Engineering Report (PER) For The Adams County Regional Sewer District Adams County, Indiana

RESOLUTION # _____
ADAMS COUNTY REGIONAL SEWER DISTRICT
ADAMS COUNTY, INDIANA

WHEREAS, the Adams County Regional Sewer District of Adams County, Indiana, has caused the 2018 Sanitary Sewer Improvements – Preliminary Engineering Report (PER), dated August 2018, to be prepared by the consulting firm of Commonwealth Engineers, Inc.; and

WHEREAS, said plan has been presented to the public at a public hearing held _____, for their comments; and

WHEREAS, the Board of Trustees of the Adams County Regional Sewer District finds that there was not sufficient evidence presented in objection to the recommended project in the Preliminary Engineering Report.

NOW, THEREFORE BE IT RESOLVED THAT:

1. The 2018 Sanitary Sewer Improvements - Preliminary Engineering Report dated August 2018 be approved and adopted by the Board of Trustees of the Adams County Regional Sewer District; and
2. That said PER be submitted to the Indiana Department of Environmental Management's State Revolving Fund Loan program for review and approval.

Passed and adopted by the Board of Trustees of the Adams County Regional Sewer District of Adams County, Indiana, this _____ day of _____, 2018 at the District's monthly Board meeting.

PRESIDENT – Shannon Smitley

SECRETARY – Nate Rumschlag

MEMBER – Richard Lambert

MEMBER – Jim Franz

MEMBER – Steve Bailey

MEMBER – John Carroll

MEMBER – Don Bergdall

ATTEST:

**SIGNATORY AUTHORIZATION RESOLUTION
ADAMS COUNTY REGIONAL SEWER DISTRICT
RESOLUTION NO. _____**

WHEREAS, the Adams County Regional Sewer District of Adams County, of Adams County, IN herein called the community, has plans for a municipal water pollution control project to meet State and Federal regulations, such as NPDES discharge limitations, and the community intends to proceed with the construction of such works:

WHEREAS, the Adams County Regional Sewer District of Adams County, of Adams County, IN has adopted this Resolution dated _____.

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees, the governing body of said community, that:

1. Shannon Smitley be authorized to make application for an SRF Loan and provide the Indiana Department of Environmental Management such information, data and documents pertaining to the loan process as may be required, and otherwise act as the authorized representative of the community.
2. The community agrees to comply with the Department of Environmental Management, State of Indiana and Federal requirements as they pertain to the SRF.
3. That two certified copies of the resolution be prepared and submitted as part of the community's Preliminary Engineering Report.

ADOPTED this _____ day of _____, 2018.

ADAMS COUNTY REGIONAL SEWER DISTRICT OF ADAMS COUNTY, IN
BY AND THROUGH ITS BOARD OF TRUSTEES

AUTHORIZED SIGNATORY

Shannon Smitley

BY:

ATTEST:

SRF PROJECT FINANCING INFORMATION
Adams County Regional Sewer District
Adams County, Indiana

1. Project Cost Summary

a.	Collection/Transport System Cost	\$ 7,716,000
b.	Treatment System Cost	_____
	Subtotal Construction Costs	\$ 7,716,000
c.	Contingencies (should not exceed 10% of construction costs)	\$ 768,000
d.	Non-Construction Costs e.g., engineering/design services, field exploration studies, legal & administrative services, land costs (including capitalized costs of leased lands, ROWs, and easements), start-up costs (e.g., operator training), inspection	\$ 1,934,000
e.	Total Project Costs (lines a+b+c+d)	\$ 10,418,000
f.	Other Funding Sources, types (loan/grant) and amounts:	
	(1) Tap Fees	N/A
	(2) Cash-on-Hand	_____
	(3) Land Cost (ineligible)	_____
	(4)	_____
	(5)	_____
	(6)	_____
g.	Total Funding Other Sources	_____

2. **SRF LOAN AMOUNT** (line e minus line g) **\$ 10,418,000**
SRF Interest Rate 2.00 %

3. Annual O, M & R Costs:
Current \$168,736 (2018 Budgeted) Post-Project Varies per Service Area

4. Average Monthly Residential Sewer Fee
Current \$93.30 Post-Project Varies per Service Area – Target Rate = \$93.30



Appendix “J”

Public Participation Records

**2018 Sanitary Sewer Improvements
Preliminary Engineering Report
(PER)
For The
Adams County Regional Sewer District
Adams County, Indiana**