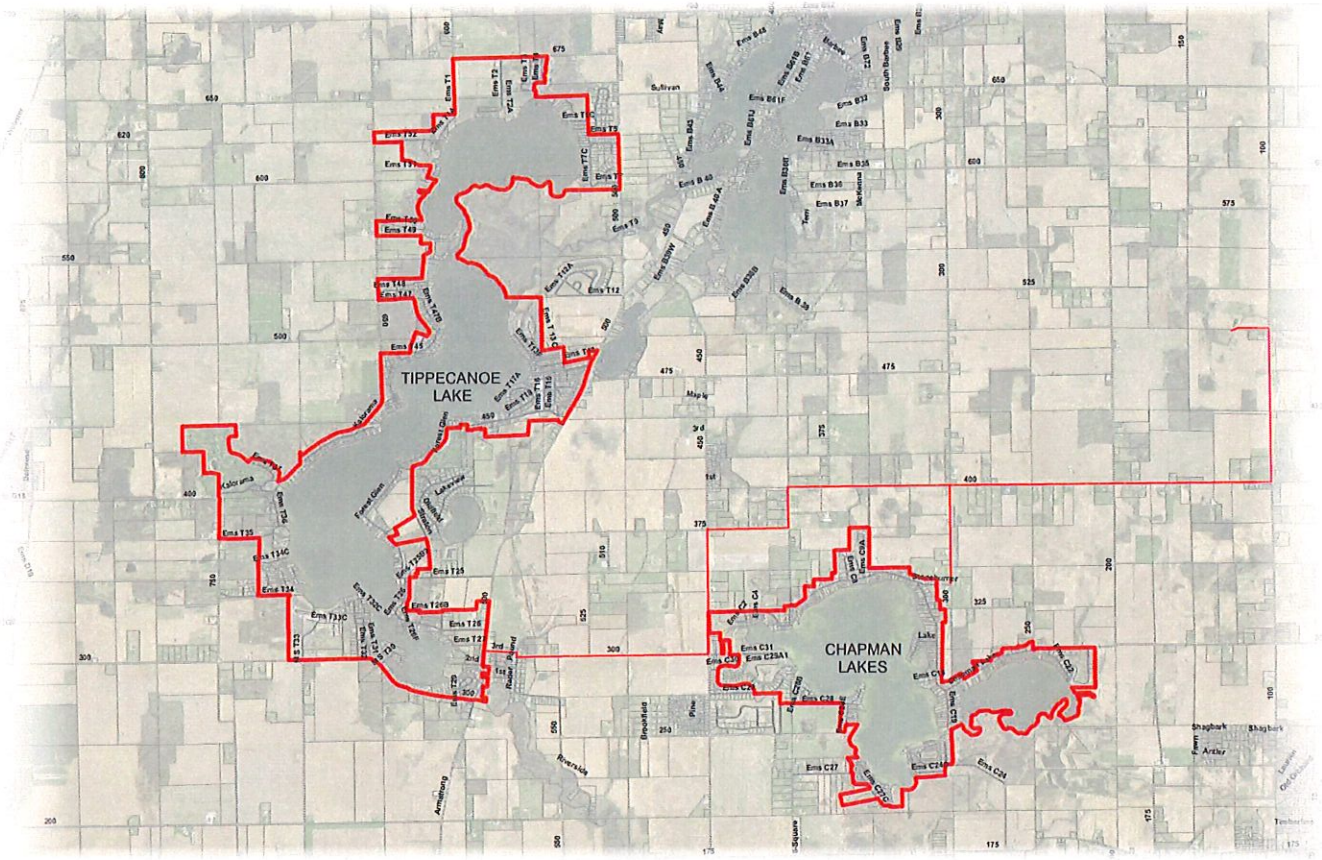
PRELIMINARY ENGINEERING REPORT
TIPPECANOE LAKE, CHAPMAN LAKES SEWER SYSTEM

December 6, 2018



PREPARED FOR:

KOSCIUSKO COUNTY COMMISSIONERS

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1. PROJECT LOCATION & INTRODUCTION

The information presented within this report will provide the basis of design for the wastewater collection and treatment system within the considered study area. Ultimately, the accumulated data, the analysis of that data, and the resultant recommended plan will serve to guide the Kosciusko County Commissioners and the community in the consideration of the formation of a new Regional Sewer District for the considered service areas. The new District will provide service to households, commercial and/or industrial users and will allow the community to better plan for growth and insure that the essential resources are available to do so.

The project area is located in Kosciusko County, Indiana. The project area includes the lake communities at Tippecanoe Lake and Chapman Lakes. Figure 1 provides overview of study area and project service areas. Since this is a new wastewater system planned to be operated by the New District, there is no existing service area. The service areas identified in Figure 1 represent the 20-year service area.

The project is located in Sections 6,7,8,9,16,17, and 18 through 21, Township 33 North, Range 7 East, Tippecanoe Township, Kosciusko County, Indiana, and within the North Webster USGS Quadrangle. The project area also includes Sections 11,12,13,14,23,24,25,26, and 35, Township 33 North, Range 6 East, Plain Township, Kosciusko County, Indiana, and within the Leesburg USGS Quadrangle.

Figures 2.1 and 2.2 presents the project area and proposed facilities on the USGS quadrangle maps

Figure 3 presents the Service Area Situation Plan.

Based on a careful consideration of the engineering and financial feasibility of the identified options, the recommended project should include the following:

- Connection to City of Warsaw Sewage System and Wastewater Facility
- New Pressure Sewers at Tippecanoe Lake
- New Pressure Sewers at Chapman Lakes

The proposed wastewater collection system will be mainly constructed within the existing county rights-of-way. There are approximately six (6) segments of the collection system near Tippecanoe Lake and one at Chapman Lakes which may require easement(s) through existing undeveloped areas. In these segments, the District may need to acquire easements for the collection system. Blanket easements will also be required for the installation of the grinder pump units on individual lots, where applicable.

The majority of the collection system is planned to be constructed utilizing horizontal drilling. There may be few small segments that may be constructed via open excavation.

All aternatives for wastewater collection and treatment will have been evaluated as to feasibility of construction, financial considerations, long-term service, etc. and are presented later in this report.

2. CURRENT SITUATION

As discussed in the previous section, the purpose of the report is to consider providing wastewater service for the below service areas.

- Tippecanoe Lake
- Chapman Lakes

2.1 EXISTING WASTEWATER TREATMENT FACILITY – LAKELAND REGIONAL SEWER DISTRICT

The existing Lakeland District is served by a 0.40 million gallon a day (MGD) Class I, extended aeriation WWTP with NPDES Permit# IN0064131. According to the District, the facility was constructed and commissioned in 2015-2016. The facility consists of an EQ tank, wet-well, aeration tank, ferric chloride tank, primary settling tank, primary aeriation, intermediate settling tank, secondary aeriation, final settling tank, sludge holding tank, an aerobic digester, ultraviolet light disinfection and flow meter. Sludge from the facility is landfilled.

The facility discharges to Van-Curen Ditch, a tributary of Tippecanoe River, via Outfall 001, which is located adjacent to the WWTF site.

In general, the condition of the existing WWTP can be described as excellent. The facility has been in service since 2016. Since the initial commissioning, the existing treatment facility has been operating as designed. The Facility would require expansion to allow for additional volumes from the new District's service area. The expected volumes would require tripling of the current facilities capacity.

The collection system within the Lakeland District consists of low-pressure sewers serving multiple lakes and approximately 2000 customers.

The system was designed for the specific volumes within the Lakeland District. The system's collection system does not have the available capacity for additional flows where the existing system comes closest to the proposed new district service area.

According to the latest and applicable NPDES permit, the following are the current effluent limits for the Lakeland facility.

Table 1 – Existing Lakeland Effluent Permit Limits

Effluent Limits				
Type of Constituent	Quantity/Loading		Concentration	
	Monthly Avg. (lbs./day)	Weekly Avg. (lbs./day)	Monthly Avg. (mg/L)	Weekly Avg. (mg/L)
Carbonaceous Biochemical Oxygen Demand (CBOD)	33	50	10	15
Total Suspended Solids (TSS)	44	60	12	18
Ammonia-Nitrogen (NH_3-N) – Winter	5.3	8.0	1.6	2.4
Ammonia-Nitrogen (NH_3-N) – Summer	3.7	5.3	1.1	1.6

A review of the Monthly Reports of Operation (MROs) for a period of six months (2017) reveals that the existing facility averages 0.070 MGD. However, the facility receives peak flows during holidays which are higher than typical. This is normal for lake community systems.

The table below provides an average of influent and effluent concentrations and loadings for the three primary wastewater constituents for the three-year period.

Table 2 – Existing Lakeland Wastewater Parameters

EXISTING WASTEWATER PARAMETERS											
Influent Loading						Effluent Loading					
CBOD		TSS		Ammonia		CBOD		TSS		Ammonia	
mg/L	lbs.	mg/L	lbs.	mg/L	lbs.	mg/L	lbs.	mg/L	lbs.	mg/L	lbs.
268	163	228	140	52	31	3.65	2.25	7.93	4.84	0.91	0.18

Based on review of records (for the past three years) available through the Indiana Department of Environment (IDEM) Virtual File Cabinet online database, the facility does not appear to have any violations as it relates to permitting, except for flow meter calibration requirements. It should be noted that typically this database has a few months lag time for updating records.

2.2 EXISTING WASTEWATER FACILITIES – WARSAW, INDIANA

The City of Warsaw, the Town of Winona Lake and the Town of Leesburg are served by the city's wastewater facility located at 2056 N 150 West. The facility is permitted under NPDES IN0060917. The facility processes wastewater using the "oxidation ditch" design concept. The facility includes two oxidation ditch structures, secondary clarifiers, and ultraviolet disinfection. Post aeriation provides the final step in the treatment process. The facility processes sludge waste using an aerobic digester with the treated material either landfilled or land applied. The facility is designed and permitted at 3.9 million gallons daily and discharges clean water to the Tippecanoe River.

According to the latest and applicable NPDES permit, the following are the current effluent limits for the Warsaw facility.

Table 3 – Existing Warsaw Effluent Permit Limits

Effluent Limits				
Type of Constituent	Quantity/Loading		Concentration	
	Monthly Avg. (lbs./day)	Weekly Avg. (lbs./day)	Monthly Avg. (mg/L)	Weekly Avg. (mg/L)
Carbonaceous Biochemical Oxygen Demand (CBOD)	814	1302	25	40
Total Suspended Solids (TSS)	976	1465	30	45
Ammonia-Nitrogen (NH_3-N) – Winter	81.4-123.7	84.6	2.5	3.8
Ammonia-Nitrogen (NH_3-N) – Summer	55.3-84.6	2.8	1.7	2.6

A review of the Monthly Reports of Operation (MROs) for a period of six months (2017) reveals that the existing facility averages 2.75 MGD. However, the facility receives peak flows during holidays and wet weather that are higher than typical. This is normal for Indiana community systems.

The table below provides an average of influent and effluent concentrations and loadings for the three primary wastewater constituents for the three-year period.

Table 4 – Existing Warsaw Wastewater Parameters

EXISTING WASTEWATER PARAMETERS											
Influent Loading						Effluent Loading					
CBOD		TSS		Ammonia		CBOD		TSS		Ammonia	
mg/L	lbs.	mg/L	lbs.	mg/L	lbs.	mg/L	lbs.	mg/L	lbs.	mg/L	lbs.
156	43.57	1618	46.44	516	19	2.72	91.	5.2	177	0.22	7.4

Based on review of records (for the past year) available through the Indiana Department of Environment (IDEM) Virtual File Cabinet online database, the facility does not appear to have any violations as it relates to permitting. It should be noted that typically this database has a few months lag time for updating records.

2.3 EXISTING WASTEWATER FACILITIES – TIPPECANOE AND CHAPMAN LAKES COMMUNITIES

The residents and business within these service areas rely on private wells for drinking water and septic system for wastewater disposal and treatment.

The soils found in these areas consist of muck, loamy sand, and sandy loam which are "very limited" in respect to use as absorption field for septic systems. This results in poor performance and high maintenance. Therefore, the soils are not conducive for the intended treatment results without, special design, or expensive installation procedures. In fact, only 44% of the soil areas are considered adequate for system performance. Of the remaining 56%, only 5% could be approved using special design considerations. Residents of the proposed service area have experienced problems with individual on-site septic systems as a means of wastewater treatment and disposal. Many of the septic systems are old and failing. Failing septic systems allow untreated sewage to discharge to the groundwater and surrounding lakes and rivers, thus resulting in the potential for serious health and safety issues.

Other serious constraints to the continuing use of onsite systems include:

- The majority of home sites are under 10,000 sq. ft.
- Well isolation areas cannot be achieved in most areas
- Water tables are high in most areas with less than 4 feet of isolation from surface to free water
- Many neighborhoods are subject to flood-plain conditions
- Most home sites will not allow for state or local code compliant systems to be permitted

The residents within the proposed service areas rely on private wells for drinking water. As noted above, most of the lots in the service area are small and do not allow for proper separation between the septic systems and the groundwater wells. If the waste systems are not replaced, the water quality could continue to degrade, resulting in the potential for private water wells to become contaminated.

See Figures 4.1 and 4.2 for soils map of the study area.

As part of this study, the Kosciusko County Health Department was contacted for any concerns or opinion on the current septic systems. The Health Department Administrator responded with a letter supporting the elimination of septic system and installation of a sanitary sewer system in the service area/project area. Appendix B presents the letter of support from the Administrator of the Health Department.

2.4 EXISTING WASTEWATER FACILITIES – CURRENT FLOWS

Table 5 presents current estimated wastewater flows for the considered service area. The table also presents the anticipated Equivalent Dwelling Unit (EDU) chart for residential and businesses as well as anticipated connection counts for the service areas.

Based on the past history for nearby districts with multiple service areas covering a wide variety of land uses, an average daily flow (ADF) of 150 gallons per day (GDP) per single family residential dwelling was used as the volumetric multiplier for residential wastewater flow. Commercial/Industrial flow factors were based on standard multipliers, employee counts, and seat counts, where applicable.

Table 5 – Existing Wastewater Flows and EDUs – Tippecanoe Lake

TIPPECANOE LAKE EDU COUNT							
Map Code	Service Connection Description	Unit/Calculation Factor		Count	Total	Notes	Est. Flows
1124	Residential	1	each	1113	1113		166,950
MHP	Mobile Home Park	0.75	per lot	424	318		47,700
SC	Seasonal Cottage	0.25	per unit	11	2.75		412.5
A	Patona Bay Boat Storage & Repair	0.1	per employee	30	3	use 20 gal/day/employee (30 summer & 15 winter)	450
B	Snack Bar @ Patona Bay	1	per unit	1	1		150
C	Rookstool Storage	1	each	1	1		150
D	Tippy Lake Mart	3	per unit	1	3		450
E	Kosciusko Co. Historical Society	1	each	1	1		150
F	Rookstool Pier Shop	1	each	1	1		150
G	Tippy Gardens (dance hall)	1	each	1	1		150
H	Tippecanoe Storage	1	each	1	1		150
I	Pie Eyed Petey's Restaurant	1	1 min. + .05/seat (99 seats)	5.95	5.95		892.5
J	Pie Eyed Petey's Marina	1	each	1	1		150
K	Hair Salon	1	each	1	1		150
L	JC Hamman Construction Co.	1	each	1	1		150
M	Camp Crosley Welcome Center	1	each	3	3		450
N	Camp Crosley	0.2	per camper	27.40	5.48	est 10,000 guests/year for entire Camp Crosley	822
O	Camp Crosley Teen Village	0.2	per camper	27.40	5.48	use 40 gal/day/camper/210 gal	822
P	Tippecanoe Lake Camp & Retreat	0.2	per camper	20	4	est 2000 guests/summer @ 40 gal/day/guest/210 gal	600
Q	Tippecanoe Lake Golf Course	1	each	1	1		150
R	Tippecanoe Lake Country Club	1	1.5 per 1,000 sft clubhouse + restaurant & bar	7.5	7.5	27,000 sft country club, banquet facility up to 250, men's & women's locker room	1125
S	Tippecanoe Boat Company Snack Bar	0.1	per employee	10	1		150
		1	per unit		1		150
T	Tippecanoe Baptist Church	0.04	per seat.	100	4		600
				Sub-Total	1487		223,074

Note: Total number of properties - 1,135

Table 6 – Existing Wastewater Flows and EDUs – Chapman Lakes

CHAPMAN LAKES EDU COUNT							
Map Code	Service Connection Description	Unit/Calculation Factor		Count	Total	Notes	Est. Flows
819	Residential	1	each	724	724		108,600
MHP	Mobile Home Park	0.75	each	177	132.75		19,912.50
CG	Camp Ground	0.25	each	46	11.5	camp & fish	1,725
A	Precision Grinding	1	each	2	2	restrooms in each building	300
B	Chapman Lake Marina	1	each	1	1	employee restrooms	150
C	Tax Service	1	each	1	1	employee restrooms	150
				Sub-Total	872.25		130.837.50
				Total	2,359.25		354,784.00

Note: Total number of properties - 728

3. FUTURE SITUATION

The anticipated future wastewater flows and waste load needs are presented below.

3.1 FUTURE WASTEWATER SITUATION – TIPPECANOE LAKE, CHAPMAN LAKES

According to the 2010 Census produced by the Indiana Business Research Center, which is a research unit in the Kelley School of Business at Indiana University; there were 6,661 people in Tippecanoe Township, 7,698 people in Plain Township and 77,359 people in Kosciusko County.

Kosciusko County is projected to grow to 84,128 people by 2040, an increase of about 9%. While the typical projections for infrastructure planning is 20-year horizon, the year of 2040 is used in anticipation that the considered project for the current service areas will take approximately 3 years to design, permit and construct.

The future residential development in Tippecanoe service area and Chapman Lakes service area is anticipated to be limited due to the presence of natural resources such as wetlands, river, etc. along the undeveloped shorelines. However, some growth is anticipated due to infill development of the existing undeveloped platted lots in the existing developments in these service areas. For planning purposes, it was assumed that an increase of 80 additional single-family dwellings could be anticipated. This is based on applying a 4.5% growth factor in-lieu of 9%, understanding that there is limited available future home sites in the service area.

Relative to the future commercial growth, we are not recommending application of growth rate to this land use type for undeveloped land over the planning period due to the service areas primary intended use as a residential/recreational community.

The Tippecanoe Lake, Chapman Lakes areas include mostly residential properties; therefore, it is anticipated that the waste stream will be typical, household domestic strength wastewater. The potential does exist that the future development within the Tippecanoe service area and Chapman Lakes service area may include commercial strength waste given the residential nature of this area. However, any future development of these service areas must be monitored to ensure the waste load parameters are maintained within the above assumption. The peaking factor applied below (in Table 7) is typical for residential waste streams. It is anticipated that any commercial wastewater flow characteristics will be similar to residential flow factors.

To be conservative we recommend a 9% growth factor over the 20-year design horizon.

Table 7 – Future Wastewater Flows & Wasteload

Service Area Description	Average Flow (GPD)	Peaking Factor	Peak Flow (GPD)	CBOD (@ Average Flow)		TSS (@ Average Flow)		NH3-N (@ Average Flow)	
				mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day
Tippecanoe Lake	243,000	4	972,498	350	710	350	710	40	81
Chapman Lakes	142,600	4	570,450	350	416	350	416	40	47
Total	**385,600**		**1,542,948**		**1,126**		**1,126**		**128**

(1) Applies 9% growth over 20-year horizon

3.2 FUTURE WASTEWATER SITUATION – WWTP

As mentioned previously, the preferred wastewater treatment option (Option 3) would include the expansion of the existing facility at Lakeland Regional Sewer District.

The Preliminary Effluent Limitations (PEL) are assumed to be the same as what is required for the existing facility. Three critical proposed limitations are provided in the below table.

Table 8 – Proposed Preliminary Effluent Limitations

	Summer (mg/l)		Winter (mg/l)	
Parameter	Monthly Avg.	Weekly Avg.	Monthly Avg.	Weekly Avg.
CBOD	10	15	10	15
TSS	12	18	12	18
Ammonia-Nitrogen	1.1	1.6	1.6	2.4

4. EVALUATION OF ALTERNATIVES

Several alternatives were considered for the wastewater collection and treatment system for the identified service areas. Both construction and non-construction costs were also developed for these alternates. It should be noted that the costs provided for these alternates are for planning and budgeting purposes only and actual costs may vary depending on the final design. The preliminary costs provided were developed based upon past bids for projects of similar nature, engineering judgement and vendor quotes, which can change based on the actual design.

Further, the general state of the economy, construction market during the bidding will have impact on the actual costs.

There are a number of wastewater collection and treatment system design concepts that could be applied for the considered service areas. However, the most effective alternates will be some version of proven and reliable collection and treatment system; as well as a system that the future District staff can operate and maintain efficiently and cost effectively.

Each alternative has the potential for water and energy efficiency. See Appendix I for the Green Project Reserve Sustainability Incentive Clean Water Checklist for the types of water and energy efficiencies that may be pursued as a part of this project.

Provided the above, the following alternates were evaluated further in subsequent sections.

- No Action
- Option 1 – Gravity Collection System
- Option 2 – Pressure Collection System
- Option 3 – Regionalization with The Lake Regional Sewer District Wastewater System
- Option 4 – Regionalize with City of Warsaw
- Option 5 – Construct new WWTP

4.1 NO ACTION

The "No Action" alternative implies that the County Commissioners do nothing to tend to their wastewater infrastructure needs for the long-term future.

This alternative also implies that the District, local officials and end-users take no action towards protecting their private wells from inadequate septic systems and take no action to improve the health and safety of their community or protecting their investment in property value.

The community has evaluated these areas over the years multiple times and until this point in time, there has not been a cost effective and affordable solution that would replace the existing septic systems. However, with the need for wastewater service becoming an acute issue, this alternate appears to be unfeasible.

This alternate results in no capital costs, and in our opinion, is not a logical solution for the long term. Therefore, this alternate should not be considered any further.

4.2 OPTION 1 – GRAVITY COLLECTION SYSTEM

The gravity system consists of sewer lines installed at a specific grade based on the size of the pipe(s) to prevent deposition of solids at low velocities. The minimum gravity system line is 8" and typically installed at a depth of 5 to 30 feet depending on site topography. Additionally, manholes, typically spaced 350 to 400 feet, are necessary when there is a change in slope and/or direction, in addition to serving as an access point for maintenance. In general, a gravity system offers limited flexibility in construction as it requires slope and alignment be maintained. Change in either typically leads to additional manholes, etc.

The gravity sewer will also require pump stations and force mains to transport waste from the low point of the gravity sewer to the next downstream sewer.

The environmental impacts and restoration associated with construction of a gravity system is typically higher due to open-cut excavation method utilized for installation of gravity system due to added paving and restoration costs.

See Figures 5.1 and 5.2 for the gravity sewer option.

The estimated construction costs for this option are provided in the following table.

Table 9 – Option 1 – Gravity Collection System

ENGINEER'S PRE-DESIGN CONSTRUCTION ESTIMATE – GRAVITY SYSTEM						
Item No.	Estimated Quantity	Unit	Description	Unit Price	Total Price	Salvage
1	18,550	LFT	1 1/2"-3" HDPE Low Pressure Sewer, Main Line	$26.00	$482,300.00	$241,150.00
2	3,390	LFT	1-1/4" HDPE Pressure Sewer, Service Line	$12.00	$40,680.00	$20,340.00
3	16,250	LFT	3" HDPE Sanitary Force Main	$24.00	$390,000.00	$195,000.00
4	6,150	LFT	4" HDPE Sanitary Force Main	$24.00	$147,600.00	$73,800.00
5	17,350	LFT	6" HDPE Sanitary Force Main	$36.00	$624,600.00	$312,300.00
6	3,200	LFT	8" HDPE Sanitary Force Main	$43.00	$137,600.00	$68,800.00
7	250	LFT	8" HDPE Sanitary Force Main, Jack & Bore	$250.00	$62,500.00	$31,250.00
8	119,755	LFT	8" PVC Sanitary Sewer	$50.00	$5,987,750.00	$2,993,875.00
9		LFT	10" PVC Sanitary Sewer	$65.00	$0.00	$0.00
10	74,820	LFT	6" PVC Sanitary Sewer Lateral	$30.00	$2,244,600.00	$1,122,300.00
11	1,747	EA	6" PVC Sanitary Sewer Lateral Tee	$50.00	$87,350.00	$43,675.00
12		EA	6" PVC Sanitary Sewer Lateral Cleanout	$200.00	$0.00	$0.00
13	1,200	LFT	12" CMP Culvert	$30.00	$36,000.00	
14	113	EA	Grinder Pump Unit - Type 1	$5,100.00	$576,300.00	$115,260.00
15	2	EA	Grinder Pump Unit - Type 2	$6,100.00	$12,200.00	$2,440.00
16	2	EA	Grinder Pump Unit - Type 3	$7,100.00	$14,200.00	$2,840.00
17	2	EA	Grinder Pump Unit - Type 5	$17,600.00	$35,200.00	$7,040.00
18	700	VFT	Extension For Grinder Pump	$450.00	$315,000.00	
19	269	EA	4' Dia. Sanitary Manhole	$4,800.00	$1,291,200.00	$645,600.00
20	6	EA	Flushing Station - Type 1	$4,000.00	$24,000.00	$12,000.00
21	6	EA	Flushing Station - Type 2	$4,500.00	$27,000.00	$13,500.00
22	2	EA	Flushing Station - Type 3	$5,000.00	$10,000.00	$5,000.00
23	26	EA	Air Release Valve Station	$5,500.00	$143,000.00	$71,500.00
24	113	EA	Lateral Kits (Check Valve & Curb Stop)	$1,200.00	$135,600.00	$67,800.00
25	113	EA	Alarm Disconnect Panels	$800.00	$90,400.00	
26	39	EA	Electrical Riser	$2,000.00	$78,000.00	
27	7,200	LFT	Electrical Conduit, 1" w/ 3-#6 Conductors and 1-#10 Ground Wire	$8.00	$57,600.00	$28,800.00
28	10	EA	Spare Grinder Motor/Pump	$1,500.00	$15,000.00	
29	10	EA	Spare Alarm Disconect Panel	$450.00	$4,500.00	
30	12	EA	Pump Station - Small	$75,000.00	$900,000.00	$450,000.00
31	8	EA	Pump Station - Mid Size	$100,000.00	$800,000.00	$400,000.00
32	4	EA	Pump Station - Large	$200,000.00	$800,000.00	$400,000.00
33	6	EA	Standby Power Generator	$62,500.00	$375,000.00	
34	1	LSUM	Chemical Feed/Injection System	$220,000.00	$220,000.00	$110,000.00
35	271,581	SYD	Pavement Removal (All Types)	$7.50	$2,036,857.50	
36	60,000	TON	4" HMA Base	$60.00	$3,600,000.00	
37	37,500	TON	2.5" HMA Intermediate	$65.00	$2,437,500.00	
38	40,000	TON	1.5" HMA Surface	$70.00	$2,800,000.00	
39	60,000	TON	4" Compacted Aggregate Base	$26.00	$1,560,000.00	
40	8,000	SYD	Drive Approaches (All Types)	$36.00	$288,000.00	
41	200,000	LFT	Line, Paint	$0.50	$100,000.00	
42	10,000	CYD	Backfill - Borrow	$18.00	$180,000.00	
43	1	LSUM	Site Landscaping/Screening Features (Lift Stations etc.)	$30,000.00	$30,000.00	
44	1	LSUM	Allowance for Power Connections	$82,000.00	$82,000.00	
45	1	LSUM	Erosion Control	$125,000.00	$125,000.00	
46	1	LSUM	Construction Surveying	$75,000.00	$75,000.00	
47	1	LSUM	Landscape Restoration & Seeding	$425,000.00	$425,000.00	
48	1	LSUM	Traffic Maintenance	$150,000.00	$150,000.00	
49	1	LSUM	Mobilization & Demobilization (3%)	$356,100.00	$356,100.00	
			Estimated Construction Costs		**$30,410,600.00**	$7,434,270.00

The estimated operational, maintenance and replacement (O, M & R) costs for Option 1 are provided in the table below.

Table 10 – Option 1 – O, M & R for Gravity Collection System

GRAVITY SEWER O, M & R COSTS		
Item No.	**Description**	**Annual Cost**
1	Grinder Station Pump Power [1]	$1,264
2	Grinder Pump Rebuilds, Labor & Call-Outs	$4,945
3	Grinder Pump Spare Cores[2]	$18,000
4	Control Panel Spares, Other Misc Parts & Labor	$1,650
5	Power for Lift Stations [3]	$125,000
6	Pump Station Annual SCADA Contracts	$5,000
7	Pump Repair/Maintenance	$12,000
8	Lift Station Check-up & Emergency Call-Outs [4]	$93,600
9	Generator Maintenance & Fuel	$10,000
10	Misc. Admin, Insurance, Etc.	$80,000
11	Emergency Allowance	$20,000
12	Chemical	$60,000
	Total Annual O, M & R Costs	**$431,459**

[1] (113 pumps x 0.746kw/hp x 1 hp x 190 gpd x 365 days/yr x $0.10/kwhr)/(0.75 motor eff x 11 gal/min x 60 min/ hr)

[2] Assumes 10% replacement (of installed total of 119 units) every year @ $1,100 each

[3] (48 pumps x 0.746 kw/hp x 15 hp x 50,000 gpd x 365 days/yr x $0.10/kwhr)/(0.75 motor eff x 350 gal/min x 60

[4] Assumes 1.5 person spending 2080 hours/yr. Assumed hourly costs is $30/hour including benefits, etc.

4.3 OPTION 2 – PRESSURE COLLECTION SYSTEM

The pressure system consists of prefabricated grinder pump station units installed on each or every other property. This unit is equipped with an electrically powered grinder pump which receives gravity flow from the building sewer, grinds the wastewater with special rotating cutter blades, and forces the liquid slurry under pressure through a small diameter pressure main network that typically ranges from 1.25" to 8". A pressure system is a more cost-effective means of wastewater collection from the areas not easily accessible by other collection system alternatives.

A pressure system is technically feasible and reliable and can be implemented. Since the pressure system can be installed using directional drilling method, the environmental impacts and restoration associated with construction of this system are minimized as it results in reduced street paving and restoration costs. The package grinder pump stations, pressure sewer laterals and electrical service for the grinder pumps will be owned, operated and maintained by the District. Septic tank abandonement will be the responsibility of the property owners.

See Figures 6.1 and 6.2 for the pressure sewer option.

The estimated construction costs for this option are provided in the following table.

Table 11 – Option 2 – Pressure Collection System

ENGINEER'S PRE-DESIGN CONSTRUCTION ESTIMATE - PRESSURE SYSTEM						
Item No.	Estimated Quantity	Unit	Description	Unit Price	Extension	Salvage Value
1	128,600	LFT	1-1/4"HDPE Pressure Sewer, Service Line	$12.00	$1,543,200.00	$771,600.00
2	2,000	LFT	1-1/4" HDPE Pressure Sewer w/ 3" Casing Pipe, Service Line	$20.00	$40,000.00	$20,000.00
3	9,143	LFT	2" HDPE Pressure Sewer, Main Line	$17.50	$160,002.50	$80,001.25
4	28,306	LFT	2 1/2" HDPE Pressure Sewer, Main Line	$17.50	$495,355.00	$247,677.50
5	38,813	LFT	3" HDPE Pressure Sewer, Main Line	$19.00	$737,447.00	$368,723.50
6	39,590	LFT	4" HDPE Pressure Sewer, Main Line	$23.00	$910,570.00	$455,285.00
7	11,400	LFT	5" HDPE Sanitary Force Main	$20.00	$228,000.00	$114,000.00
8	2,700	LFT	6" HDPE Sanitary Force Main	$30.00	$81,000.00	$40,500.00
9	12,000	LFT	6" PVC Sanitary Sewer Lateral w/Cleanout (Gravity)	$26.00	$312,000.00	$156,000.00
10	2,000	LFT	6" PVC Sanitary Sewer Lateral w/Cleanout (Pressure)	$28.00	$56,000.00	$28,000.00
11	18,100	LFT	7" HDPE Sanitary Force Main	$32.00	$579,200.00	$289,600.00
12	13,000	LFT	8" HDPE Sanitary Force Main	$40.00	$520,000.00	$260,000.00
13	15,900	LFT	10" HDPE Sanitary Force Main	$46.00	$731,400.00	$365,700.00
14	1,000	LFT	12" CMP Culvert	$30.00	$30,000.00	$15,000.00
15	1,145	EA	Grinder Pump Unit - Type 1	$5,100.00	$5,839,500.00	$1,167,900.00
16	50	EA	Grinder Pump Unit - Type 1 w/ Floodplain Vent	$5,250.00	$262,500.00	$52,500.00
17	10	EA	Grinder Pump Unit - Type 2	$6,100.00	$61,000.00	$12,200.00
18	10	EA	Grinder Pump Unit - Type 2 w/ Floodplain Vent	$6,100.00	$61,000.00	$12,200.00
19	10	EA	Grinder Pump Unit - Type 3	$7,100.00	$71,000.00	$14,200.00
20	10	EA	Grinder Pump Unit - Type 4	$10,000.00	$100,000.00	$20,000.00
21	2	EA	Grinder Pump Unit - Type 5	$15,000.00	$30,000.00	$6,000.00
22	200	VFT	Extension For Grinder Pump	$450.00	$90,000.00	
23	10	EA	4' Dia. Sanitary Manhole	$5,600.00	$56,000.00	$28,000.00
24	110	EA	Flushing Station - Type 1	$4,000.00	$440,000.00	$220,000.00
25	110	EA	Flushing Station - Type 2	$4,500.00	$495,000.00	$247,500.00
26	120	EA	Flushing Station - Type 3	$5,000.00	$600,000.00	$300,000.00
27	38	EA	Flushing Station - Type 4	$6,000.00	$228,000.00	$114,000.00
28	50	EA	Air Release Valve Station	$5,500.00	$275,000.00	$137,500.00
29	720	EA	Field-Installed 4-inch Grommet on Type 1 Grinder Pump Unit	$300.00	$216,000.00	
30	1,237	EA	Lateral Kits (Check Valve & Curb Stop)	$1,200.00	$1,484,400.00	$742,200.00
31	1,237	EA	Alarm Disconnect Panels	$1,200.00	$1,484,400.00	
32	500	EA	Electrical Riser	$2,000.00	$1,000,000.00	
33	160,000	LFT	Electrical Conduit, 1" w/ 3-#6 Conductors and 1-#10 Ground Wire	$8.00	$1,280,000.00	$640,000.00
34	20	EA	Spare Grinder Motor/Pump	$1,500.00	$30,000.00	
35	20	EA	Spare Alarm Disconect Panel	$450.00	$9,000.00	
36		LSUM	Pump Station #1 (175 GPM)	$100,000.00	$0.00	$0.00
37	1	LSUM	Pump Station #2 (275 GPM)	$175,000.00	$175,000.00	$87,500.00
38	2	LSUM	Pump Station #3 (350 GPM)	$225,000.00	$450,000.00	$225,000.00
39	3	EA	Standby Power Generator	$62,500.00	$187,500.00	
40	2	LSUM	Chemical Feed/Injection System	$95,000.00	$190,000.00	$38,000.00
41	91,000	SYD	Pavement Removal (All Types)	$6.00	$546,000.00	
42	7,000	TON	4" HMA Base	$60.00	$420,000.00	
43	3,500	TON	2.5" HMA Intermediate	$65.00	$227,500.00	
44	8,400	TON	1.5" HMA Surface	$70.00	$588,000.00	
45	7,000	TON	4" Compacted Aggregate Base	$26.00	$182,000.00	
46	11,561	SYD	Drive Approaches (All Types)	$26.00	$300,586.00	
47	100,000	LFT	Line, Paint	$0.50	$50,000.00	
48	1	LSUM	Site Landscaping/Screening Features (Lift Stations)	$30,000.00	$30,000.00	
49	1	LSUM	Allowance for Power Connections	$200,000.00	$200,000.00	
50	1	LSUM	Erosion Control	$100,000.00	$100,000.00	
51	1	LSUM	Construction Surveying	$50,000.00	$50,000.00	
52	1	LSUM	Landscape Restoration & Seeding	$100,000.00	$100,000.00	
53	1	LSUM	Traffic Maintenance	$50,000.00	$50,000.00	
54	1	LSUM	Mobilization & Demobilization (3% +/-)	$242,700.00	$242,700.00	
			Estimated Construction Costs		**$24,626,300**	$7,276,787.25

The estimated operational, maintenance and replacement (O, M & R) costs for Option 2 are provided in the tables on the next page.

Table 12 – Option 2 – O, M & R for Pressure Collection System

LOW PRESSURE SEWER O, M & R COSTS		
Item No.	**Description**	**Annual Cost**
1	Grinder Station Pump Power [1]	$25,852
2	Grinder Pump Rebuilds, Labor & Call-Outs	$32,000
3	Grinder Pump Spare Cores[2]	$119,000
4	Control Panel Spares, Other Misc Parts & Labor	$4,300
5	Power for Lift Stations [3]	$12,828
6	Pump Station Annual SCADA Contracts	$1,925
7	Pump Repair/Maintenance	$34,000
8	Lift Station Check-up & Emergency Call-Outs [4]	$12,100
9	Generator Maintenance & Fuel	$4,300
10	Misc. Admin, Insurance, Etc.	$80,000
11	Emergency Allowance	$14,367
12	Chemical Allowance	$60,000
	Total Annual O, M & R Costs	**$400,672**

[1] (1,237 pumps x 0.746kw/hp x 1 hp x 190 gpd x 365 days/yr x $0.10/kwhr)/(0.75 motor eff x 11 gal/min x 60 min/

[2] Assumes 3% replacement (of installed total of 1,237 units) every year @ $1,500 each

[3] Assumes 1 person spending half an hour at each lift station (1.5 hours total) for 5 working days each week every year. Assumed hourly costs is $30/hour including benefits, etc.

4.4 OPTION 3 – REGIONALIZATION WITH LAKELAND REGIONAL SEWAGE DISTRICT

Based on review of nearby wastewater collection and treatment systems, there are two alternates that could be considered as it relates to regionalization.

Lakeland Regional Sewage District (LRSD) is adjacent to the proposed district and operates a 0.4 MGD wastewater plant as part of their system. The facility is within reasonable distance to the considered service area.

For this option, the wastewater collected from the considered service area would be conveyed through a force main to the point of connection to the Lakeland Regional Sewage District's existing treatment infrastructure at CR 100 using a series of pump stations. (See Figure 7.0)

Following review of information, the LRSD treatment system does not have adequate capacity. However, additional capacity can be developed through an expansion of the existing facility. Further, this option would require an inter-local agreement for treatment with the LCRSD limited to the new District's specific service area. As discussed in Section 1 of this report, the current facility is permitted at 0.4 MGD. Based on the analysis included in section 3 above, average daily flows from the new service area is estimated at 0.416 MGD. This would require a doubling of the facility size. Following are the cost estimates and operating budget for this option.

Table 13 – Option 3 – Regionalization with Lakeland RSD – Force Main Interceptor

OPTION NO. 3 - REGIONALIZATION WITH LAKELAND RSD - FORCE MAIN INTERCEPTOR						
ENGINEER'S PRE-DESIGN CONSTRUCTION ESTIMATE						
Item No.	Estimated Quantity	Unit	Description	Unit Price	Extension	Salvage Value
1	35,000	LFT	10"-12" Force Main, PVC, HDPE	$63	$2,205,000	$1,102,500
2	30	EA	Air Release Comb.	$5,000	$150,000	$75,000
3	2	EA	Lift Station w/ Generator	$250,000	$500,000	$250,000
4	26,000	SYD	Pavement Removal (All Types)	$6	$156,000	
5	2,144	TON	1.5" Bituminous Surface No. 11	$65	$139,400	
6	2,914	TON	2" Bituminous Binder No. 8 or No. 9	$60	$174,800	
7	4,270	TON	3" Bituminous Base No. 5	$58	$247,700	
8	4,270	TON	6" Compacted Agg. No. 53, Type 'O' - Undist.	$17	$72,600	
9	20	TON	Tack Coat	$200	$4,000	
10	12,000	LFT	Line, Paint	$0.50	$6,000	
11	20	EA	Air Release Valve Station	$1,500	$30,000	$15,000
12	1,000	LFT	12" Driveway Culvert	$28	$28,000	
13	500	LFT	18" Driveway Culvert	$35	$17,500	
14	100	LFT	24" Driveway Culvert	$45	$4,500	
15	12	EA	12" Gate Valve & Box	$2,400	$28,800	$14,400
16	12,000	LBS	Ductile Iron Fittings	$3	$36,000	$18,000
17	1	LSUM	Clearing Right-of-Way	$7,000	$7,000	
18	1	LSUM	Easement Acquisitions	$60,000	$60,000	
19	1	LSUM	Mulch Seeding	$40,000	$40,000	
20	1	LSUM	Traffic Maintenance	$40,000	$40,000	
21	1	LSUM	Construction Surveying	$26,000	$26,000	
22	1	LSUM	Mobilization & Demolition, Max. 3% of Contract	$119,200	$119,200	
				Estimated Construction Cost	$4,092,500	$1,474,900

Table 14 – Option 3 – O, M & R for Force Main Interceptor

FORCE MAIN INTERCEPTOR TO LRSD WWTF		
O, M & R COSTS		
Item	Description	Annual Cost
1	Lift Station Power	$10,800
2	Labor & Call-outs	$8,000
3	Other Misc. Parts & Labor	$4,000
4	Maintenance & Repair Reserve	$10,000
5	Chemical Allowance	$10,000
	Estimated Total Annual O, M & R Costs	$42,800

Table 15 – Option 3 – Regionalization with Lakeland RSD – WWTP Upgrade

OPTION NO. 3						
LAKE TIPPECANOE - EXTENDED AERIATION WWTP PROJECT COSTS & ESTIMATED MONTHLY SEWER RATES						
LAKELAND WWTP UPGRADE FROM 0.40 MGD TO 0.795 MGD						
Item No.	Estimated Quantity	Unit	Description	Unit Price	Extension	Salvage Value
1	1	LS	Headworks SS Mech. Bar Screen	$125,000	$125,000	$62,500
2	1	LS	Concrete Tankage	$1,439,300	$1,439,300	$719,650
3	1	LS	Process Equip. (Aero-Mod)	$1,204,000	$1,204,000	$602,000
4	1	LS	Equipment Installation & Piping	$311,000	$311,000	$155,500
5	4	LS	Infl. & Effl. Open Channel Flowmeters	$4,000	$16,000	$8,000
6		LS	Influent & Effluent Automatic Samplers	$4,000	$0	
7	1	LS	UV Disinfection System	$239,000	$239,000	$119,500
8		LS	Lab Equipment	$20,750	$0	
9	1	LS	Sludge Dewatering System & Tankage	$327,500	$327,500	$163,750
10		SFT	Control & Lab Bldg. @ WWTP	$63	$0	
11		LF	Fencing & Gates	$23	$0	
12	1	LS	Yard Piping	$105,900	$105,900	$52,950
13		SYD	Asphalt Access Rd & Parking @ WWTP	$23	$0	
14	1	LS	Excavation for WWTP Tankage)	$149,000	$149,000	
15	1	LS	Structural Backfill for Tanks	$149,000	$149,000	
16	1	LS	Site Electrical & Telemetry	$205,000	$205,000	$102,500
17	1	LS	NG Generator, ATS, Enclosure & Pad	$105,000	$105,000	$52,500
18		LS	Outfall Structure & Rip-Rap (	$20,000	$0	
19	1	LS	Grading, Seeding & Landscaping	$20,000	$20,000	
20		LS	Connecting 12" Force Main	$50,000	$0	
21		LS	Discharge Piping to Creek	$19,000	$0	
22		LS	Land (Purchase)	$62,500	$0	
23	1	LS	Mob. & Demob.(NTE 3% of Items 1-20)	$60,000	$60,000	
				Estimated Construction Cost	$4,455,700	$2,038,850

Table 16 – Option 3 – O, M & R for WWTP Upgrade

LRSD WWTF UPGRADE O, M & R COSTS			
Item	OM&R Costs for 0.395 MGD Upgrade	Annual Cost	New Customers
1	Power	$60,800	
2	Miscellaneous Utilities (Phone, Cable, Communications, etc.)	$845	
3	Supplies	$1,056	
4	Maintenance	$6,336	
5	Equipment Replacement	$19,200	
6	Operations Contract - Plant & Collections	$65,564	
7	Utility Locate Services Contract	$0	
8	Legal Fees	$0	
9	Drainage Assessment Fees	$15,360	
10	Vehicles	$1,280	
11	Contracted Lab Testing (CBOD, TSS, NH3N, P & ecoli) (included in operations)	$0	
13	Annual Permits & Fees	$5,440	
	Estimated Total[2]	$175,881	
	WWTP OM&R (LRSD Rate Study) (App Users)[1][2]	$243,692	
	Total OM&R for Expanded WWTP	$419,573	
	New Customer Est. O, M & R[4]		$227,377
	New Customer Debt. Service $4.67[3]		$132,198
	Total O, M, &R New Customers		$359,575

[1] Provided by District

[2] Expenses shared by all users.

[3] From Fiscal Counsel (est.) per EDU

4.5 OPTION 4 –REGIONALIZATION WITH WARSAW, IN

As discussed in Section 2, the City of Warsaw operates a significant wastewater treatment asset that is within reasonable distance to the service area. Further, the City is in the process of constructing an expansion of their collection system into the City's Airport Industrial Park.

This option would also require an interlocal agreement for treatment services. The City has provided preliminary treatment rates and will require a capacity buy-in for the new district. The buy-in will be based on volume and a multiplier provided by the City.

See Figure 8 for this option.

The estimated construction cost for this option are provided in the table on the next page.

TABLE 17– Option 4 – Estimated Construction Cost Interceptor Force Main to Warsaw Airport Industrial Park

OPTION NO. 4 - REGIONALIZATION WITH WARSAW, IN ENGINEER'S PRE-DESIGN CONSTRUCTION ESTIMATE						
Item No.	Estimated Quantity	Unit	Description	Unit Price	Extension	Salvage Value
1	34,350	LFT	12" Force Main, PVC, HDPE	$60	$2,061,000	$1,030,500
2	20	EA	Air Release Comb.	$5,000	$100,000	$50,000
3	2	EA	Lift Station w/ Generator	$200,000	$400,000	$200,000
4	22,900	SYD	Pavement Removal (All Types)	$6	$137,400	
5	1,889	TON	1.5" Bituminous Surface No. 11	$65	$122,800	
6	2,519	TON	2" Bituminous Binder No. 8 or No. 9	$60	$151,100	
7	3,778	TON	3" Bituminous Base No. 5	$58	$219,100	
8	3,778	TON	6" Compacted Agg. No. 53, Type 'O' - Undist.	$17	$64,200	
9	20	TON	Tack Coat	$200	$4,000	
10	12,000	LFT	Line, Paint	$0.50	$6,000	
51	6	EA	4' Diameter Manhole	$1,500	$9,000	$4,500
11	1,000	LFT	12" Driveway Culvert	$28	$28,000	
54	500	LFT	18" Driveway Culvert	$35	$17,500	
12	100	LFT	24" Driveway Culvert	$45	$4,500	
15	10	EA	12" Gate Valve & Box	$2,400	$24,000	$12,000
16	10,000	LBS	Ductile Iron Fittings	$3	$30,000	$15,000
17	1	EA	Stream Crossing	$30,000	$30,000	
18	1	EA	Chemical Feed System	$80,000	$80,000	$40,000
19	1	LSUM	Clearing Right-of-Way	$7,000	$7,000	
20	1	LSUM	Easement Acquisitions	$60,000	$60,000	
21	1	LSUM	Mulch Seeding	$40,000	$40,000	
22	1	LSUM	Traffic Maintenance	$40,000	$40,000	
23	1	LSUM	Construction Surveying	$26,000	$26,000	
24	1	LSUM	Mobilization & Demolition, Max. 3% of Contract	$109,800	$109,800	
				Subtotal Bid	$3,771,400	$1,352,000
				Capacity Buy In to Warsaw[1]	$1,874,400	
				Total Engineer's Estimate	**$5,645,800**	

[1] From Fiscal Counsel

The estimated operational, maintenance and replacement (O, M & R) costs for Option 4 are provided in the table on the next page.

Table 18 – Option 4 – O, M & R for Force Main Interceptor to Warsaw

FORCE MAIN INTERCEPTOR TO WARSAW O, M & R Costs		
Item	Description	Annual Cost
1	Lift Station Power	$10,800
2	Labor & Call-outs	$8,000
3	Other Misc. Parts & Labor	$4,000
4	Maintenance & Repair Reserve	$10,000
5	Chemical Allowance	$10,000
6	Treatment Charges to Warsaw [1]	$420,200
	Estimated Total Annual O, M & R Costs	**$463,000**

[1] Assumes $3.29/1,000 @ 0.354 MGD plus $1,327/mo. (Rate provided by Fiscal Counsel)

4.6 OPTION 5 – NEW WWTP FOR SERVICE AREA

Assuming an interlocal agreement for treatment of the new District's waste is not possible or is not approved by either jurisdiction (Lakeland RSD or Warsaw). A third option for treatment would include constructing a new facility. The new facility would be located within or close to the service area and would be sized so as to provide treatment for the initial volumes from the community but would also include an expandable footprint to allow for incremental growth in the future.

The figure provides two possible locations for the proposed facility. Figure 9 provides four (4) possible locations for the proposed facility. Figure 9 provides one possible location for the recommended treatment concept using an extended aeriation process concept.

Table 19 – Option 5 – New WWTF For Service Area

OPTION NO. 5 - NEW EXTENDED AERIATION WASTE WATER FACILITY Engineer's Pre-Design Construction Estimate						
Item No.	Estimated Quantity	Unit	Description	Unit Price	Extension	Salvage Value
1	1	LS	Headworks SS Mech. Bar Screen	$201,600	$201,600	$100,800
2	1	LS	Concrete Tankage	$1,846,000	$1,846,000	$923,000
3	1	LS	Process Equip. (Aero-Mod)	$1,539,000	$1,539,000	$769,500
4	1	LS	Equipment Installation & Piping	$502,000	$502,000	$251,000
5	4	LS	Infl. & Effl. Open Channel Flowmeters	$4,000	$16,000	$8,000
6	4	LS	Influent & Effluent Automatic Samplers	$4,000	$16,000	$8,000
7	1	LS	UV Disinfection System	$239,000	$239,000	$119,500
8	1	LS	Sludge Dewatering System & Tankage	$528,000	$528,000	$264,000
9	2000	SFT	Maintenance Bldg. @ WWTP	$63	$125,000	$62,500
10	100	LF	Fencing & Gates	$23	$2,250	
11	1	LS	Yard Piping	$171,000	$171,000	$85,500
12	1150	SYD	Asphalt Access Rd & Parking @ WWTP	$25	$28,750	
13	1	LS	Excavation for WWTP Tankage	$241,000	$241,000	
14	1	LS	Structural Backfill for Tanks	$241,000	$241,000	
15	1	LS	Site Electrical & Telemetry	$331,000	$331,000	$165,500
16	1	LS	NG Generator, ATS, Enclosure & Pad	$150,000	$150,000	$75,000
17	1	LS	Outfall Structure & Rip-Rap	$40,000	$40,000	
18	1	LS	Grading, Seeding & Landscaping	$40,000	$40,000	
19	1	LS	Connecting 12" Force Main	$50,000	$50,000	$25,000
20	1	LS	Discharge Piping to Creek	$100,000	$100,000	$50,000
21	1	LS	Land (Purchase)	$100,000	$100,000	
22	1	LS	Mob. & Demob.(NTE 3% of Items 1-20)	$180,000	$180,000	
			Estimated Construction Cost		$6,687,600	$2,907,300

For option 5 it is important to understand that IDEM may require an anti-degradation study and will require acknowledgement from nearby treatment providers (Lakeland RSD and the City of Warsaw) that an interlocal agreement for wastewater treatment is not possible. So far, both jurisdictions have indicated they have an interest in such an arrangement; however, no firm commitments have been procured. A Waste Load Allocation request has been submitted to IDEM for this new facility.

Table 20 – Option 5 - O, M & R for Extended Aeriation WWTF

NEW MGD EXTENDED AERATION WWTF		
O, M & R Costs		
Item	Description	Annual Cost
1	Power	$50,000
2	Miscellaneous Utilities (Phone, Cable, Communications, etc.)	$2,000
3	Supplies	$15,000
4	Maintenance	$15,000
5	Equipment Replacement	$15,000
6	Operations Contract	$150,000
7	Drainage Assessment Fees	$12,000
8	Vehicles	$3,000
9	Contracted Lab Testing (CBOD, TSS, NH3N, P & ecoli)	$30,000
10	Sludge Dewatering, Hauling & Tipping Fees	$87,000
11	Annual Permits & Fees	$4,250
	Estimated Total Annual O, M & R Costs	**$383,250**

The Table below provides a summary of project costs for each of the options described above.

Table 21 – Summarized Costs for All Options

		Construction Costs	O, M, & R Costs	Salvage Value
Option	Collection System Alternatives			
No. 1	Gravity Sewer	$30,410,600	$431,459	$7,434,270
No. 2	Low Pressure Sewer	$24,626,300	$400,672	$7,276,787
	Treatment System Alternatives			
No. 3	Regionalize with LRSD	$8,548,200	$402,375	$3,513,750
No. 4	Regionalize with Warsaw	$5,645,800	$463,000	$1,352,000
No. 5	New WWTP	$6,687,600	$383,250	$2,907,300

A cost and effective analysis or Present Worth Cost Analysis, as required, was completed for the above collection system options. This analysis was performed for a 20-year planning period using the real discount rate of 0.5% from OMB Circular A-094. The Present Worth Cost Analysis can be seen on the following page.

Table 22 – Present Worth Cost Analysis of Collection System Alternatives

PRESENT WORTH ANALYSIS OF COLLECTION SYSTEM ALTERNATIVES			
Cost Summary	**Gravity Sewer System**	**Low Pressure System**	
Construction Cost	$30,410,600	$24,626,300	
Annual O, M & R Cost	$431,459	$400,672	
Salvage Value	$7,434,270	$7,276,787	
Present Worth Analysis (20 Yrs @ 3.50% Interest)			
Construction Cost	$30,410,600	$24,626,300	
PW of Annual O, M & R [1]	$8,192,293	$7,607,727	
PW of Salvage [2]	$6,728,482	$6,585,950	
Present Worth of Costs [3]	**$31,874,411**	**$25,648,077**	

[1] PW Factor = 18.987

[2] PW Factor =0.9051

[3] Total PW = Construction Cost + PW of O, M & R – PW of Salvage

Table 23 – Present Worth Cost Analysis of Treatment Alternatives

PRESENT WORTH ANALYSIS OF TREATMENT ALTERNATIVES			
Cost Summary	**Regionalize w/LRSD**	**Regionalize w/Warsaw**	**New WWTP**
Construction Cost	$8,548,200	$5,645,800	$6,687,600
Annual O, M & R Cost	$402,375	$463,000	$383,250
Salvage Value	$3,513,750	$1,352,000	$2,907,300
Present Worth Analysis (20 Yrs @ 3.50% Interest)			
Construction Cost	$8,548,200	$5,645,800	$6,687,600
PW of Annual O, M & R [1]	$7,640,063	$8,791,175	$7,276,928
PW of Salvage [2]	$3,180,165	$1,223,645	$2,631,289
Present Worth of Costs [3]	**$13,008,098**	**$13,213,330**	**$11,333,239**

[1] PW Factor = 18.987

[2] PW Factor =0.9051

[3] Total PW = Construction Cost + PW of O, M & R – PW of Salvage

5. EVALUATION OF ENVIRONMENTAL IMPACTS

The purpose of this section is to identify, review and discuss environmental impacts associated with implementation of the selected plan recommendations.

A. Location

The project area is located in Kosciusko County, Indiana, and includes the waterfront communities at Tippecanoe Lake and Chapman Lakes. Figure 1 provides an overview of study area and project service areas. Since this is a new wastewater system planned to be operated by the New District, there is no existing service area.

The project is mostly located in Sections 6,7,8,9,16,17, and 18 through 21, Township 33 North, Range 7 East, Tippecanoe Township, Kosciusko County, Indiana, and Section 6 Township 32 North Range 7 East Washington Township, North Webster USGS Quadrangle and Sections 11,12,13,14,23,24,25,26, and 35, Township 33 North, Range 6 East, Plain Township, Kosciusko County, Indiana, Leesburg USGS Quadrangle.

The proposed project will include the following:

An expansion of an existing wastewater plant at the Lakeland Regional Sewage Districts site located on County Road 100 North in Washington Township (Section 6, T32NR7E) See Figure 7 New pressure sewers at Tippecanoe and Chapman Lakes. See Figures 6.1 and 6.2

There will also be a new interceptor sewer constructed within County Road apparent rights-of-way between Tippecanoe Lake and Chapman Lakes then east and south to the treatment facility at Lakeland RSD.

The proposed wastewater collection system will be mainly constructed within the existing county rights-of-way. Based on the preliminary design, it does appear that some isolated portions of the collection system will be built in undisturbed land.

The majority of the collection system is planned to be constructed utilizing horizontal drilling. There may be a few small segments that may be constructed via open excavation.

B. Disturbed and Undisturbed Land

Projects of this nature and scale normally involve land-disturbing activities. The project will be designed to keep as much of the pipeline as possible within the previously disturbed roadway rights-of-way. Where possible, the project improvements will be located within the pavement limits, or within the unpaved portion of the right-of-way.

The WWTP improvements will be installed outside of the right-of-way on already disturbed land. The WWTP site is approximately 4.6 acres with direct access from CR

100 North. All of the site was disturbed as part of the prior construction. The new WWTP tankage could be as deep as 15' to 20'.

The three proposed pump station sites will be on tracts of land approximately 75-feet by 75-feet and adjacent to the existing roadway. It is anticipated that most all of the pump station sites will be disturbed with large excavation occurring for the wet well and valve vaults. The wet wells will be about 15 to 20' deep, while the valve vault will be about 8' deep. These stations are expected to be built on District acquired land outside of the public right-of-way.

The force main interceptor sewer will be installed adjacent to the roadways and within the apparent right-of-way. The sewer depth will range from 5' to 10' deep. The width of the trench would be about 8' wide where open trench is required. The total width of disturbed area along the sewer route will be about 10'-12'.

The pump stations, WWTP, and intermediate pipe connections will be constructed using the open cut method of installation.

The majority of the proposed wastewater collection system will be constructed within the existing public road apparent rights-of-way just under the pavement or within five (5) feet of the pavement. Some segments of county roads do not have documented rights-of-way. In these segments, the District may need to acquire easement rights for the sewer system that will be located within the apparent right-of-way.

The force mains and pressure sewer will be required to be installed using horizontal directional drilling, or other appropriate trenchless method, in order to minimize land disturbance and restoration costs.

The main pressure sewer lines will be installed in, or adjacent to existing road way systems controlled by Kosciusko County (asphalt, stone, stone shoulders, grassed shoulders, grassed road side drainage swales), with the exception of the following two segments:

1. Segment 1 – Tippecanoe Lake North/West Side - A short segment of pressure sewer will cross the Patoka Lake Marina complex between the buildings and the Lake. See Figure 6.1.
2. Segment 2 Chapman Lakes/West – A short segment of pressure sewer will cross through a platted lot along a property line and be drilled under the channel that connects Big and Little Chapman Lakes. The areas of work are fully developed residential properties. See Figure 6.2.

The pressure sewer will be installed using the directional drill method of installation, which will minimize land disturbance activities. It is anticipated that there will be excavations at each crossover connection point along the pressure sewer, service lateral connection point, each manhole structure (junction points, end of lines and air release valve locations).

The approximate disturbed area for each excavation will be as follows:

Table 24 - Summary of Excavations

Description	Area
Manhole structure- includes air release valve structures and flushing stations	8' x 8'x 6' depth
Pressure sewer lateral connection at main line	5' x 5' x 6' depth
Package grinder pump station	6' x 10' x 8' depth
Electrical riser	2' x 2' x 3' depth
Crossover connection	5' x 8' x 6' depth

In addition, some surface disturbance can be expected with the excavators and directional drill machines used for a project of this nature. The approximate foot print of the drilling machine and resulting disturbed area would be about 8' x 20'. This disturbance would occur at structure locations and at crossover connection locations.

Erosion control measures will be required via project specifications and enforced throughout the construction process. The contractor will be required to restore disturbed areas to preconstruction conditions, or better, prior to project completion.

C. Historic and Architectural Resources

The project will not affect curbs, brick streets or sidewalks. Some yards and possibly street-side yard plantings may be affected by construction of the project. The contractor will be required to promptly restore disturbed yards and street-side plantings as portions of the project are completed. Pre-construction videos of the construction area will be required from the contractor so that any disputes about the nature of the construction area after the project versus prior to the project can be suitably resolved.

An Archaeological Review and Reconnaissance survey will need to be completed for this project. Typically, this will be required during the pre-qualification process assuming a federal resource is selected.

A Historical and Architectural Resources review will need to be completed for this project as well. This is also required to satisfy federal and state funding requirements.

D. Wetlands

The proposed collection sewer at Chapman Lakes will need to cross under existing channel between Big and Little Chapman Lakes wetlands along the banks. Wetland disturbance is not anticipated. The disturbed areas will be restored with native plantings appropriate for the disturbed area. For the remainder of the project, construction activity in or near wetlands will be avoided. Some wetlands do exist adjacent to the proposed pressure sewer and force main. The use of horizontal directional drill method of installation will greatly reduce the disturbed areas in general and allow the pressure sewer to be installed adjacent to wetlands without disturbing the wetlands. During the

early design phase of the project, the Engineer will coordinate with the appropriate agencies to identify areas of concern. Once identified specific area near or adjacent to wetlands will be identified on the design drawings as no work or no staging zones.

See Figure 10 for the Wetland Inventory Map.

As part of the pre-qualification process for the project funding, a wetland investigation will be performed.

E. Hydrology

The Tippecanoe Lake was rated 121st of 321 lakes in the Indiana Clean Lakes Program as to the trophic state of the water body in 1996. The River is fed by the Tippecanoe River which has been listed as an "outstanding river" as it relates to the 22 qualifying categories used in the listing evaluation. Specifically, the River qualifies under category 5, as wild and scenic, 13, as state designated canoe or boating routes and 16 as a part of the River is included in a state park system.

The diagnostic study of the Lake from 1997 calls for nutrient reductions, and the development of a sewage system as an immediate priority. In 2001, a state sponsored advocacy group found the Lake as the second most impaired body of water in the Tippecanoe River watershed. A more complete review of all past studies is included in Section 9.

Chapman Lakes were the subject of a comprehensive strategies management plan (2007) that provides detailed information relative to the water quality and concerns for the Chapman Lakes watershed. Generally, the Lakes are challenged by nutrients, sediment and impacts from human environment in the near shore areas of both Big and Little Chapman Lakes.

No construction impacts or long-term impacts to the Lakes and their watersheds are expected. All activities will be in construction areas that will be protected by required erosion control methods. Most pipe installation will be by directional drilling. Open cut excavation will be employed for pump stations, grinder pumps and waste water facility expansion.

The treatment process selected has a strong track record of reliable operations and will be able to meet and exceed the effluent limits established for the stream, resulting in minimizing impact to the water quality of receiving stream. The project will not adversely affect waters of high quality listed in 327 IAC 2-1-2(3), exceptional use streams listed in 327 IAC 2-1-11(b), Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2), Salmonid Streams listed in 327 IAC 2-1.5-5(a)(3), or waters on the Outstanding Rivers List (Natural Resources Commission Non-Rule Policy Document). Stream crossings are required as a part of the project. However, the crossing will be accomplished via directional drilling and all construction activities will be outside of the floodplains or floodways. See Figure 10 showing stream crossing locations on the flood plain maps.

Dewatering may be needed for construction of the wet wells for the pump stations and for construction of the proposed wastewater treatment plant improvements. For the

package grinder pump stations and pressure sewer structures, it is anticipated that only minor dewatering of short duration (2 hours or less) may be required.

If dewatering is necessary, the Contractor will be required to discharge to a suitable location and provide a settling basin or filtering bag to capture solids prior to the discharge.

The project is not within the limits of the St. Joseph Sole Source Aquifer.

The effluent sewer from the existing WWTP may need to be upgraded. A construction permit will be required from Indiana Department of Natural Resources for Construction in a Floodway; and the Army Corp of Engineers (404) and Indiana Department of Environmental Management (401) for disturbance below the ordinary high-water mark.

No adverse impacts are expected to local water wells and groundwater table.

F. Plants and Animals

The project is expected to have minimal to no impact to plants and animals during construction and no impact afterwards. As discussed previously, the majority of the project elements will be installed within the existing pavement. Therefore, disturbance to plants and animals will be minimal to none.

G. Prime and Unique Farmland

The construction of the proposed project will have minimal impact on farmlands. The existing wastewater treatment facility has already converted farmland. New construction will not affect additional farmland. However, this disturbance is limited to less than 5 acres.

The Pump Stations may be located on existing farmland on tracts of land of about 75' x 75'.

The pressure sewer and force mains will be primarily installed using trenchless methods to minimize the amount of land disturbance. Most of this work is expected to be completed within apparent right-of-ways of public roads.

H. Air Quality

Construction activities may generate some noise, fumes and dust, but should not significantly affect air quality, as the majority of the project will be constructed via directional drilling. Contractors will also be required to monitor and limit dust from construction activities.

Appropriate setbacks and sound suppression devices already exist and the WWTP and additional measures at pump station sites will be incorporated in project plans.

I. Open Space and Recreational Opportunities

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

J. Lake Michigan Coastal Program

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

K. National Natural Landmarks

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

L. Secondary Impacts

The new District, to the extent possible through its limited authority, will strive to ensure that future development, as well as future collection system or treatment works projects connecting to the State Revolving Funds (SRF) funded facilities will not adversely impact archaeological/historical/structural resources, wetlands, wooded areas, or other sensitive environmental resources. The new District will, to the extent possible under its limited authority, strive to require that new development and treatment works projects be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM, and other environmental review authorities.

M. Mitigation Measures

The project will be subject to the conditions set forth in erosion control measures requirements of the project plans and specifications. The contractor will be required to comply with the terms and conditions of the permits.

The contractor will be required to utilize trenchless pipe installation techniques for most of the project with limited ability and/or locations to utilize conventional open-excavation methods. This will significantly reduce the amount of land-disturbing activities.

6. SELECTED PLAN & PROPOSED PROJECT

Based on review of the options considered, a pressure collection system and regionalization with a nearby provider for treatment services appears to be the best long-term solution for the considered service areas. The selected plan addresses the current needs and provides the District and the community the flexibility to address future demands and needs.

In addition to JPR's opinion's, local officials, residents and state and local regulatory agencies all concur that constructing the pressure collection system and regionalization is the most feasible option.

As a part of this recommended project, a total of up-to four wastewater pump stations will be constructed to transport collected wastewater. The first pump station (PS#1) will be constructed on the south side of Tippecanoe Lake. The second pump station (PS#2) will be constructed at Chapman Lake and will serve to transport wastewater from the Chapman Lakes service area. A

third and fourth pump station will be placed along the route of the force main to the plant site (under Option 3) or to the connection location at Warsaw (Option 4).

In general, the wastewater treatment plant expansion under Option No. 3 will consist of an upgraded extended-aeration activated-sludge wastewater treatment plant and associated components, such as mechanical screening, sludge processing, UV disinfection, chemical dosing, stand-by generator(s) and other typical wastewater system components. A proprietary process by Aero-Mod was used in the original facility and was used in the evaluation and estimates. Alternatively, and as noted under Option 4, a connection would be made to the Warsaw Sewer System at the Warsaw Airport Industrial Park. The anticipated project schedule is as follows:

Table 25– Project Schedule

Task	Date
PER Submittal	December 31, 2018
PER Public hearing	February 2019
PER Approval	March 2019
Begin Design	July 2019 – July 2020
Land and Easement Acquisition	July 2020
Permits Issued	July 2020
Receive Bids	August 2020
Loan Closing	October 2020
Begin Construction	December 2020
Begin Operations	March 2021

It is anticipated that the following permits will be required as a part of this project:

- IDEM Sanitary Sewer Construction Permit
- IDEM Wastewater Treatment Plant Construction Permit
- Kosciuscko County Highway Department Right-of-Way/Road Cut Permit
- Kosciusko County Drainage Board Regulated Drain Crossing Permit
- Indiana Rule 5 Stormwater Erosion Control Permit
- IDEM Section 401 Water Quality Certification Regional General Permit
- U.S. Army Corps of Engineers Section 404 Permit

7. LEGAL, FINANCIAL & MANAGERIAL CAPACITY

As discussed previously, the selected and recommended project will be owned, operated and maintained by the proposed new District. The overall project cost construction summary and non-construction cost breakdown for Option 2 combined with Options 3, 4 and 5 are provided in the following tables 26, 27 and 28.

Table 26 – Project Costs Summary Option No. 2 Combined with Option No. 3 – Regionalize with LRSD

Construction	
Collection System - Pressure Sewer System	$24,626,300
Treatment System - Extended Aeration	$8,548,200
Sub-Total	$33,174,500
4% Construction Contingency	$1,327,000
Total Estimated Construction Costs	**$34,501,500**
Non-Construction Costs	**TOTAL**
Preliminary Engineering Report	$55,000
Surveying/Design/ Permitting,Bidding	$3,200,000
Construction Administration/ Post Construction	$1,800,000
Inspection	$1,400,000
Easement Descriptions/Assistance and blanket easement assistance	$250,000
Land/Easement acquistion	$250,000
Rate Consultant	$100,000
Local Counsel	$145,400
Bond Counsel	$100,000
Misc. Administration Costs	$100,000
Davis-Bacon Labor Standards Administrator	$30,000
Outside Consulting (Soil Boring, Arch. & Historical, Wetland Survey, Etc.)	$65,000
Total Estimated Non-Construction Costs	**$7,495,400**
Total Project Costs	**$41,996,900**

Table 27 – Project Costs Summary Option No. 2 Combined with Option No. 4 – Regionalize with Warsaw

Construction	
Collection System - Pressure Sewer System	$24,626,300
Treatment System - Connect to Warsaw	$5,645,800
Sub-Total	$30,272,100
4% Construction Contingency	$1,210,880
Total Estimated Construction Costs	**$31,482,980**
Non-Construction Costs	**TOTAL**
Preliminary Engineering Report	$55,000
Surveying/Design/ Permitting,Bidding	$2,442,000
Construction Administration/ Post Construction	$1,587,300
Inspection	$854,700
Easement Descriptions/Assistance and blanket easement assistance	$250,000
Land/Easement acquistion	$250,000
Rate Consultant	$100,000
Local Counsel	$145,400
Bond Counsel	$100,000
Misc. Administration Costs	$100,000
Davis-Bacon Labor Standards Administrator	$30,000
Outside Consulting (Soil Boring, Arch. & Historical, Wetland Survey, Etc.)	$65,000
Total Estimated Non-Construction Costs	**$5,979,400**
Total Project Costs	**$37,462,380**

Table 28 – Project Costs Summary Option No. 2 Combined with Option No. 5 – Build New WWTP

Construction	
Collection System - Pressure Sewer System	$24,626,300
Treatment System - Extended Aeration	$6,687,600
Sub-Total	$31,313,900
4% Construction Contingency	$1,252,600
Total Estimated Construction Costs	**$32,566,500**
Non-Construction Costs	**TOTAL**
Preliminary Engineering Report	$55,000
Surveying/Design/ Permitting,Bidding	$2,818,250
Construction Administration/ Post Construction	$1,831,900
Inspection	$986,400
Easement Descriptions/Assistance and blanket easement assistance	$250,000
Land/Easement acquistion	$370,000
Rate Consultant	$100,000
Local Counsel	$145,400
Bond Counsel	$100,000
Misc. Administration Costs	$100,000
Davis-Bacon Labor Standards Administrator	$30,000
Outside Consulting (Soil Boring, Arch. & Historical, Wetland Survey, Etc.	$65,000
Total Estimated Non-Construction Costs	**$6,852,000**
Total Project Costs	**$39,418,500**

Under any of the above project models, the District will own, operate and maintain the wastewater system, with the exception of the treatment asset under options 3 or 4 which is expected to remain with the Lakeland District, or the City of Warsaw.

For reference, the District's Fiscal Advisor is HJ Umbaugh & Associates (Jeffery Rowe, CPA) 574 935-5178. The Bond Council is Ice Miller.

See Appendix D for the Preliminary Rate Report and financial model from the future Districts fiscal advisor.

8. PUBLIC PARTICIPATION

The Community has conducted a significant effort relative to outreach and this activity continues.

For the Tippecanoe Lake Community, residents have supported and participated in many studies over 4 decades, with the most recent being a significant effort relative to the formation of a Conservancy District. This included the completion of a petition drive. The petition drive achieved the signature threshold required for the court filing and the initial formation steps. Leading up to that milestone residents:

- Raised funds and hired professional consultants

- Developed an informational website
- Conducted numerous mailings
- Conducted meetings with multiple officials and resident groups

This effort began (in the most recent initiative) in 2016 and continues today.

For the Chapman Lakes Community residents completed a planning effort in 2007 that included resulted in a Strategic Lake Management Plan that included specific recommendations including the provision of sanitary sewers at the lake by 2015. A sanitary sewer specific feasibility study was completed in 2008. This effort was widely shared with outreach including news letters and public meetings. During the Summer of 2018 the community conducted 2 public meetings that were well attended and very positive relative to the construction of the proposed District.

Beginning in April of 2018, after the County Commissioners procured the services of legal counsel, fiscal counsel and an engineering firm, the process of the initiative was discussed each month at regular County Commissioners meetings. The topic as a result was reported in local news outlets and residents routinely attended these sessions.

In September of 2018 a direct mailing to all the holders was completed and a public meeting was conducted on September 29th, 2018. Notice of this meeting was published in local news outlets and broadcast on local radio stations. The Public Notice and minutes of this meeting are included in Appendix C. A joint meeting of the County Council and County Commissioners was held on September 8th where the status of the meeting was provided.

9. STATEMENT OF PURPOSE AND NEED

As discussed in Section 4.1 the "no action" alternate is not supported in the community from the review of the alliance information the opposite seems to be the prevailing opinion.

The information provided in Section 2.3 provides some basic but very compelling constraints as to why the "no action" alternate is no longer sustainable.

9.1 PRIOR STUDIES

Over the last nearly 5 decades planning and consideration for sanitary sewer facilities in these communities resulted in findings, conclusions and recommendations that were consistent and recurring. Following is a summary or sample of reports, correspondences, and planning documents pertinent to the needs for the subject project.

1970 – Comprehensive Sewer and Water Plan Kosciusko County, IN (Clyde E. Williams Assoc.)

- This study was compiled for the County Area Plan Commission and reviewed the public utility needs for the entire County.
- Tippecanoe Lake, the Barbie Chain and Chapman Lakes is identified as "Area 4".
- The report discussed the deficiencies of the existing septic systems and warned of their ability to handle larger demands than originally intended.

- The report recommends the Area Plan Commission urge and assist the homeowners with the formation of a Conservancy District.

- The report provided a description of both Conservancy Districts and Regional Sanitary Districts and listed the advantages and disadvantages of both.

- Recommended that "Area 4" (including Lake Tippecanoe be serviced by a new sanitary sewer collection and treatment system by 1975.

1994 – Kosciusko Development, Inc. (Jones and Henry Engineers)

- The study considered sanitary sewers or expansion of existing systems for 24 lakes and 10 communities both incorporated and unincorporated, throughout the county.

- Described as a comprehensive county wide study the report states that sewer collection systems and central treatment facilities are the only feasible method for existing and future development throughout the county.

- This report recommended that the Barbee Lakes, Chapman Lakes and Lake Tippecanoe be connected to the City of Warsaw.

- The report (1994) advises that a new and regional wastewater treatment system was being proposed to serve Warsaw, Winona Lake, Barbee, Chapman, Tippecanoe and the Town of Leesburg *(only Winona Lake and Leesburg did ultimately connect)*.

- This cost for the Barbee, Tippecanoe and Chapman Lakes sewer construction and connection to Warsaw was estimated to be $37 million dollars (with the Tippecanoe and Chapman Lakes portion estimate at $23,300,000). *(The current cost estimated is approximately $10M more for Tippecanoe Lake alone.)*

- The report warns of impacts to surface water resources due to wide spread use of on-site septic systems.

- The report advises that over 1,700 septic system failures were reported between 1990 and 1994 with the majority of those located within the lake communities of the county. This represented approximately 10% of the on-site systems in the county. *(Assuming those failed systems were replaced or repaired by permitted installations, most, if not all have reached or exceeded their expected maturity and would have to be replaced again soon or already have been.)*

- The study proposed partial support of debt for the construction of new sewers thru an economic development income tax and thru local rates and charges.

- The resulting rates for Tippecanoe and Chapman Lakes were estimated at $50.0/month assuming a $2,000.00 connection fee/capital contribution per user.

1995 – Letter to Indiana Natural Resources Commission from the Kosciusko County Health Department

- This correspondence provides an evaluation of the Tippecanoe Lake developed areas as to suitability for septic systems that could achieve compliant installations.

- The author describes soil conditions as fill over muck or marl, and others as being moderately and severely limited for use in sewage disposal due to the soil properties, and depth to water table.

- The letter further states that there is "not enough room to properly size and install a system that meets code," and refers to setback requirements that cannot be met in most locations, including those to water wells.

- The letter discusses the concerns for sewage related disease and refers to some lots as un-buildable without sewer and further that upgrades to existing systems are unfeasible due to high water tables. Paragraph 4.9 of the letter states that there are no "virgin" soils within the home sites that haven't already been used for sewage disposal. *(Overall this important correspondence is as valid or even more so today, 22 years later.)*

- The letter included a tabulation of septic system permits issued between 1989 and 1995 as 372. This would amount to approximately 30% of the systems at Lake Tippecanoe. *(Most of these would be nearing or have already achieved their expected lifespan.)*

1995 – Conceptual Engineering Report for the Tippecanoe Lakes Conservancy District (Bonar Group, Fort Wayne, Indiana)

- This plan was prepared in support of the first effort to establish a Conservancy District at Tippecanoe Lake. The report addresses all the stated qualifiers required within the Indiana Conservancy Act. These include that the District; **appears to be necessary, is feasible, will serve the public health, will serve a logical area, and can be established and operated and be compatible with established districts.**

- The study provides support for the current land owners concerns in every way, while also addressing the qualifiers noted above. The study concentrates on the Tippecanoe Lake Community only (as the proper area.)

- The report states the USDA classifies soils limitations for installation of septic systems as "severe" for most of the developed areas around the Lake.

- This study characterizes other limitations as significant, including the 100-year flood zone that is present in many areas of the community where homes and septic systems are clearly encroaching into that protected resource.

- The report discusses the density of development and advises that the predominantly small lot sizes do not have adequate space for septic system development that provide for required isolation from water wells. The report also refers to the Health Department correspondence of 10-9-1995 that clearly stated the Health Departments concerns for continuing the use of septic systems at the Lake. These topics sufficiently demonstrate the "appears to be necessary" requirement.

- This 1995 study included 1,757 equivalent dwelling units and estimates the cost of the infrastructure to be between $16M and $21M. The plan also discusses treatment options and advises that even in 1995, the project met the Conservancy District criteria for feasibility.

- The study addresses the public health qualifier and provides statements relative to threats to water wells, groundwater and the potential for impacts to the river and lake.

- The report reiterates the high concern for home-owners ability to design, permit and install code compliant septic systems in poor soils on lots that are not adequately sized.

- Clearly the report provides strong warnings relative to protection of the public health and therefore the achievement of that qualifying criteria for Conservancy District formation.

- The report was prepared by a firm with the proven credentials relative to the establishment of new utilities in waterfront communities.

1997 – Tippecanoe Lake Diagnostic Study (Indiana Department of Natural Resources Division of Soil Conservation and Lake and River Enhancement Program, JF New Co. and Indiana University)

- This study provided a good review of the challenges of maintaining the water quality of the lake in the face of the natural process of eutrophication. The report also outlines concerns for human encroachment into that process including residential development, farming and land disturbing activities.

- The report recommends a sanitary sewer system be provided to all residential developed areas within 500 feet of the lake.

2001 – Tippecanoe River Watershed Restoration Action Strategy Parts I & II, (Indiana Department of Environmental Management, Office of Water Quality)

- This comprehensive body of work was developed in collaboration with six citizen advocacy groups throughout the watershed from ten counties.
- In Table 2-1 of Part I, the report uses Indiana's unified watershed assessment score (UWA) in the review of impaired waters with ratings from 1 to 5, with 1 being the least impaired. The hydrologic unit that includes Tippecanoe Lake is the highlighted row below, which shows that in 2001 the Tippecanoe Lake area watershed was second only to the Center Lake unit as most impaired throughout the watershed.
- Areas of concern included residential septic density and aquifer vulnerability.

Table 2-1

HYDROLOGIC UNIT SCORES for Each Parameter Used in the Unified Watershed Assessment (2000-2001)

11-Digit Hydrologic Unit		Mussel Diversity and Occurrence	Aquatic Life Use Support	Recreation Use Attainment	Stream Fishery	Lake Fishery	Eurasian Milfoil Interstation Status	Lake Trophic Status	Critical Biodiversity Resource	Aquifer Vulnerability	Population Using Surface Water for Drinking Water	Residential Septic System Density	Degree of Urbanization	Density of Livestock	% Cropland	Mineral Extraction Activities
Tippecanoe	05120106010	5	nd	nd	nd	2	3	nd	5	3	2	5	2	5	3	1
	05120106020	5	nd	nd	nd	4	4	1	5	3	2	5	2	5	3	1
	05120106030	5	nd	nd	nd	nd	nd	2	3	2	2	4	2	5	3	1
	05120106040	5	nd	nd	nd	2	3	3	4	2	2	3	2	4	4	1
	05120106050	5	nd	nd	nd	3	4	3	4	2	2	2	2	3	4	1
	05120106060	5	nd	nd	nd	4	4	nd	5	2	2	3	2	3	4	1
	05120106070	5	nd	nd	nd	nd	nd	nd	2	2	2	1	1	3	4	1
	05120106080	5	nd	nd	nd	nd	nd	3	4	2	2	1	2	2	5	1
	05120106090	nd	nd	nd	nd	3	nd	nd	2	2	2	2	1	3	4	1
	05120106100	2	nd	nd	nd	nd	nd	nd	2	2	2	4	1	3	5	1
	05120106110	nd	nd	nd	nd	nd	nd	nd	4	2	2	1	2	3	5	1
	05120106120	nd	nd	nd	nd	nd	nd	nd	3	2	2	1	2	3	5	2
	05120106130	nd	nd	nd	nd	nd	nd	2	2	2	2	4	1	3	5	2
	05120106140	nd	nd	nd	nd	5	nd	3	2	2	2	4	2	3	5	2
	05120106150	5	nd	nd	nd	nd	nd	nd	5	3	2	3	2	3	5	2

Note: The UWA score range from 1 to 5, with a score of 1 indicating good water quality and a score of 5 indicating severe impairment. Nd = No data

- Part one of this report discusses causes of pollution that were described in broad terms within Table 3-1 reproduced below.

TABLE 3-1 CAUSES OF WATER POLLUTION AND CONTRIBUTING ACTIVITIES	
Cause	**Activity Associated with Cause**
Nutrients	Fertilizer on agricultural crops and residential/commercial lawns, animal wastes, **leaky sewers and septic tanks, direct septic discharge**, atmospheric deposition, wastewater treatment plants.
Toxic Chemicals	Pesticide applications, disinfectants, automobile fluids, accidental spills, illegal dumping, urban stormwater runoff, **direct septic discharge**, industrial effluent.
Oxygen-Consuming Substances	Wastewater effluent, **leaking sewers and septic tanks, direct septic discharge**, animal waste
E.coli	**Failing septic systems, direct septic discharge,** animal waste (including runoff from livestock operations and impacts from wildlife), improperly disinfected wastewater treatment plant effluent.

- Part two of the study identifies failing septic systems as a priority issue and provides a three part
  Management strategy.

- The Report states that local County Health Departments and stake holders have identified failing septic systems and straight pipe discharges as significant sources of water pollution in the watershed.

  Recommended Strategy No. 1 states that the option of choice to eliminate discharges; "will be a cooperative between homeowners, and local, state and federal stakeholders. *(This is the exact model being proposed by the Tippecanoe Lake Sewer initiative, thru the use of a community established and operated Conservancy District.)*

2001 – Chapman Lakes Diagnostic Study (Chapman Lakes Conservation Association)

- This comprehensive review of the lakes and associated watershed recommended sanitary sewers be constructed to serve the high-density residential development adjacent to the lake.

2003 – Chapman Lakes Engineering Feasibility Study (Chapman Lakes Conservation Association)

- This report reviews various watershed enhancement projects targeting the preservation of the trophic status of the Chapman Lakes. The study recommends pursuing funding for sanitary sewer installation and watershed management plans.

2007 – Chapman Lakes Strategic Management Study Recommendations for Sanitary Sewer

- Calls for a comprehensive feasibility study for sanitary sewer be completed in 2008, and for new sewers to be under construction by 2015.

2008 – Study of Lake Tippecanoe Area to Determine the Need for Sewage Collection and Treatment, (Lakeland Environmental Task Force)

- This report re-emphasizes the constraints and concerns for the continued use of septic systems in the waterfront communities at Lake Tippecanoe, and Lake James. The report provided a review of five factors contributing to the growing sewage disposal issues at the lake. The five factors identified are listed as:

  A. Over development of the Lake Tippecanoe area shorelines;
  B. Small lot sizes;
  C. Poor soil types for septic systems;
  D. Adjacent flood plain;
  E. No Legislative Mandate for Change.

- The report provided a demonstrative inventory of home site sizes that provides confirmation to the concerns of the Tippecanoe Lake Sewer initiative. The following Table is taken from this 2008 document.

TIPPECANOE LAKES LAKE TIPPECANOE AREA LOTS BY SIZE			
Lot Size (Sq. Ft.)	**Quantity**	**%**	**Cumulative %**
5,000 & Under	216	11.5	
5,001 to 10,000	611	32.4%	43.8% of lots 10,000 sq. ft. or less
10,001 to 15, 000	387	20.5%	64.4 % of lots 15,000 sq. ft. or less
15,001 to 20,000	162	8.6%	73.0% of lots 20,000 sq. ft. or less
20,000 & Over	510	27.0	
TOTAL	1,886	100%	

(This table illustrates the severity of the problem caused by undersized lots around the Lake Tippecanoe Area as they pertain to suitability for properly operating septic systems.)

- The document refers to other historic documents that discuss the long-term environmental concerns of the Lake and watershed including a 2001 Report from the Indiana Department of Environmental Management that describes the Tippecanoe Lakes Area being highly susceptible to groundwater contamination due to high water tables and poor soils. The Report is titled "The 2001 Indiana State of the Environment Report".

- The Report recommends a preliminary engineering report for sanitary sewers.

2008 – Feasibility Study for Sanitary Sewer (Chapman Lakes Environmental Watch) (By JPR)

- Provides costs, preliminary design, funding model and implementation plan for new sewer utility.

2009 – Wastewater Study, Lake Tippecanoe (by JPR for Lakeland Environmental Task Force)

- This preliminary engineering report (PER) provided review of the general conditions in the Tippecanoe Lake Community, population projections, wastewater projections and descriptions of alternatives.

- Included in this study was an evaluation of a joint project with Winona Lake, the Lakeland Regional Sewer District (RSD), Chapman Lakes and Lake Tippecanoe.

- The first version of the report includes a project cost for Tippecanoe Lake and its share of a shared wastewater plant at $25M. The report did not consider grant procurement and assumed a 40-year USDA obligation at 4.125%. The support model assumed a nearly $8,000.00 connection fee and an estimated rate of between $50 and $65 per month.

- Later updates (of this PER) considered additional partnering structures including one with the Lakeland RSD. *(This is one alternative being proposed in the current project.)*

- This engineering study assumed expansion of the Lakeland RSD, which ultimately did not occur.

  (The study area boundary for the Lake Tippecanoe is almost exactly as what is being proposed today for the Conservancy District.)

2016-2017 – Lake Tippecanoe Study Update; (Jones Petrie Rafinski Corp., for Tippecanoe Lake Sewer Initiative)

- The current analysis includes a hydraulic model of the collection system and three treatment alternates.

- The District boundary has been refined to concentrate on the Lake-immediate properties and closely resembles that which was included in the 2008 and 2009 studies.

- The system network includes an interceptor size pipeline that would allow connection of the Chapman Lakes Community in the future.

- The three treatment alternates include a connection to Lakeland RSD, Warsaw or the construction of a new facility.

- The connection to Lakeland RSD appears to be the most cost effective, despite a significantly costly pipeline routed to the Lakeland WWTF.

- The current model assumes possible grant procurement to reduce the debt service portions of the customer's annual costs and considers the potential for a Conservancy District tax rate.

- Project estimates are significantly higher (than in 2009) and incorporates connection pipe sized and routed for Chapman Lakes.

- Estimates, including the cost for transmission mains (7 miles including the route thru the Chapman Lakes Community) and the treatment alternatives have increased costs to approximately $32 to $34M.

- Annual costs are estimated at approximately $850-$950 per year for a $200,000 home assuming the Conservancy District model is used, and a tax rate is applied. If the RSD model is applied, then all customers would pay an estimated $1,130 - $1,150/year.

- This current work will evolve into a facility plan document that would further outline the qualifiers required by the Conservancy Act should the project proceed.

Altogether there have been thirteen (13) studies completed over the last 48 years that discuss the need and feasibility of a sanitary sewer system at Lake Tippecanoe and Chapman Lakes. The first was in 1970 (Clyde E. Williams Engineers) and the most recent in 2016-2017. We were not able to find or view the 2001 Indiana State of the Environment Report." However, this document was referenced in studies we have reviewed in preparation of this section.

9.2 PROTECTION OF HEALTH AND HUMAN WELFARE

As discussed in prior sections of this report the community has matured to nearly full development within the buildable areas near the lakes.

Development density is significantly high, exceeding 8 units/acre in many areas of the community. This leads to concerns for sustaining the quality of the surface water lakes, however, the more urgent concern is the potential for preferential pathway development between water wells and septic systems. Reasonable analysis of using a single-family home concept at 8 units/acre while applying development standards for septic system setbacks and well isolation areas, renders a deficit in needed land area as follows:

Assuming 8 100' x 54.4 lots…
43,560 SFT (1 acre)
(5,000 SFT) 5' sideyard setbacks
(2,100 SFT) 5' roadside setbacks
(21,800) 50' lake setback
(16,800) 8-1,100 SFT lot improvements (home, deck, driveway, etc.)
(31,428) 50% of required well isolation area per 8 wells [1]
(33,458) SFT deficit (additional land required for septic systems)

The above assumes only 50% of the required well isolation area so as to account for use of setback areas. To complicate this further, the majority of the soil conditions that exist in both communities are rated (by USDA) as "very limited: as to suitability for the sustained use of on-site septic systems.

In both the Chapman Lakes and Tippecanoe areas, 71% of the rated soil conditions within the approximate 1,725-acre study area are rated this way.

According to the USDA criteria a rating of "very limited" indicates there are one or more features that are unfavorable for the installation and use of septic systems. These limitations generally cannot be overcome without major soil reclamation, special design or expensive installation procedures. Even the poor performance and high maintenance of systems can be expected.

No wholesale water well sampling has been conducted in the study area as a part of this project. Homeowners have been encouraged to do so and resources, contact information and procedures have been provided. The local Health Department does not provide the service unless in conjunction with a new water well. However, given the development density, and age of on-site infrastructure it is likely that short circuiting by preferential pathway is occurring.

Finally, based on records provided by the local Health Department a very small percentage of septic systems with the study area are documented. Records begin in 1984 and include repairs and systems permitted with new home construction. The inventory provided by County Health officials indicates that only 25% of the total number of on-site systems are documented.

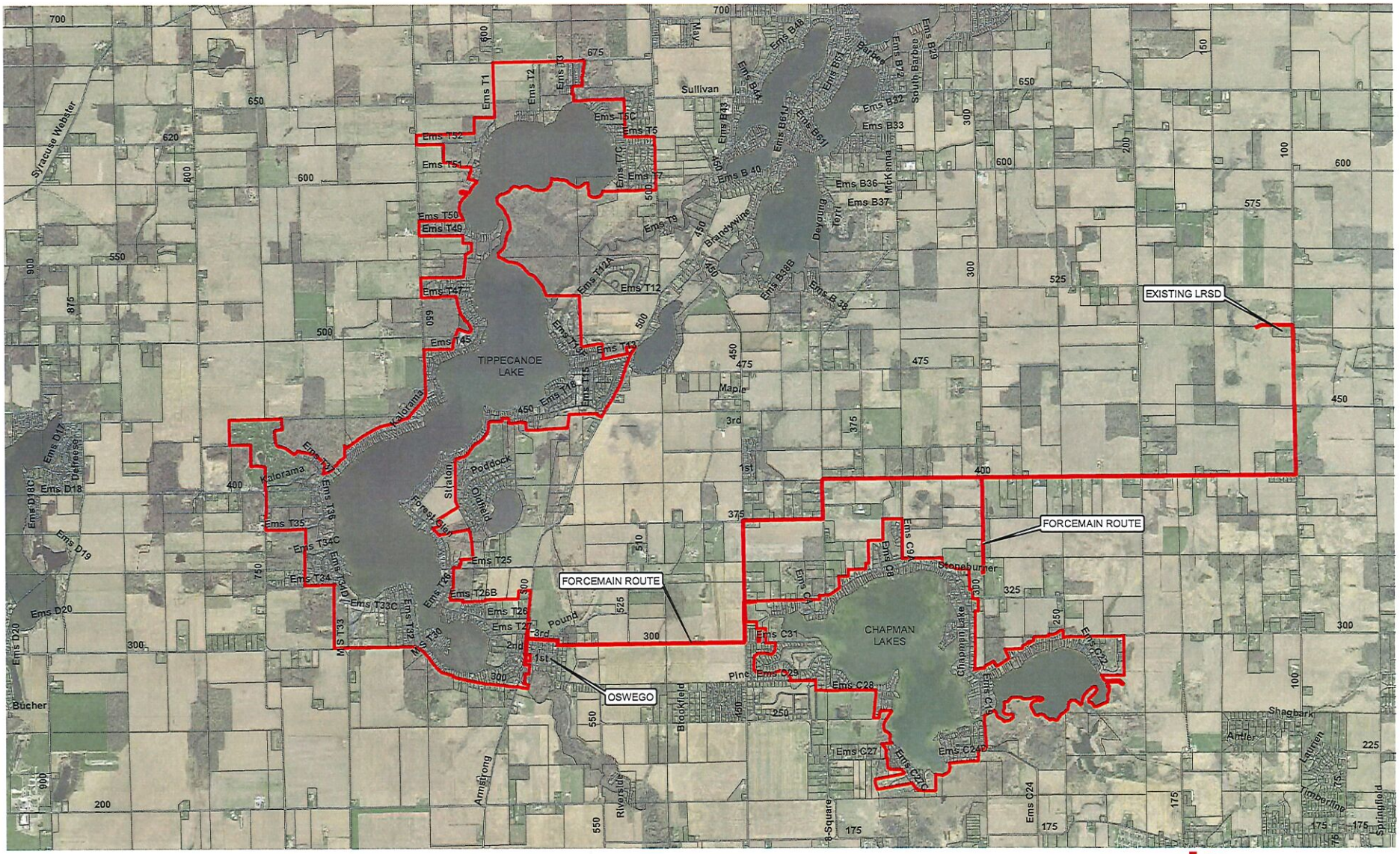
Based on this inventory of the approximate 1,993 single family homes in the study area, only 10% of the on-site systems are known to be permitted, repaired, or installed within the last 34 years. This is a critical factor when considering the need for the project.

9.3 NEED FOR THE PROJECT

Based on the above review of prior studies and the information assembled herein related to community conditions, and the absolute need to provide a sustainable method for sanitary waste treatment, the project including the formation of the Regional Sewage District is clearly called for. The project provides:

- Protection of health and human welfare
- Protection of the environment including both drinking water and surface water resources
- Protection and enhancement of the housing inventory
- Enhancement of property values in the study area
- A permanent and sustainable method of human waste collection and treatment

FIGURES



TIPPECANOE LAKE, CHAPMAN LAKES, SANITARY SEWER PROJECT

FIGURE 1
STUDY AREA/SERVICE AREA

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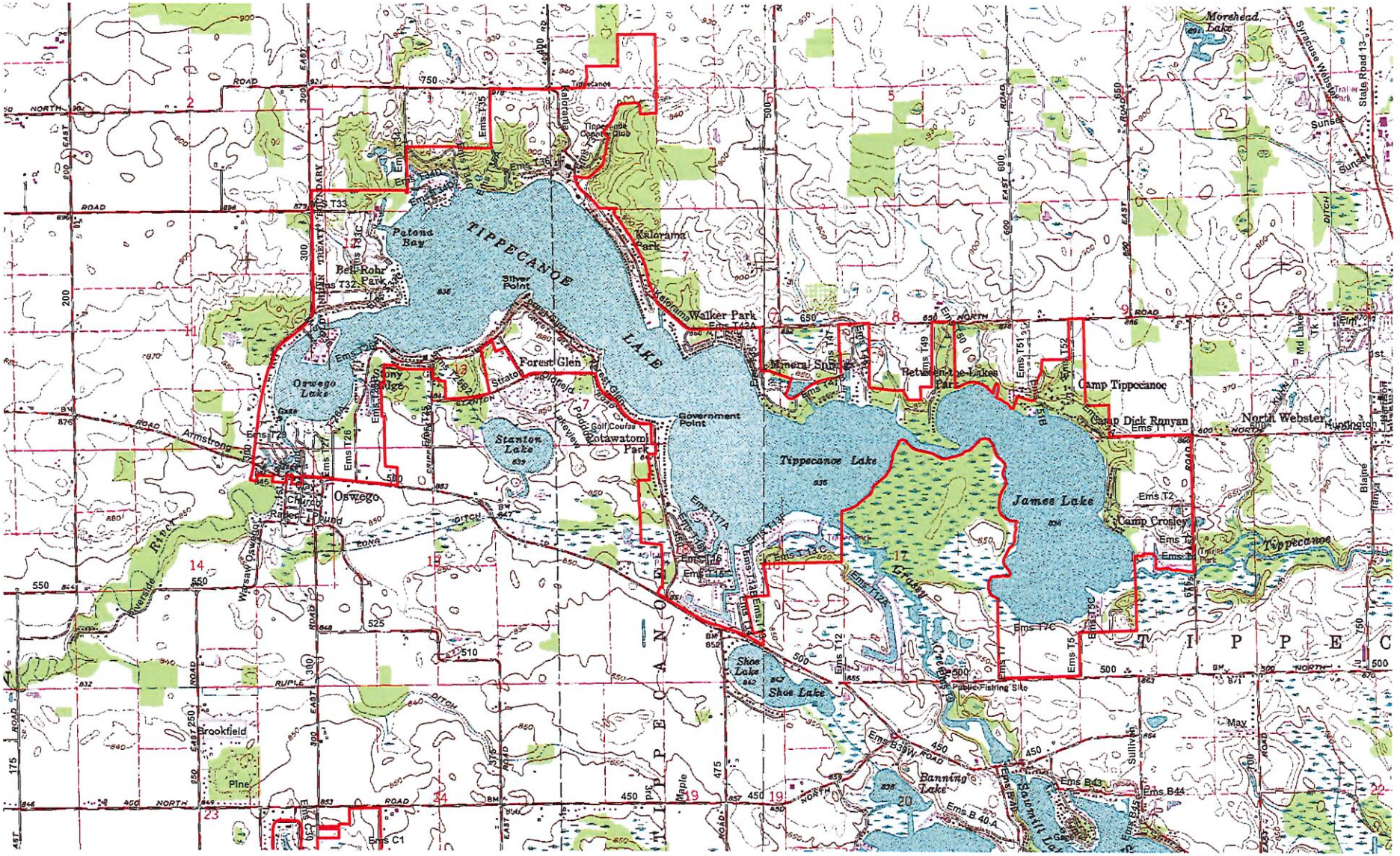
Feet
0 1,500 3,000



TIPPECANOE LAKE, SERVICE AREA

FIGURE 2.1 - Fort Wayne 24K Quadrangle
KOSCIUSKO COUNTY, IN

JONES PETRIE RAFINSKI
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Feet
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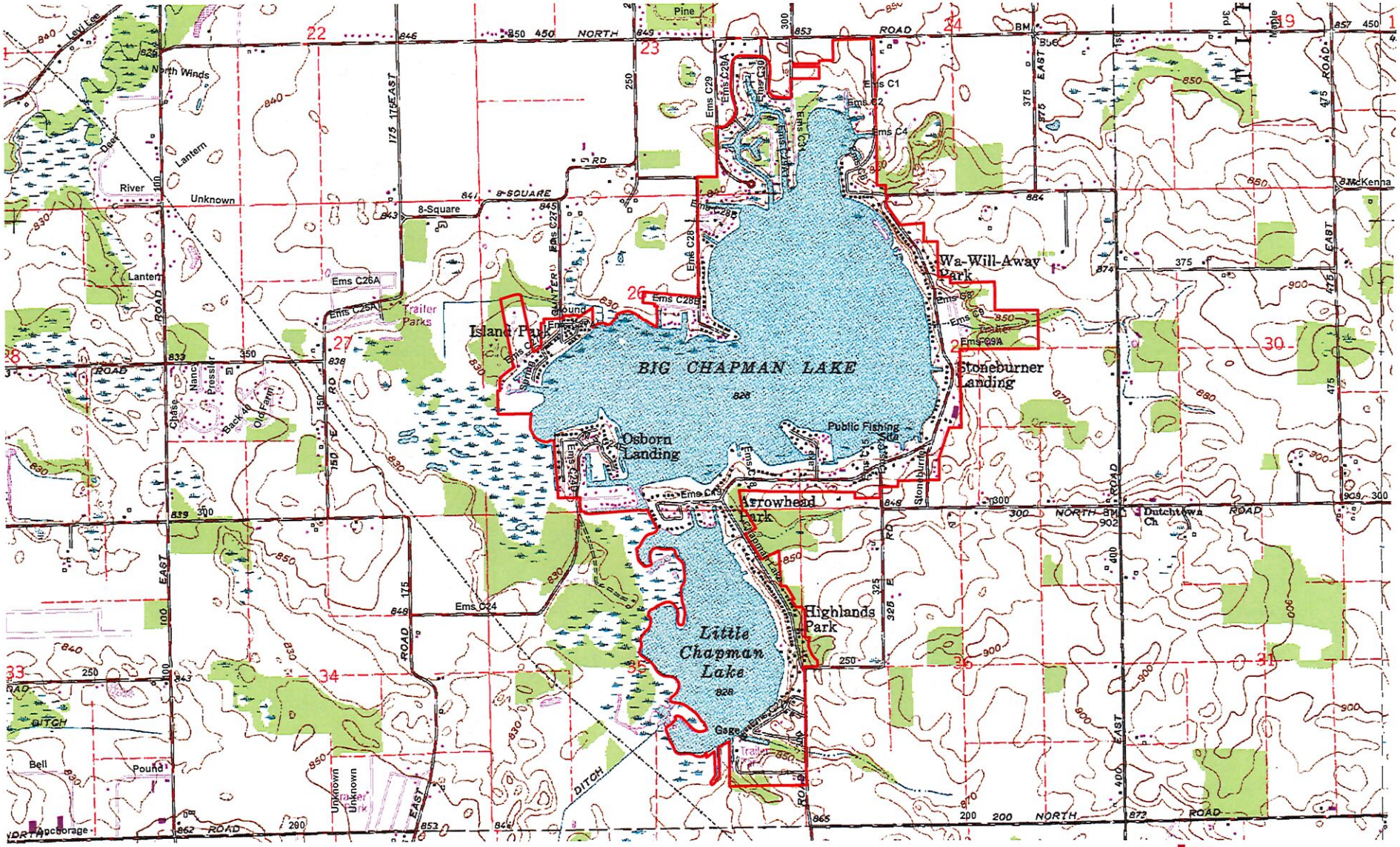

CHAPMAN LAKES SERVICE AREA

FIGURE 2.2 - Fort Wayne 24K Quadrangle
KOSCIUSKO COUNTY, IN

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Feet
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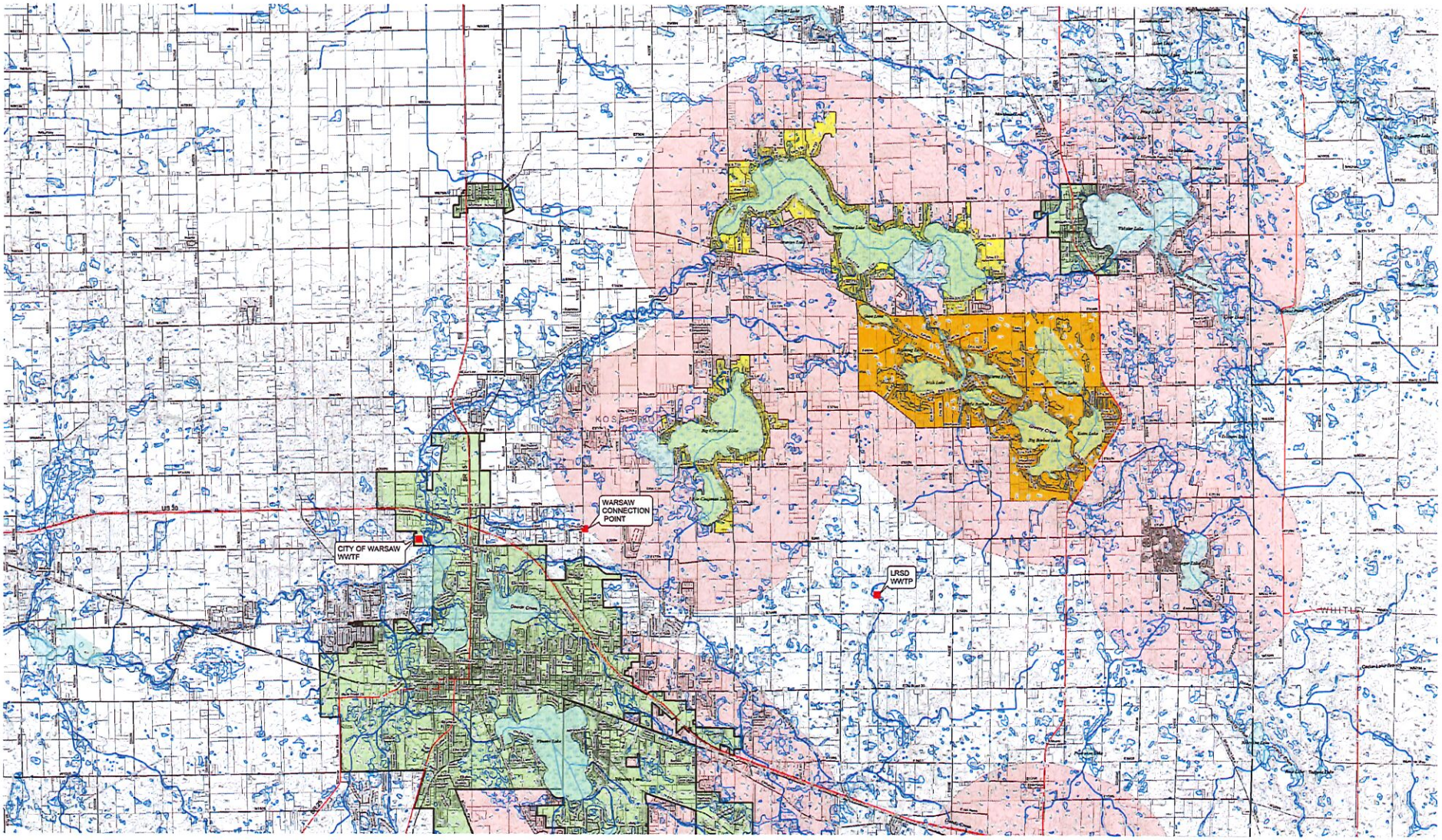

TIPPECANOE LAKE, CHAPMAN LAKES

SERVICE AREA SITUATION PLAN

KOSCIUSKO COUNTY, INDIANA - FIGURE 3

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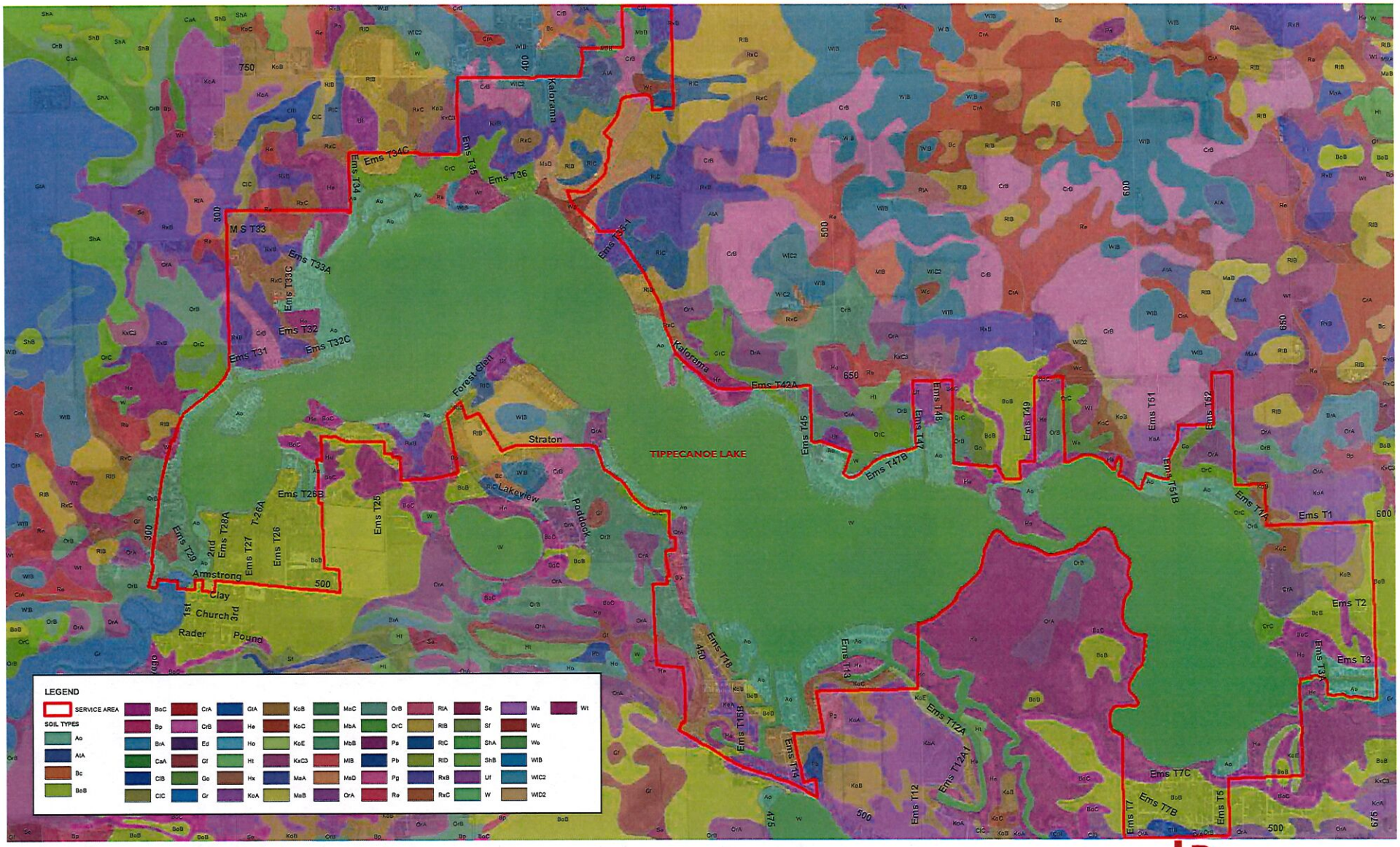

TIPPECANOE LAKE, SERVICE AREA

FIGURE 4.1 - SOIL MAP - overview
KOSCIUSKO COUNTY, INDIANA

Note: Refer to Kosciusko County Soils Report for Characteristics

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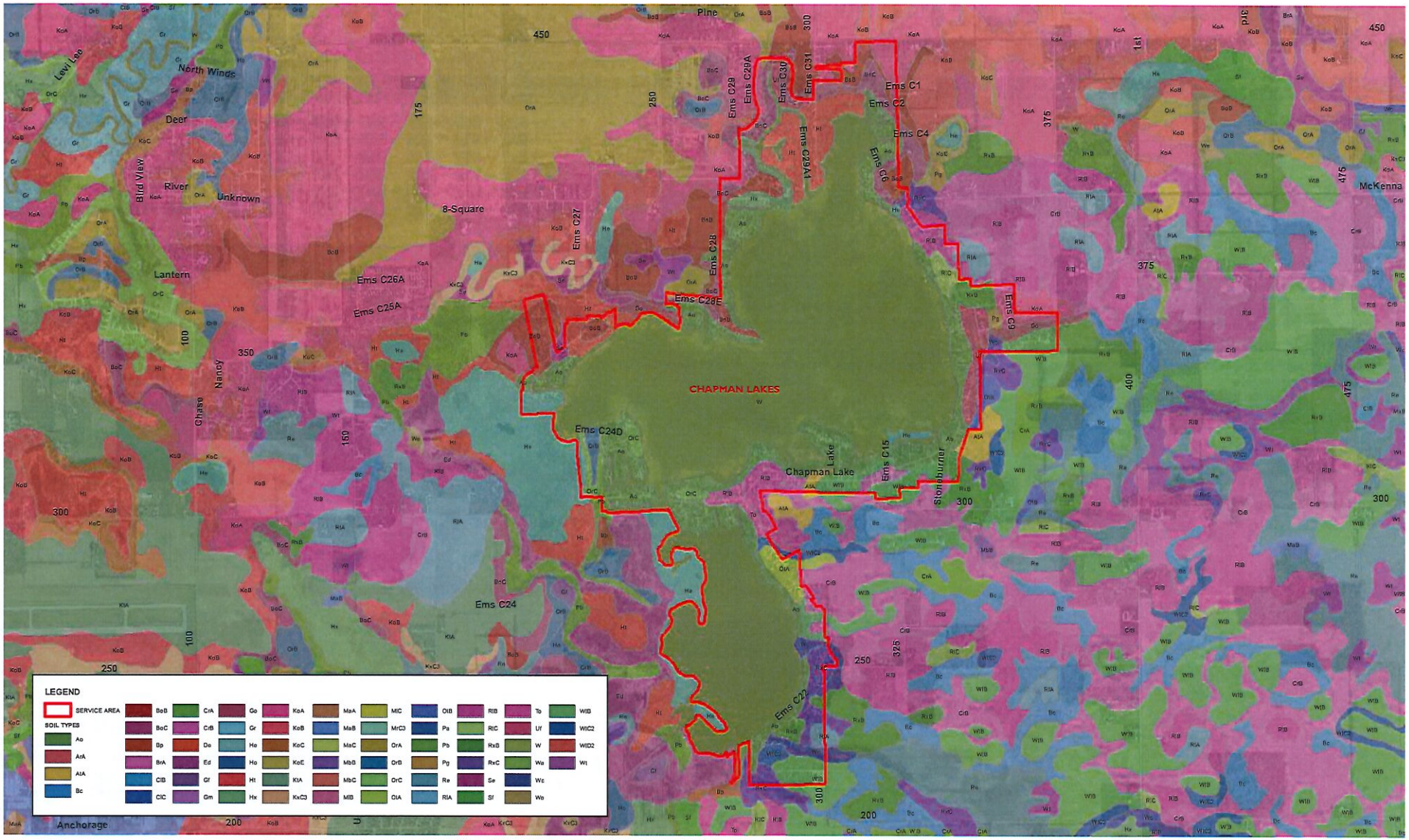
Feet
0 750 1,500



CHAPMAN LAKES SERVICE AREA

FIGURE 4.2 - SOIL MAP - overview
KOSCIUSKO COUNTY, INDIANA

Note: Refer to Kosciusko County Soils Report for Characteristics

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Feet
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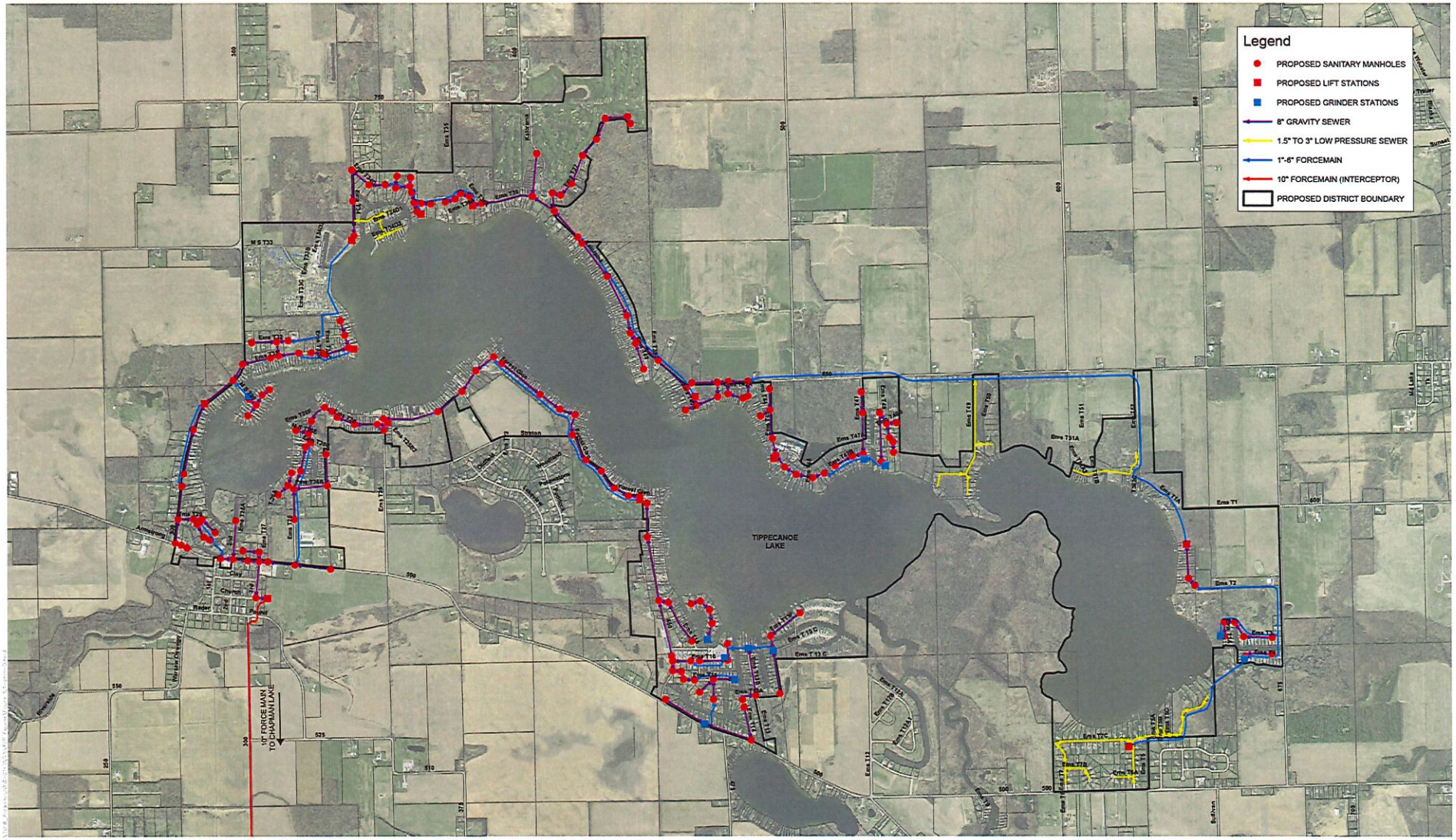

TIPPECANOE LAKE SEWER SYSTEM

OPTION NO. 1 - GRAVITY SEWER SYSTEM

KOSCIUSKO COUNTY, INDIANA - FIGURE 5.1

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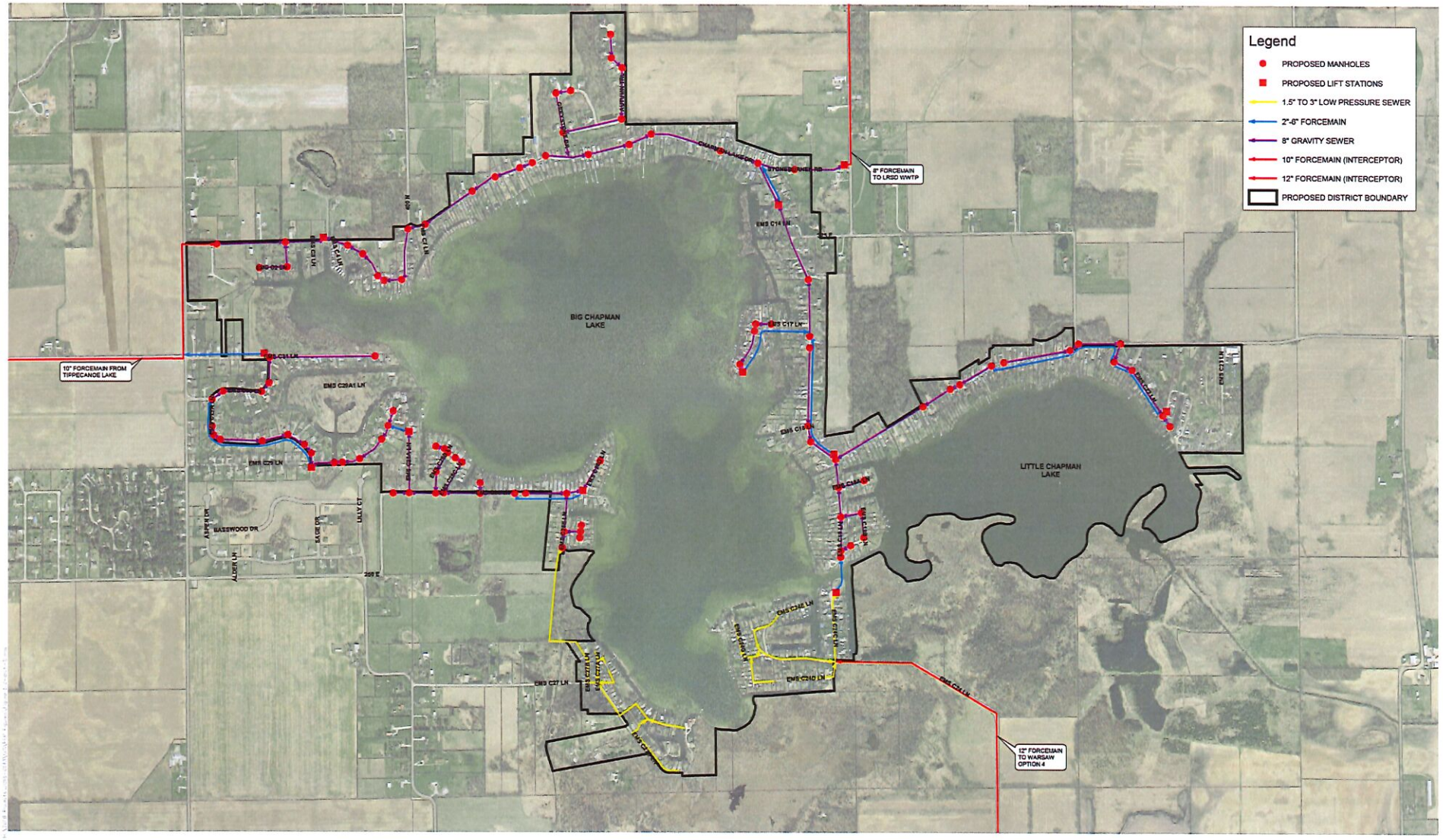

CHAPMAN LAKES SEWER SYSTEM

OPTION NO. 1 - GRAVITY SEWER SYSTEM

KOSCIUSKO COUNTY, INDIANA - FIGURE 5.2

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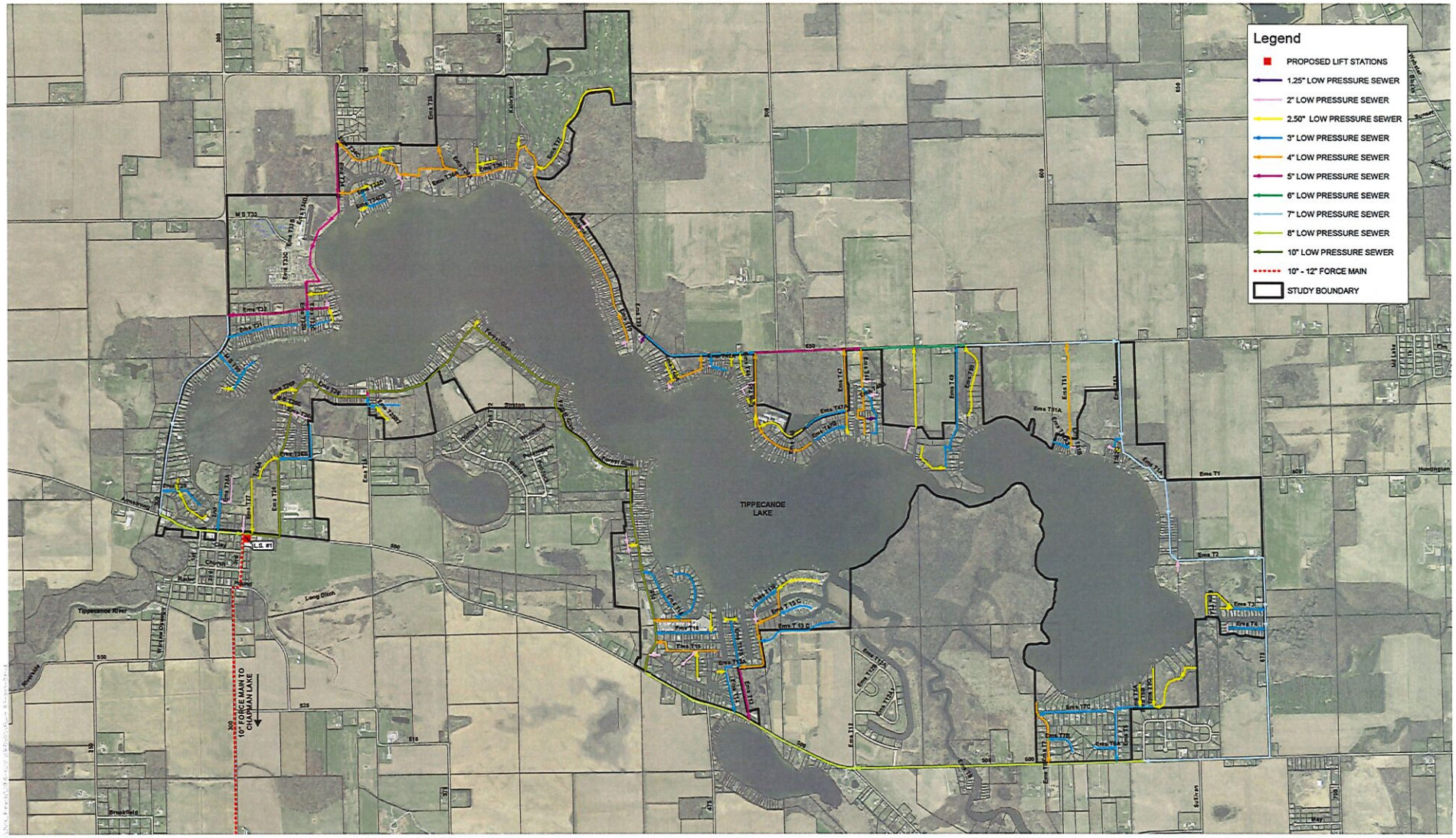

TIPPECANOE LAKE SEWER SYSTEM

OPTION NO. 2 - LOW PRESSURE SEWER SYSTEM

KOSCIUSKO COUNTY, INDIANA - FIGURE 6.1

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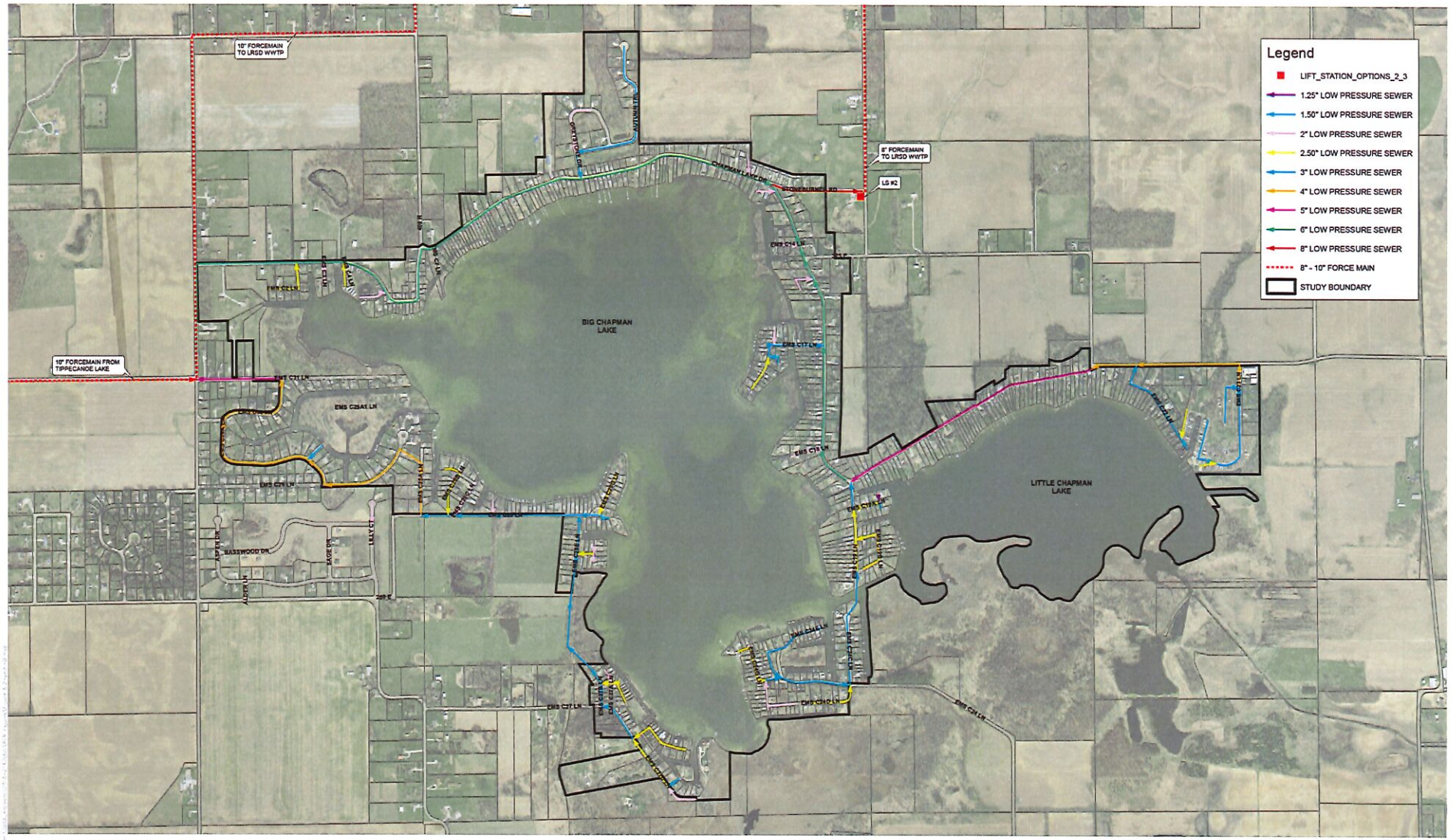
GIS • Environmental • Renewable Energy • Landscape Architecture



CHAPMAN LAKES SEWER SYSTEM

OPTION NO. 2 - LOW PRESSURE SEWER SYSTEM

KOSCIUSKO COUNTY, INDIANA - FIGURE 6.2

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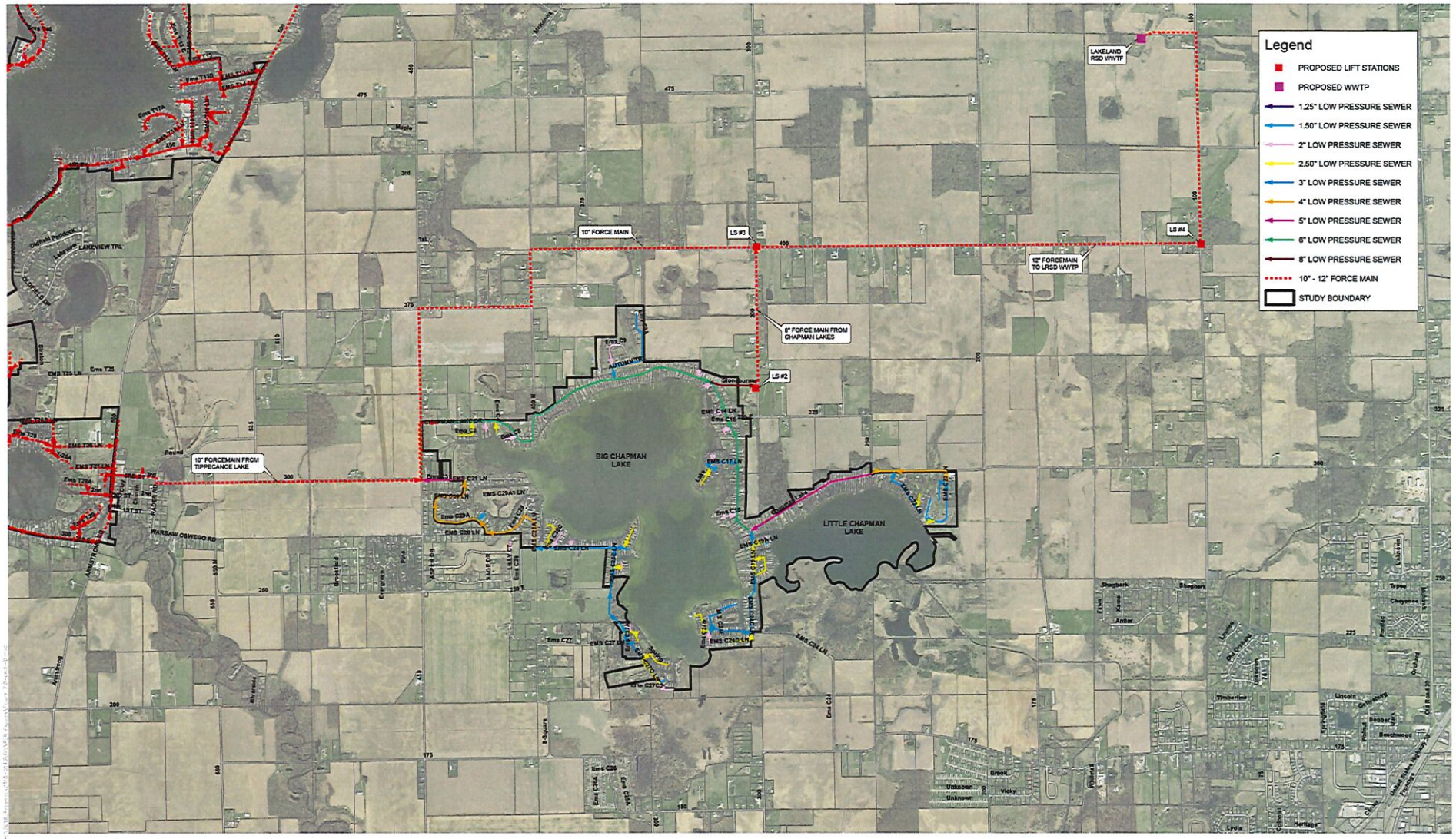

CHAPMAN LAKES SEWER SYSTEM

OPTION NO. 3 - REGIONALIZE WITH LRSD WWTP

KOSCIUSKO COUNTY, INDIANA - FIGURE 7.0

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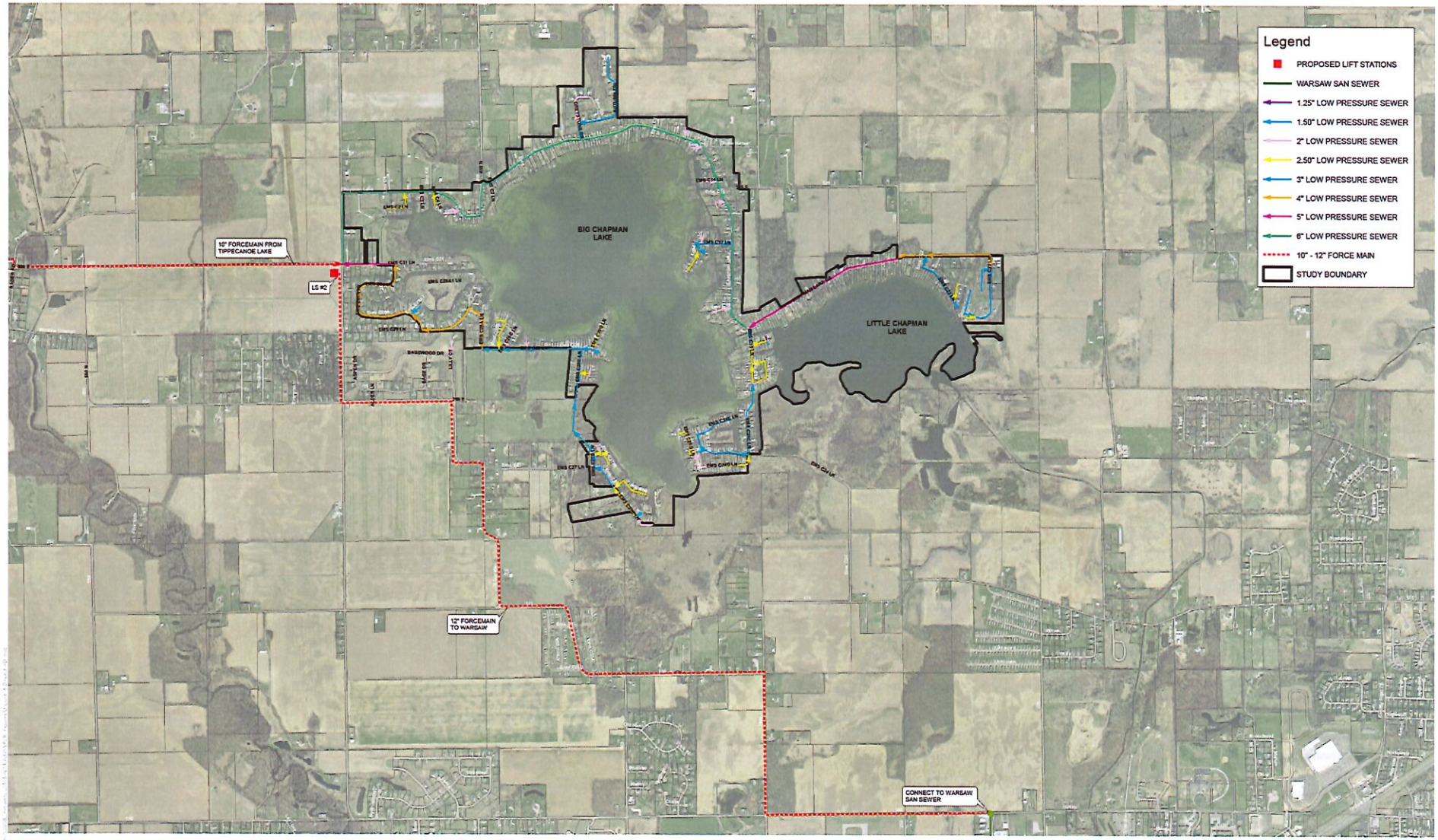

TIPPECANOE LAKE, CHAPMAN LAKES SEWER SYSTEM

OPTION NO. 4 - REGIONALIZATION WITH WARSAW

KOSCIUSKO COUNTY, INDIANA - FIGURE 8.0

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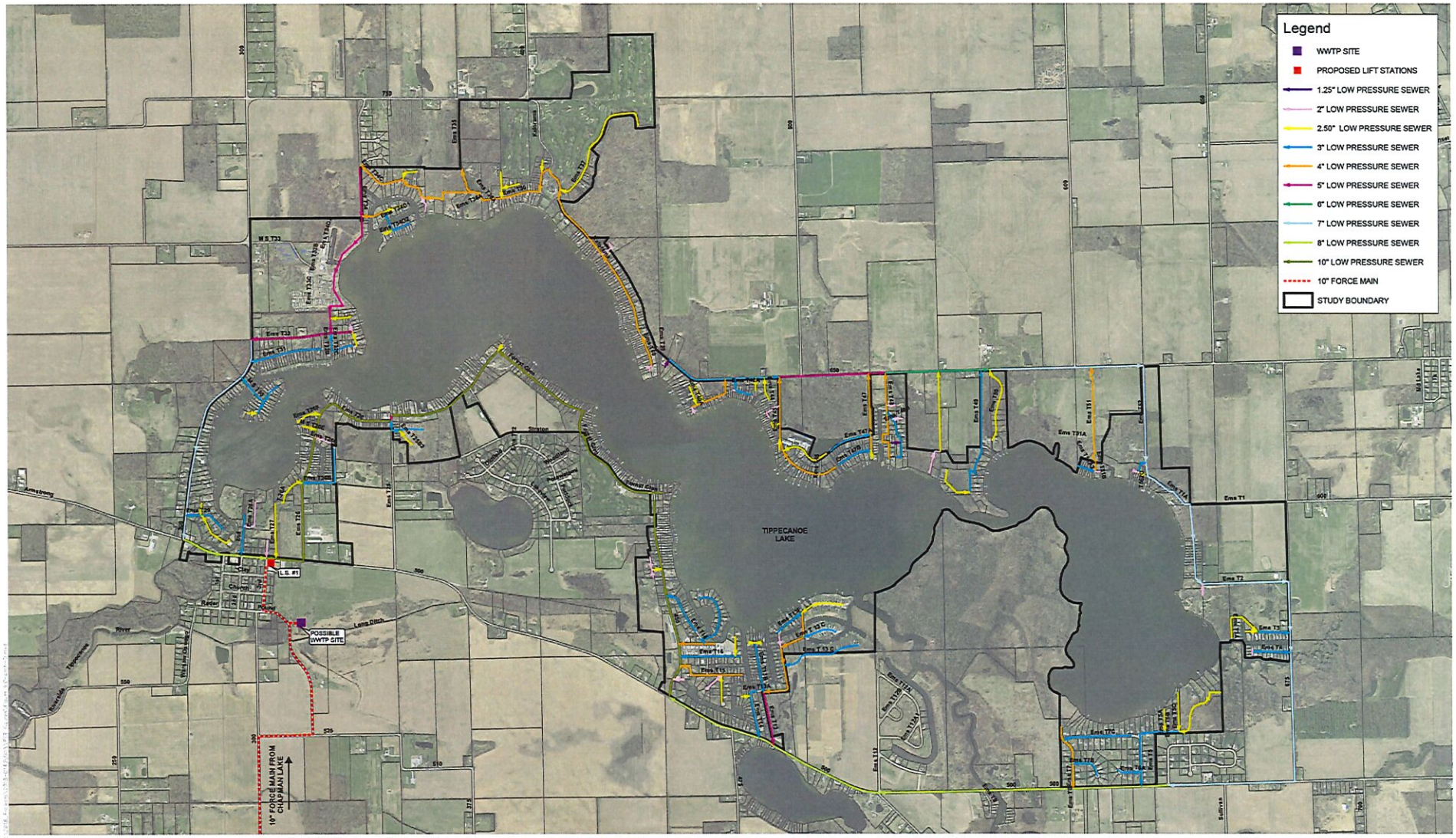

TIPPECANOE LAKE - CHAPMAN LAKES SEWER SYSTEM

OPTION NO. 5 - BUILD NEW WWTP

KOSCIUSKO COUNTY, INDIANA - FIGURE 9.0

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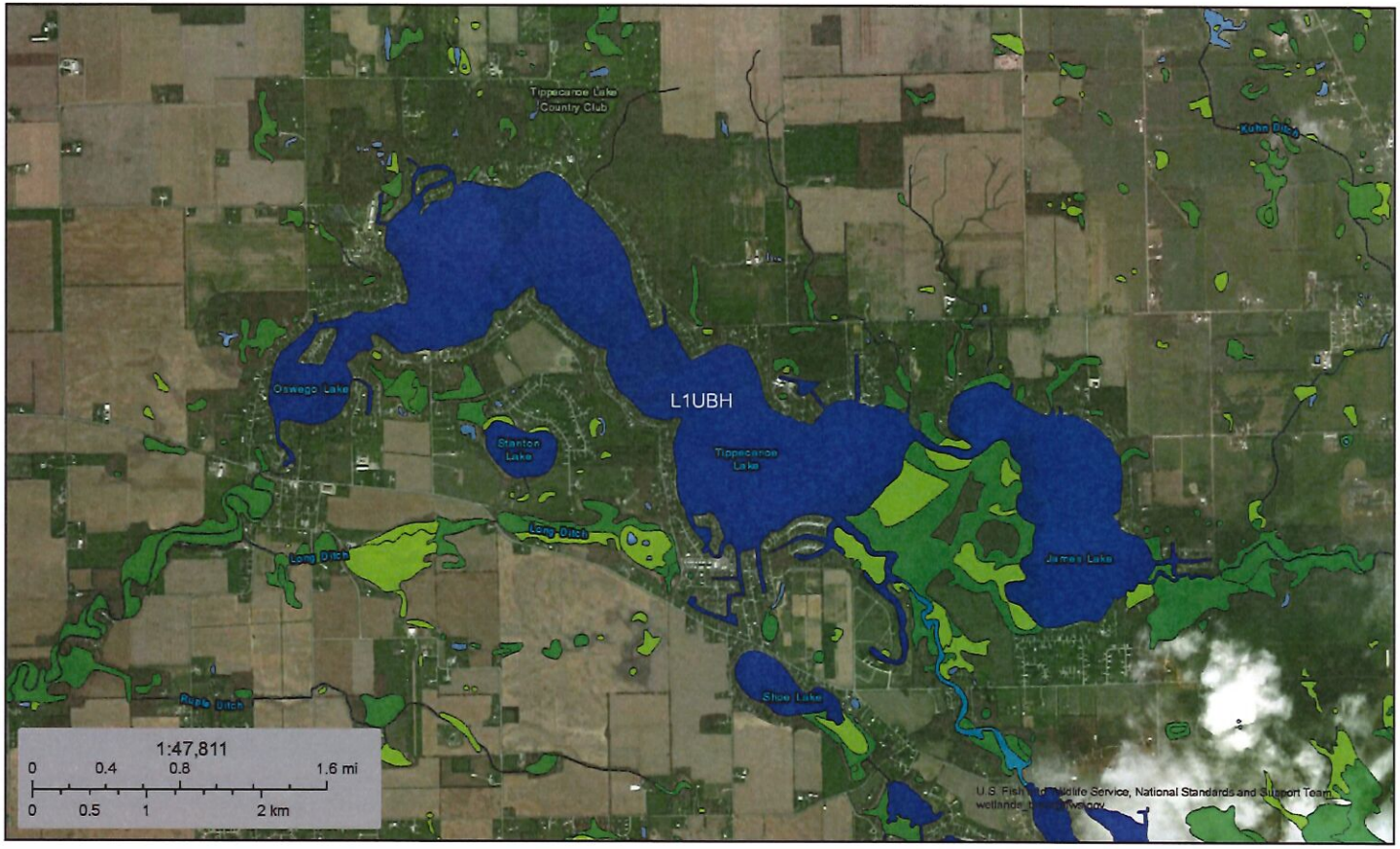
U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands



May 18, 2018

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

TIPPECANOE LAKE SERVICE AREA

FIGURE 10.1 - Wetlands Inventory Map
KOSCIUSKO COUNTY, INDIANA

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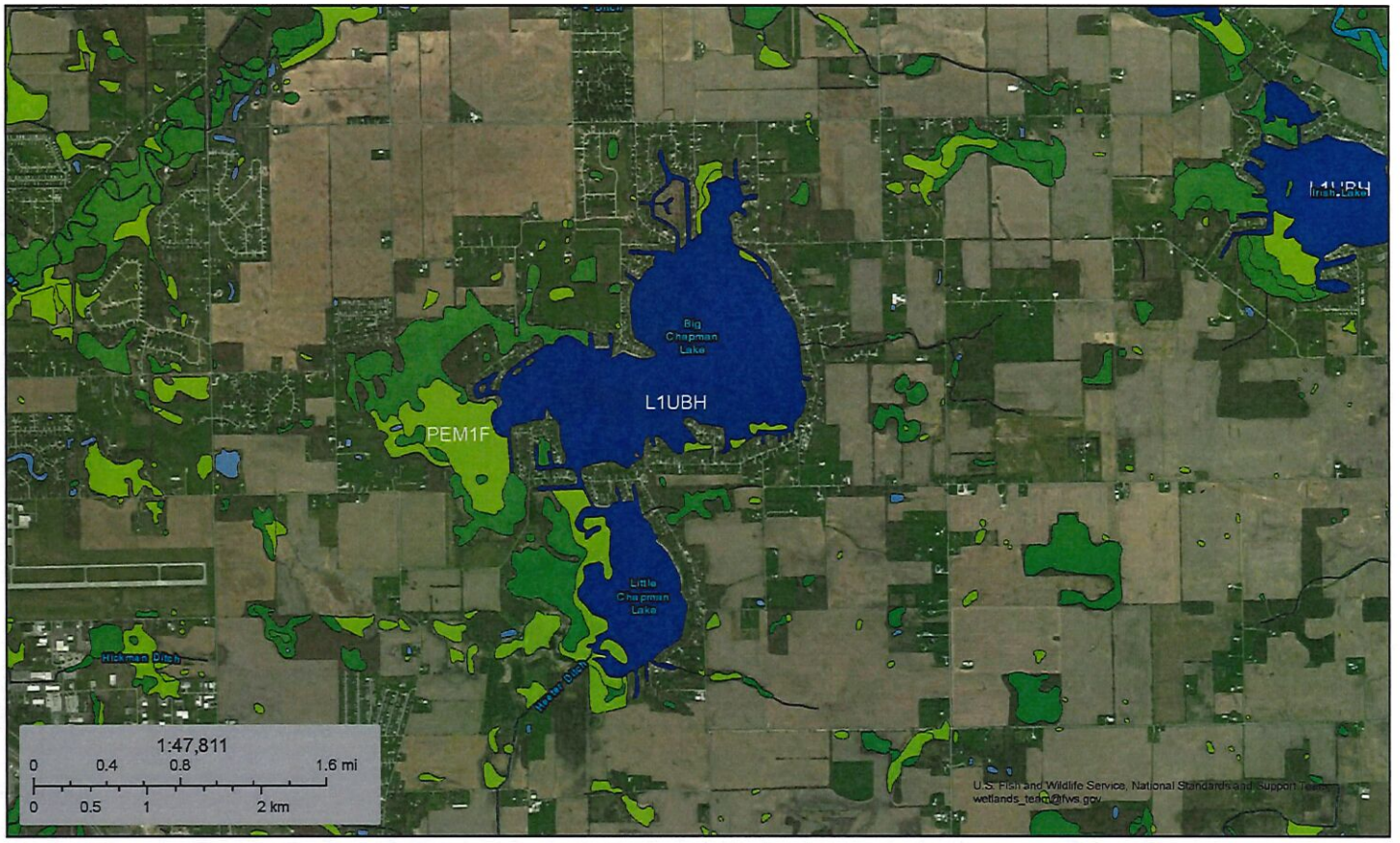
GIS • Environmental • Renewable Energy • Landscape Architecture

U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands



May 18, 2018

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

CHAPMAN LAKES SERVICE AREA

FIGURE 10.2 - Wetlands Inventory Map
KOSCIUSKO COUNTY, INDIANA

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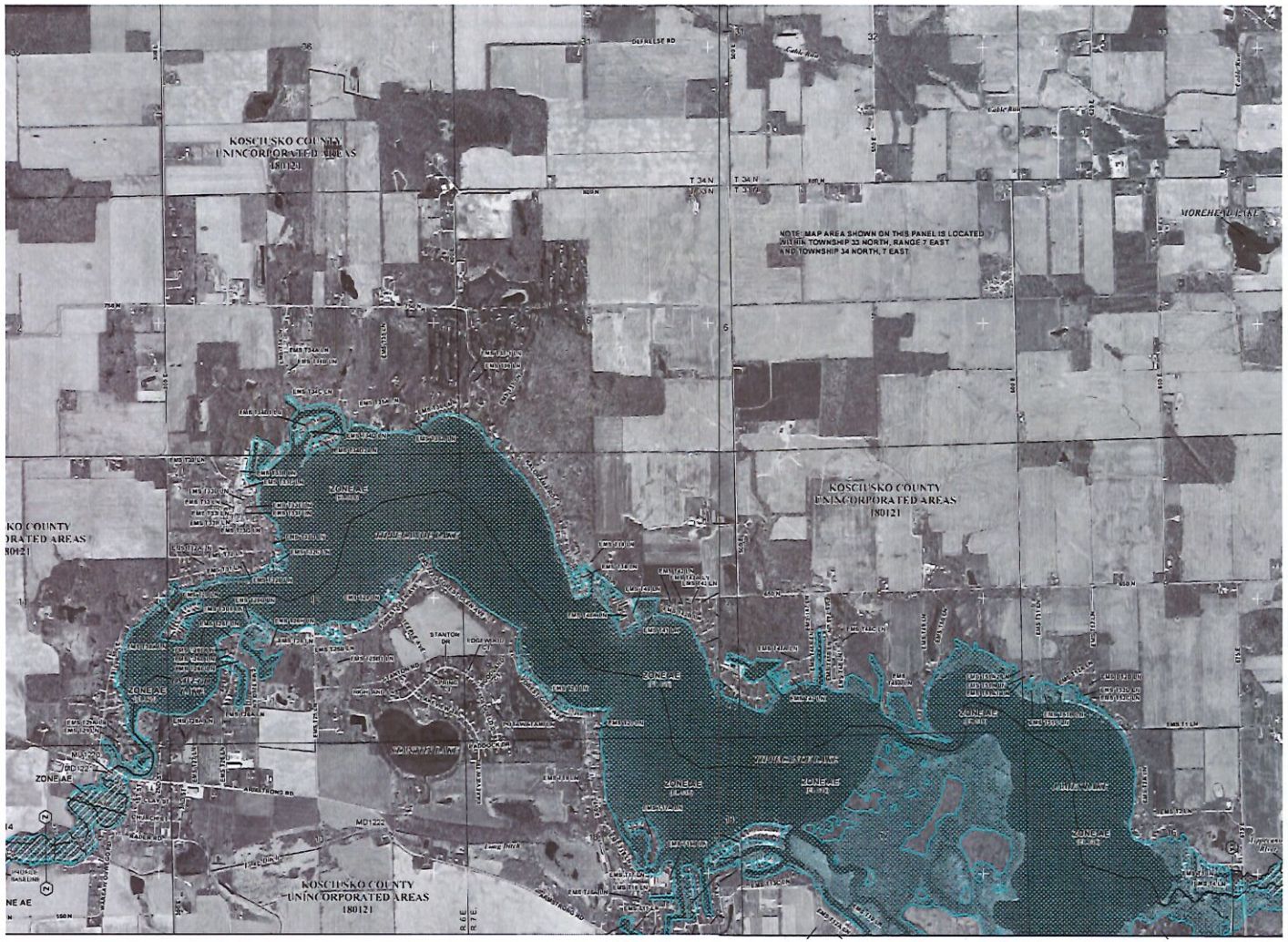

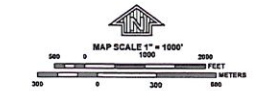

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0160D

FIRM

FLOOD INSURANCE RATE MAP

KOSCIUSKO COUNTY, INDIANA AND INCORPORATED AREAS

PANEL 160 OF 400

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KOSCIUSKO COUNTY	180121	0160	D

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
18085C0160D

MAP REVISED
SEPTEMBER 30, 2015

Federal Emergency Management Agency

TIPPECANOE LAKE SERVICE AREA

FIGURE 11.1 - Floodplain Firm Map (Panel No 18085C01605D)
KOSCIUSKO COUNTY , INDIANA

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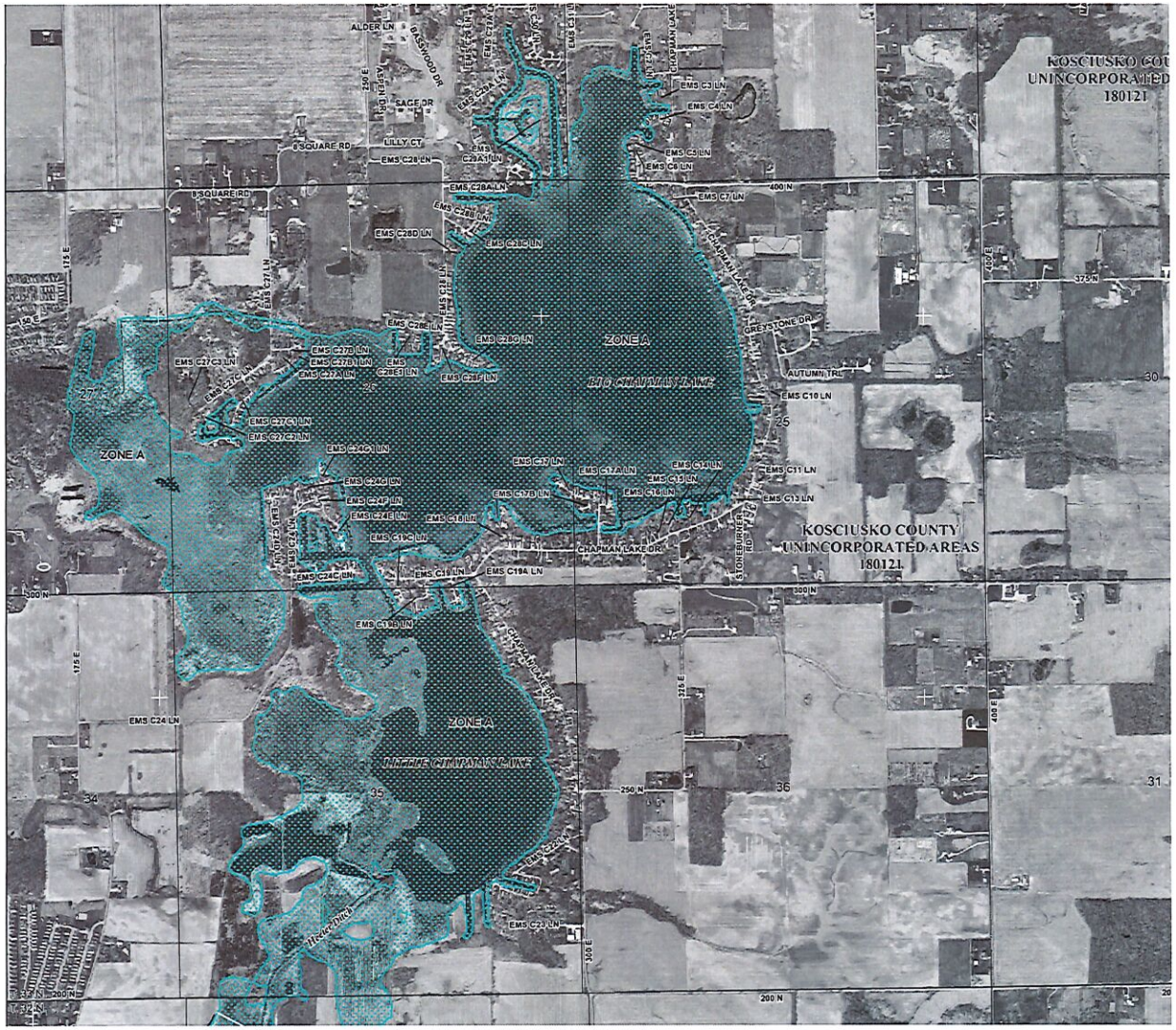

CHAPMAN LAKES SERVICE AREA

FIGURE 11.2 - Floodplain Firm Map (Panel No 18085C0170D)
KOSCIUSKO COUNTY, INDIANA

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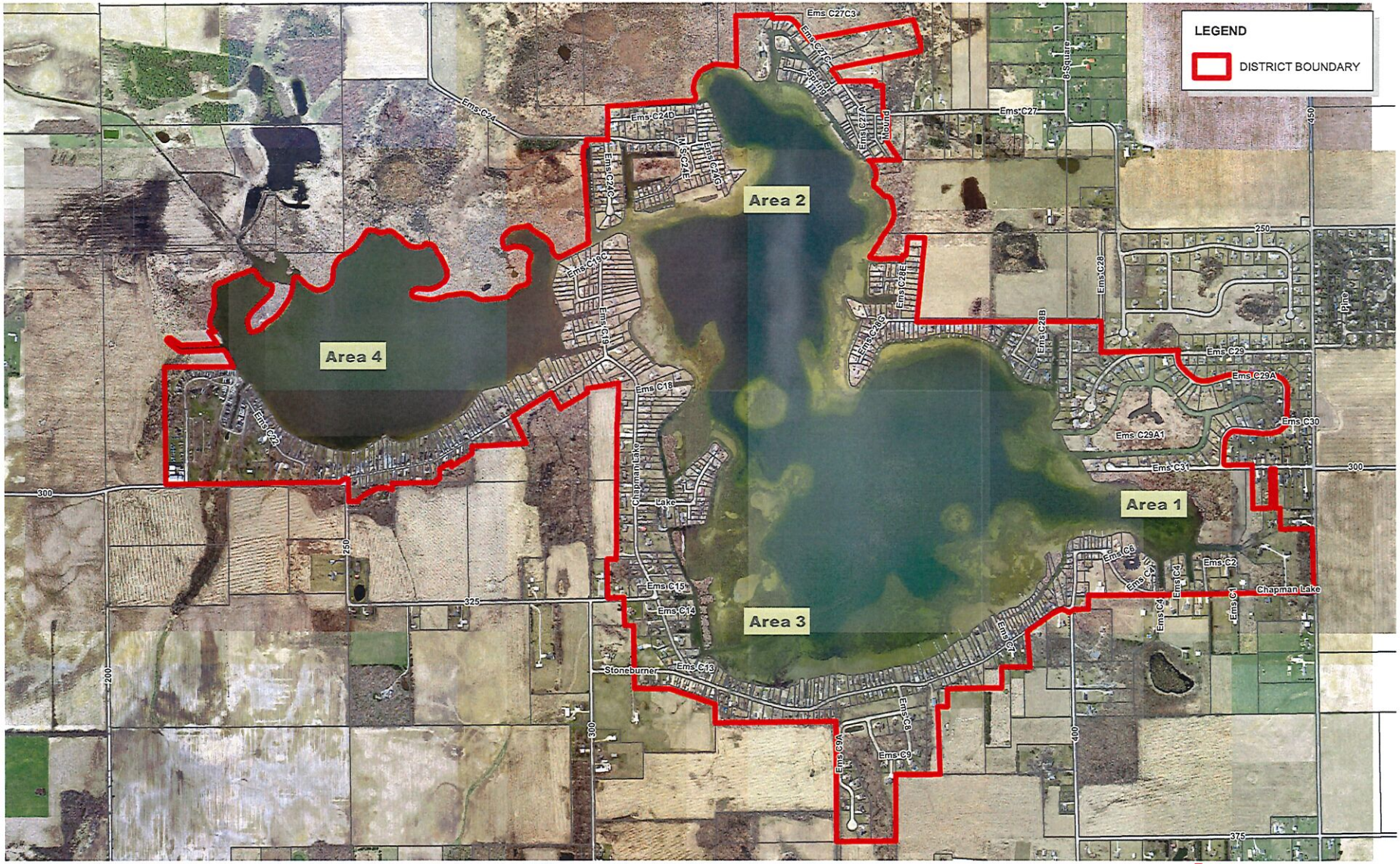
Appendix A

LAKELAND, WARSAW WWTP'S AND PROJECT AERIAL PHOTOS



CHAPMAN REGIONAL SEWER DISTRICT

BIG CHAPMAN AND LITTLE CHAPMAN LAKE AREAS

KOSCIUSKO COUNTY, INDIANA

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Feet
0 500 1,000

CHAPMAN REGIONAL SEWER DISTRICT

CHAPMAN LAKES AREA 1

KOSCIUSKO COUNTY, INDIANA

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Feet
0 225 450

CHAPMAN REGIONAL SEWER DISTRICT

CHAPMAN LAKES AREA 2

KOSCIUSKO COUNTY, INDIANA

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GIS • Environmental • Renewable Energy • Landscape Architecture

Feet
0 225 450

CHAPMAN REGIONAL SEWER DISTRICT

CHAPMAN LAKES AREA 3

KOSCIUSKO COUNTY, INDIANA

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Feet
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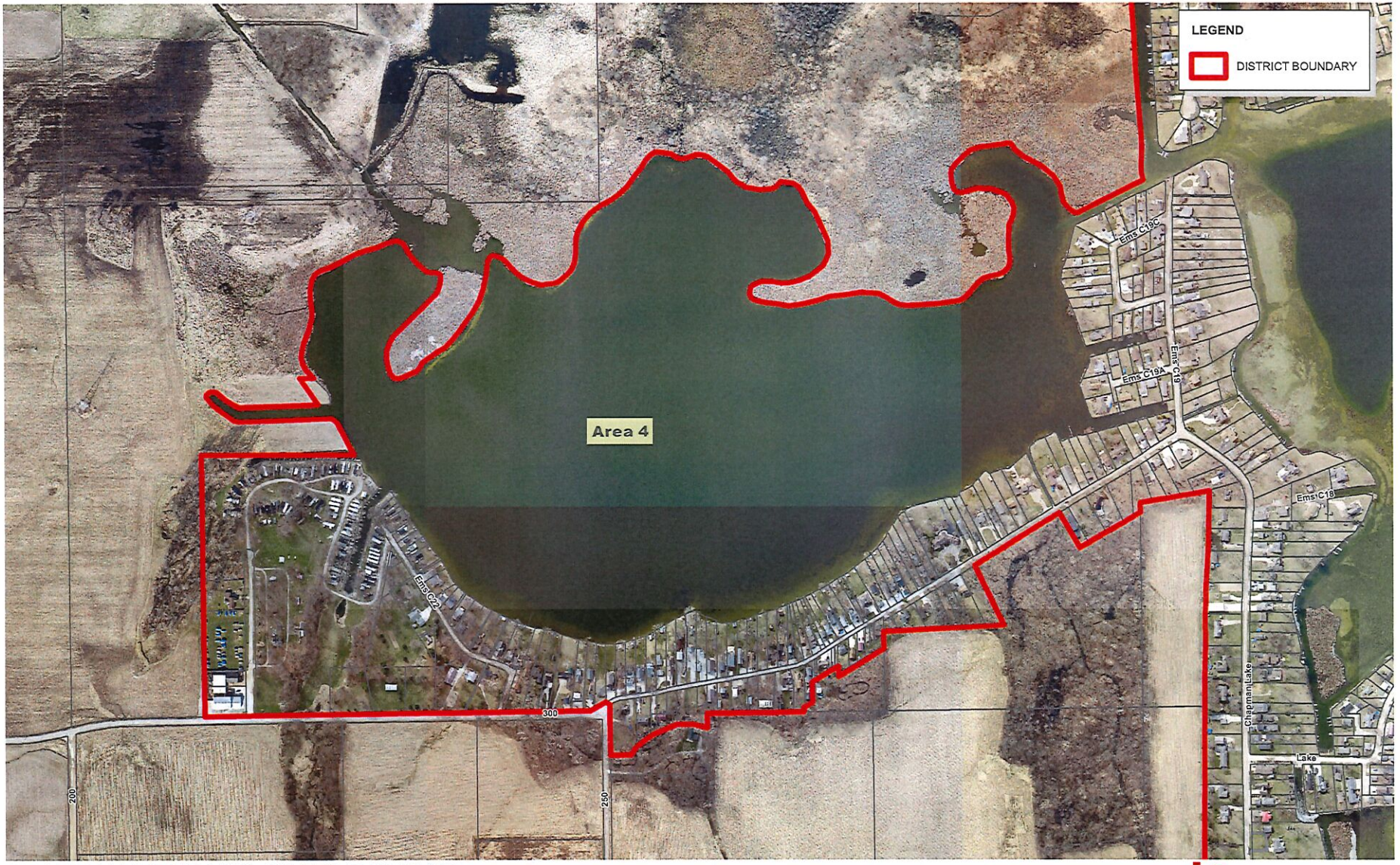

CHAPMAN REGIONAL SEWER DISTRICT

CHAPMAN LAKES AREA 4

KOSCIUSKO COUNTY, INDIANA

JONES PETRIE RAFINSKI
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Feet
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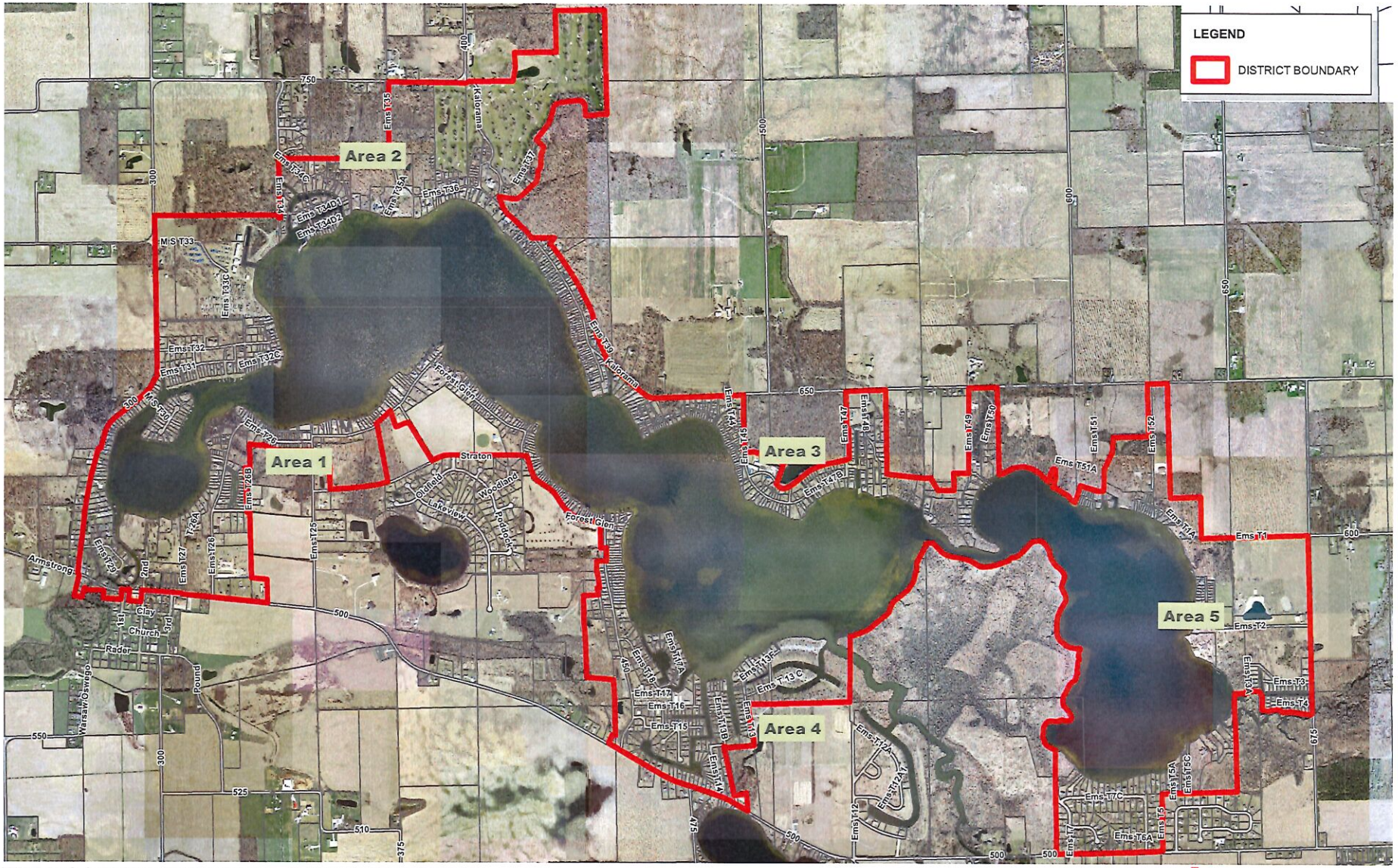

TIPPECANOE REGIONAL SEWER DISTRICT

TIPPECANOE LAKE AREAS

KOSCIUSKO COUNTY, INDIANA

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TIPPECANOE REGIONAL SEWER DISTRICT

AREA ONE

KOSCIUSKO COUNTY, INDIANA

JONES PETRIE RAFINSKI
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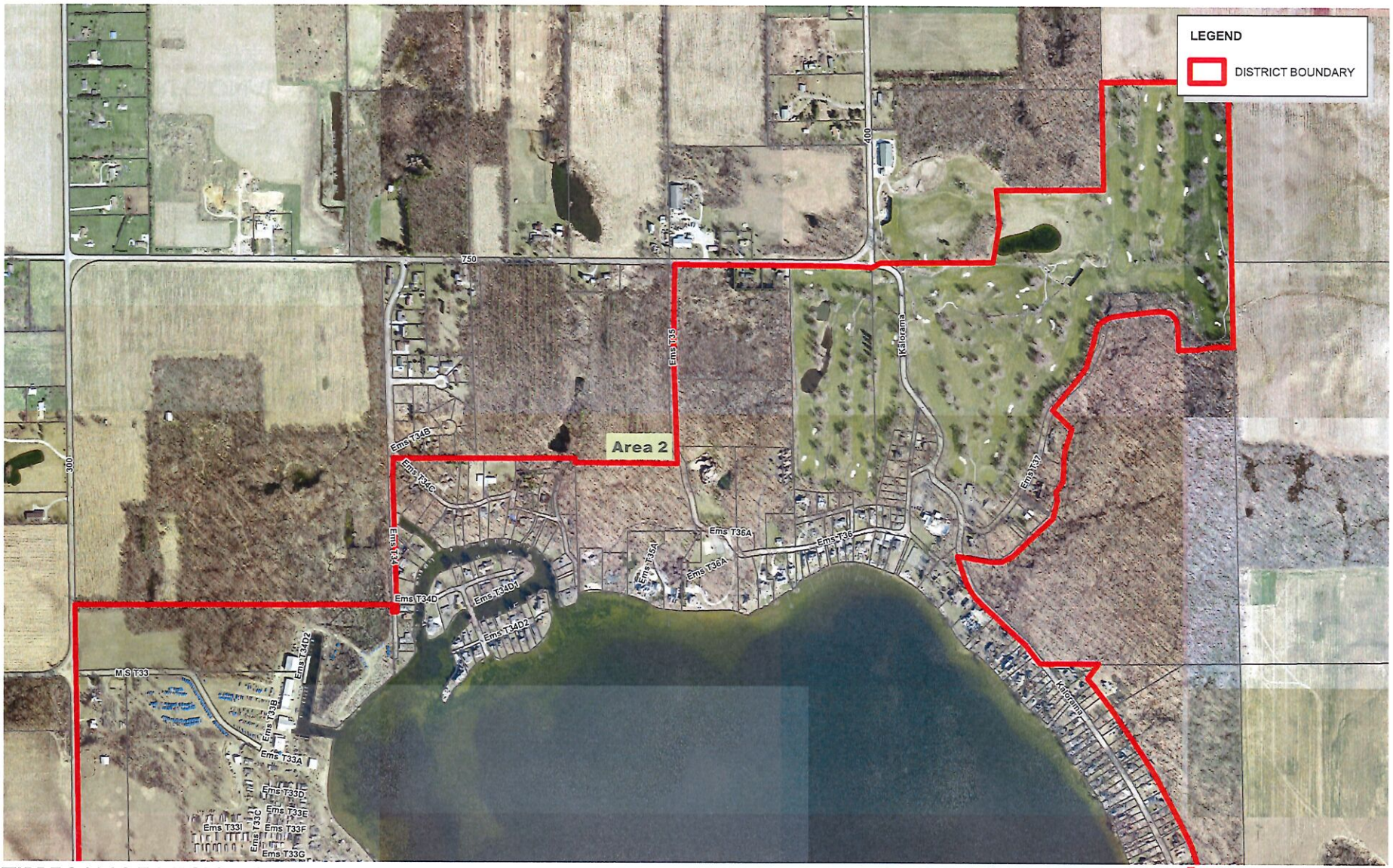
Surveying • Engineering • Planning • Architecture • Utility Management
GIS • Environmental • Renewable Energy • Landscape Architecture

Feet
0 300 600



TIPPECANOE REGIONAL SEWER DISTRICT

AREA TWO

KOSCIUSKO COUNTY, INDIANA

JONES PETRIE RAFINSKI
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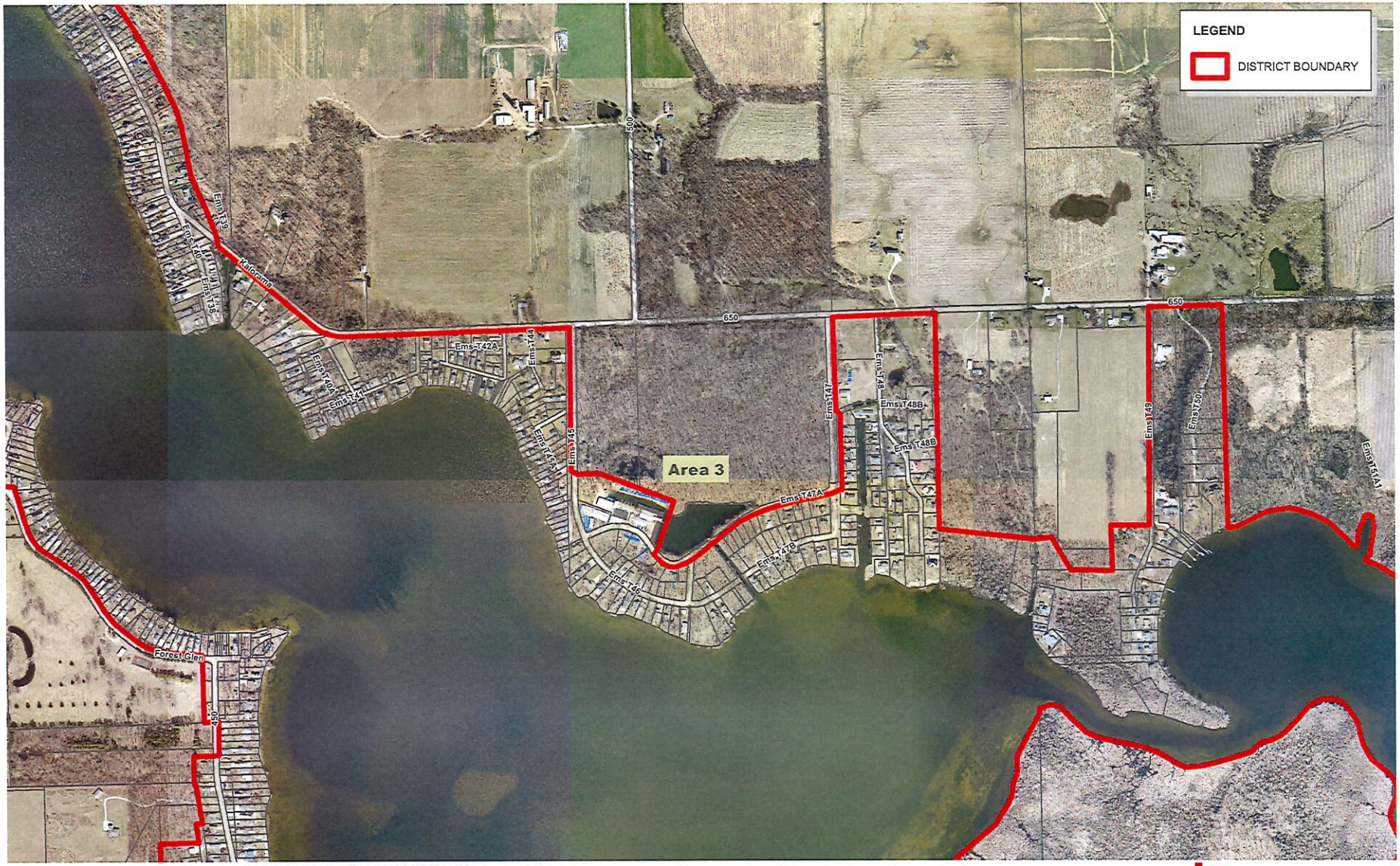


TIPPECANOE REGIONAL SEWER DISTRICT

AREA THREE

KOSCIUSKO COUNTY, INDIANA

JONES PETRIE RAFINSKI
your one single source

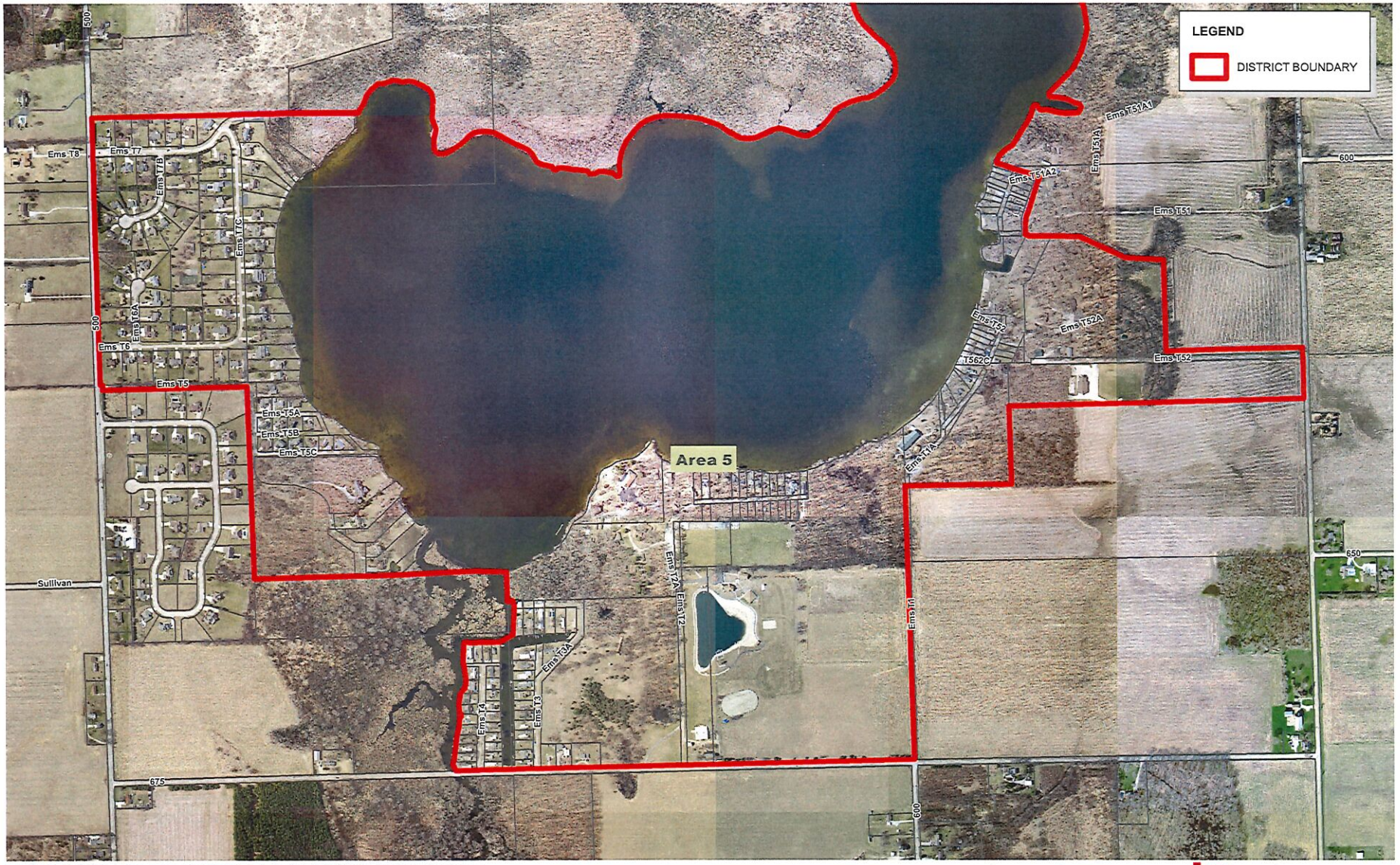
TIPPECANOE REGIONAL SEWER DISTRICT

AREA FOUR

KOSCIUSKO COUNTY, INDIANA

JONES PETRIE RAFINSKI
your one single source

Feet
0 300 600



TIPPECANOE REGIONAL SEWER DISTRICT

AREA FIVE

KOSCIUSKO COUNTY, INDIANA

JONES PETRIE RAFINSKI
your one single source
Surveying • Engineering • Planning • Architecture • Utility Management
GIS • Environmental • Renewable Energy • Landscape Architecture

Feet
0 300 600

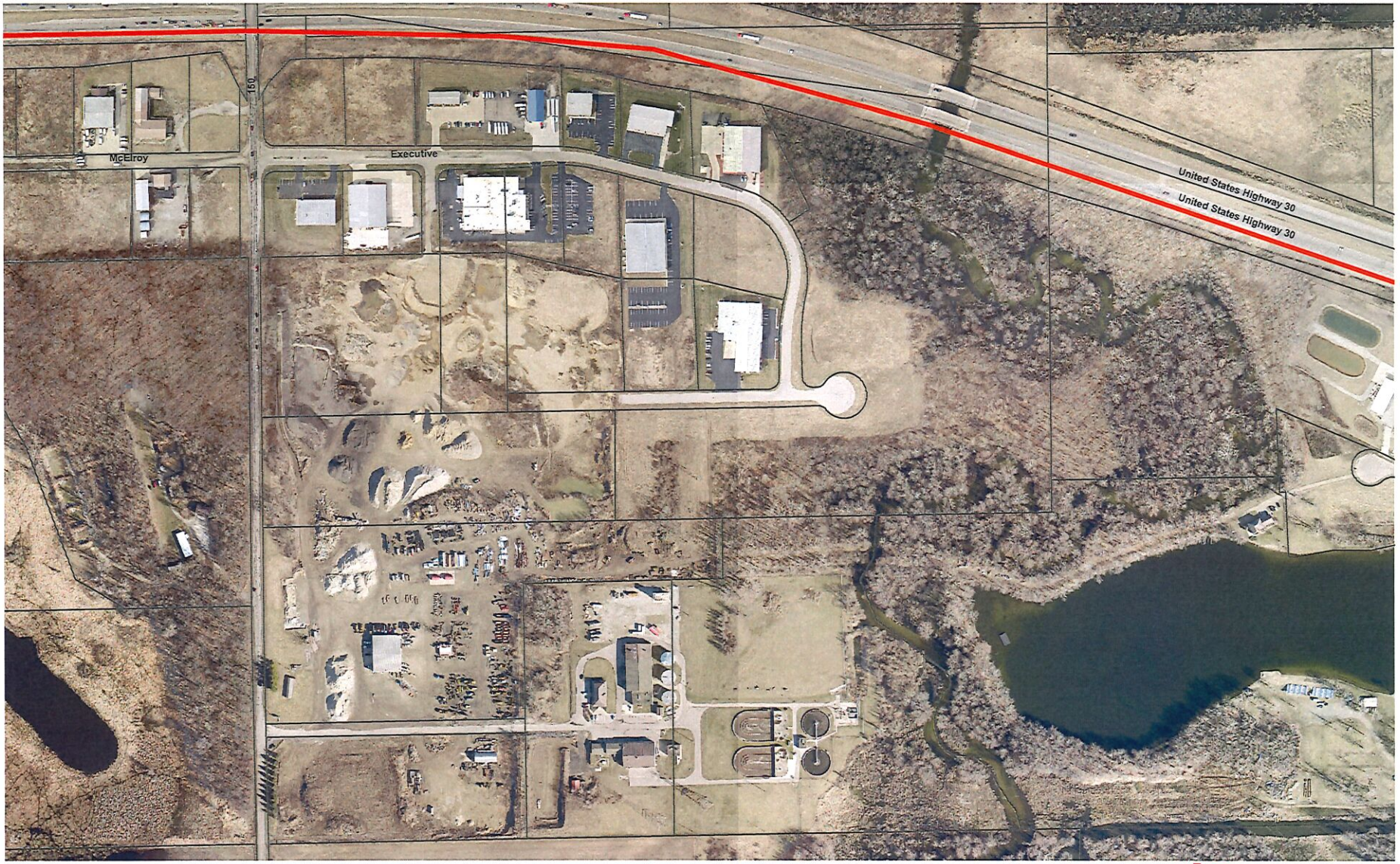
LAKELAND REGIONAL SEWAGE DISTRICT WASTE WATER TREATMENT PLANT

AERIAL SITE MAP

KOSCIUSKO COUNTY, INDIANA

JONES PETRIE RAFINSKI
your one single source
Surveying • Engineering • Planning • Architecture • Utility Management
GIS • Environmental • Renewable Energy • Landscape Architecture

Feet
0 150 300



WARSAW WASTE WATER TREATMENT PLANT

AERIAL SITE MAP

KOSCIUSKO COUNTY, INDIANA

JONES PETRIE RAFINSKI
your one single source
Surveying • Engineering • Planning • Architecture • Utility Management
GIS • Environmental • Renewable Energy • Landscape Architecture

Feet
0 150 300

APPENDIX B

LETTERS OF SUPPORT

Indiana State Department of Health
An Equal Opportunity Employer

Michael R. Pence
Governor

Jerome M. Adams, MD, MPH
State Health Commissioner

June 12, 2018

Kosciusko County
Commissioners
100 W Center St
Warsaw, IN 46580

Dear Kosciusko County
Commissioners:

Re: Sewage Disposal
Tippecanoe and
Chapman Lakes
Kosciusko County

The information provided to this agency by the Kosciusko County Health Department, and visits to the area by my staff, indicates that inappropriate sewage system construction or lack of any individual sewage disposal systems are the major reasons for the sewage disposal problems acknowledged in these lake areas. Poor soil conditions, density of development, private well locations, lot size, and lot configuration preclude the possibility of using individual onsite sewage disposal systems as a means of eliminating the existing sewage disposal problems in most of these areas.

A community approach for collection of wastewater from the various properties to a central or decentralized treatment system is the optimal approach. System type will have to be determined after an engineered study is conducted and approved.

It is critical that the sewage disposal problems in these lake areas be addressed as soon as possible. Any further delays will: 1) continue the existence of a public health hazard; 2) decrease the property values in the area; 3) hinder further development in this area; 4) increase project costs to the property owners due to inflation; and 5) may force the local health department to address health hazards individually through enforcement of state rules and statutes and local ordinances. These considerations will ultimately add to the cost and delay a comprehensive approach to the problem. As you are aware, several infectious diseases can be contracted from contact with improperly treated sewage such as: Salmonellosis, Shigellosis, Dysentery, Polio, Hepatitis (Type A), Amebiasis, and Giardiasis to name a few. Pools of sewage can also provide ideal breeding places for the mosquitoes most likely to be responsible for the spread of St. Louis Encephalitis and West Nile Virus.

TWF
THE WATERSHED FOUNDATION

Kosciusko County Commissioners
Mr. Brad Jackson
Mr. Robert Conley
Mr. Gary P. Groninger
100 W Center St, Warsaw, IN 46580

August 1, 2018

Thank you for supporting a Regional Sewer District to encompass the Tippecanoe & Chapman Lake areas.

The Watershed Foundation (TWF) was founded in 1997 to protect and improve water quality in the local lakes and streams that drain to the Tippecanoe River. TWF works with landowners in our 246 mi² watershed to stop water pollution, and we have implemented over 200 water quality improvement projects. We support this sewer initiative as another means to protect and maintain the health of our lakes and community!

In your consideration of the initial sewer district board, we highly recommend these four experienced, knowledgeable, and dedicated individuals. Each of them is actively involved in the Lake Tippecanoe Property Owners Association (LTPO) and/or TWF. They have led and implemented many long-term projects that were not easy, but were important for the future of their lakes. Examples include the creation of a county-wide anti-funneling ordinance to protect shoreline use and development, the establishment of ecozones in Tippecanoe and James Lakes, and the acquisition of critical wetland habitat for its preservation and water quality benefits. Sewers are another effort that makes sense both ecologically and economically for our lakes and community.

- Mark Ennes - Past Chairman and Director of the Valparaiso Lakes Area (sewer) Conservancy District, Past President LTPO, Director Emeritus of TWF
- Joe Tynan - Lead Member Tippecanoe Lake Sewer Initiative, TWF Board Member, and 70+ year Lake Tippecanoe resident (2nd generation)
- Jeff Thornburgh - Member Tippecanoe Lake Sewer Initiative, Past President of LTPO, Founding Member and Past President of TWF
- Jon Tyler - Member Tippecanoe Lake Sewer Initiative, LTPO Past President, past Patrol Sergeant and Lake Patrol Coordinator with the County Sheriff's Department.

Again, we appreciate your support and dedication toward development of the Regional Sewer District. If you wish to contact me, I can be reached at lyn@watershedfoundation.org or 574/834-3242.

Respectfully,

Lynette R Crighton
Executive Director

cc: Terry Frederick, TWF President; Greg Hall, TWF Vice President; Vicki Bolles, TWF Secretary; Natalie Fierek, TWF Treasurer, Chad Miner, County Attorney

OFFICE OF
KOSCIUSKO COUNTY HEALTH DEPARTMENT
COURTHOUSE – THIRD FLOOR
100 W. CENTER ST.
WARSAW, IN 46580-2877
(574) 372-2349
Fax: (574) 269-2023

August 29, 2018

To whom it may concern:

The primary mission of the Kosciusko County Board of Health is the health and safety of the citizens of Kosciusko County, and in carrying out this mission, the Board of Health has learned that establishment of a regional sewer district encompassing the area surrounding Lake Tippecanoe and Lake Chapman is presently being considered.

The purpose of this letter is to communicate the full support of the Kosciusko County Board of Health with respect to the proposed Tippy/Chapman regional sewer district. It is the firm belief of the Kosciusko County Board of Health that this project will be of benefit to the health and safety of both the citizens of Kosciusko County and also of those who choose to visit our County.

Sincerely,

Kosciusko County Board of Health

Larry Copley, Member

Thomas E. Howard, D.O., Member

Cindy Kaiser, Member

Terry Owens, R.N., B.S.N., Member

Brian Reichenbach, M.D., Member

Karen Scripture, D.D.S., Member

Dennis Woodward, D.V.M., Chairman

Kosciusko County Commissioners. 6/22/18
Mr. Brad Jackson
Mr. Robert Conley
Mr. Gary P. Groninger
100 W. Center St., Warsaw, IN. 46580.

Re: Regional Sewer District, Tippecanoe & Chapman Lakes.

Gentlemen:
Thank you for your support of this Regional Sewer District.

I am writing to you as President of the Lake Tippecanoe Property Owners Associations, representing Tippecanoe Lake, James Lake, and Oswego Lake. We have 670 member families for which I am speaking. We support this initiative!

Our Organization has a number of individuals willing to serve on the Board that you will be establishing with initial appointments.

They are:

- Joe Tynan - Lead Member Tippecanoe Lake Sewer Initiative, Board Member of The Watershed Foundation, and 2nd generation family lake resident.
- Mark Ennes - Past President Lake Tippecanoe Property Owners, Director Emeritus of The Watershed Foundation, Past Chairman and Director of the Valparaiso Lakes Area Conservancy District.
- Jon Tyler - Member Tippecanoe Lake Sewer Initiative, Past President Lake Tippecanoe Property Owners, Patrol Sergeant and Lake Patrol Coordinator with the County Sheriff's Department.
- Jeff Thornburgh - Member Tippecanoe Lake Sewer Initiative, Past President of the Lake Tippecanoe Property Owners, Past President and Founding Member of The Watershed Foundation.

Again, we appreciate your support of the Regional Sewer District. If you wish to contact me to discuss further, you can reach me at the e-mail and cell number below.
Respectfully,

Neil Myers, President, LTPO

cc. Jill Morrolf - Vice President LTPO; Becky Hartman, Treasurer LTP; Angie Drook, Secretary, Chad Miner, County Attorney. Electronically to the LTPO Executive Board.

July 9, 2018

Mr. Kenneth K. Jones

Chief Executive Officer

Jones Petrie Rafinski

325 Lafayette Blvd.

South Bend, IN 46601

Mr. Jones:

I am writing you to express the support of myself and my wife Wende for the Regional Sewer District being proposed for the combined Tippecanoe and Chapman Lakes watershed. Having been residents of Chapman Lake for over fourteen years, we highly value the water quality of our lake and are aware of the detrimental effects of unregulated and non-functioning septic systems on said quality level. While we are fortunate to have a fairly healthy lake currently, aging septic systems, additional development around the lake, and excessive loads on poorly functioning septic systems could not only drive lake quality downward, but could have a damaging impact on home values if left regulated at current levels. The proposed Regional Sewer District, by combining Tippecanoe and Chapman Lakes, presents an unprecedented opportunity to clean up the potential septic hazards that exist around our lakes, while doing so in a very economical way. We are aware of the tremendous support being expressed by Tippecanoe Lake residents, as well as Chapman Lake residents, which makes for the perfect time to bring waste management around our lakes into the 21st century!

Please feel free to contact me if you have any questions for us or would like support related to the passage of the Regional Sewer District. Thank you for your support and work to bring this District into existence!

Sincerely,

Scott M. Tucker

Co-President

Maple Leaf Farms, Inc.

Chapman Lake resident

Based on our review density rates, many areas exceed 6 to an acre, making compliance with local and state criteria for water well isolation impossible. From our view, that factor alone is reason enough to support sewers here. Beyond that, limitations for on-site treatment are exasperated by minimum vertical separation to the groundwater table. No system reserve area options and lack of documentation for existing systems.

It is obvious from our interpretation of the findings that the public health and economic impact that accompanies the resolution of a problem of like this is far reaching and will affect most, if not all, of the residents living in these lake areas. We will continue to offer our support when needed and requested.

Please do not hesitate to contact this office if you have any questions.

Sincerely,

Michael Mettler, REHS, Director
Environmental Public Health Division
100 N. Senate Ave., N855
Indianapolis, IN 46204
Phone 317/233-7173
mmettler@isdh.in.gov

cc: Robert Weaver Kosciusko County Health Dept.

Subject: Tippy-Chapman Regional Sewer District
Date: Wednesday, November 14, 2018 at 10:46:27 AM Eastern Standard Time
From: danswanson@ameritech.net
To: brad.jackson@tljackson.com, cgroninger@kcgov.com, bconley@kcgov.com, dheinisch70@gmail.com, sarah@clunetteelevator.com, ewiggins@ramseyandwiggins.com, jgarber@kcgov.com, jtruex@kcgov.com, smitchell@kcgov.com, kcates@kcgov.com, bpigott@idem.in.gov, mfields@idem.in.gov
Attachments: DOC006.pdf

Ladies and Gentlemen,

Attached, please find the letter that we sent in September.

We were not able to attend the meeting last week. I understand that a formal vote was deferred, in large part, to confirm the cost of the project. We appreciate that we need to have command of the project cost before we move forward and after. That said, we learned at the Town Hall meeting in North Webster that this project has been studied numerous times over the last forty years and each time sewers were recommended and each subsequent time the cost of the project has gone up! Meanwhile, almost every lake in the surrounding area has put in a sewer system.

Currently, interest rates are about as low as they've been in forty years! Please take advantage of this opportunity.

Ignore the small number of naysayers. Please vote YES for sewers.

Consider your legacy to be that you DID THIS for the sake of our community and future generations. Don't kick the can down the road for others to make it their legacy.

Regards,

Dan and Nancy Swanson
38 EMS T5A Lane
Leesburg, IN 46538

Dan and Nancy Swanson
38 EMS T5a Lane
Leesburg, IN 46563

September 27, 2018

Kosciusko County Board of Commissioners Conley, Groninger, and Jackson
100 W Center Street
Warsaw, IN 46580

IDEM Commissioner Piggott
100 N Senate Ave
Indianapolis, IN 46204

Dear Commissioners Conley, Groninger, Jackson and Piggott,

We are writing you in support of the Regional Sewer District for Tippecanoe and Chapman Lakes. We urge you to move as quickly as possible to establish a Regional Sewer District for Tippecanoe and Chapman Lakes.

We have owned our home on James Lake ("Little Tippy") since 2006. Our family thoroughly enjoys the Tippecanoe lakes but we are concerned about their current health and long-term well-being. We are concerned that many homes have been built too close to one another over the years and many residents don't maintain their septic systems properly. With big rains and snow melts, the ground cannot adequately handle the load of many old septic systems. And due to county budget limitations, we are also aware that the county does not properly inspect septic systems.

Furthermore, we are aware of many residents that would like to add on or redevelop their properties but are reluctant to under the current rules for septic systems. We, for example, would like to turn our garage into a carriage house to accommodate kids and grandkids but we cannot do that cost effectively with current septic system requirements. We feel that many other projects and development in the area is being held back for similar reasons.

Please move quickly to put sewers in our neighborhood. Kicking the can down the road will further impair our ecosystem, delay development projects in the area and cost all of us more money when, not if, sewers are eventually installed.

Kind regards,

Dan Swanson

Nancy Swanson

From: **Lonnie Fisher** radarman26@yahoo.com
Subject: Request for copy of presentation and reminder on discussion after meeting
Date: September 29, 2018 at 5:22 PM
To: tippy-chapman@jpr1source.com

My wife and I spoke with you after the meeting regarding Old Mill Place Block C (750 N and T34 Lane) and concerns about the line being ran through our neighborhood for the sake of that they could, not for need. The county can confirm we do not have lake access nor do we pay taxes for it. You had mentioned that you would take a look at the area and possibly include our area with a proposed change to a part of the district of Chapman Lake.

We will be finding out how exactly to do the petition and getting that accomplished. If you could email a copy of the maps for Tippy as well that would be helpful as we determine who we need to contact.

Lastly, I request a copy of the presentation.

Thanks

Lonnie and Brandy Fisher
4 EMS T34 Lane
Leesburg, IN 46538

Subject: PowerPoint Presentation
Date: Saturday, September 29, 2018 at 3:57:58 PM Eastern Daylight Time
From: Ron Longyear
To: tippy-chapman
Priority: High

Hello,

Would you please be kind enough to send me a copy of your presentation today.

I am very thankful that all of you took the time to present an overview of the Reginal Sewer System proposal for Tippy & Chapman.

I live at T35-1 and would hope this program can move forward in a positive manor.

Please keep me updated on other steps as completed.

Thank you!

rlongyear@mchsi.com

Ron Longyear

Subject: PowerPoint presentation
Date: Wednesday, October 10, 2018 at 4:29:04 PM Eastern Daylight Time
From: bartletta68@yahoo.com
To: tippy-chapman

Good afternoon. My name is Art Bartlett and I reside at 1085 Chapman Lake Dr. my wife and I are strong supporters of the proposed sewers for the lake and have attended all of the public meetings on this subject. At the IDEM meeting in North Webster on September 29th Ken Jones indicated that we could obtain a copy of the Powerpoint presentation that he used by providing our email address. If you could please send the presentation to "bartletta68@yahoo.com" it would be greatly appreciated. Thanks in advance for anything you can do to provide this information.

Art Bartlett

Sent from my iPhone

Subject: Fwd: Support the Tippecanoe Sewer Initiative
Date: Monday, November 12, 2018 at 9:20:08 AM Eastern Standard Time
From: Jim Covert
To: tippy-chapman
CC: Lyn Crighton,Watershed Foundation

---------- Forwarded message ---------
From: **Jim Covert** <jcovert99@gmail.com>
Date: Fri, Oct 5, 2018 at 2:44 PM
Subject: Support the Tippecanoe Sewer Initiative
To: <kcates@kcgov.com>

Dear Ms. Cates,

I am writing in support of the Lake Tippecanoe Sewer Inititative for which a hearing was held last weekend. I live in Indianapolis and have a lake home on Little Tippy and members of my family have been visiting Lake Tippecanoe for over 100 years. The transformation of the lake over the past 4 decades has been startling - from clear water and beaches to a weedy mess. While the role of septic tank leaching in the overabundance of nutrients in the waters may be debatable, the possibility of well water contamination is real and growing.

It is not acceptable to kick the can down the road until a full blown public health crisis hits - we must embark on a reasoned long term plan of action and the installation of a sanitary sewer system should be the cornerstone of that effort.

I urge you to support the Tippecanoe Sewer Initiative.

James Covert
226 EMS T49 Lane
Syracuse, IN 46567

From: **Shelley Moore** shelley@insightsc.com
Subject: Fwd: Form Submission - Sign Petition - Lake Tippy seeer project
Date: November 11, 2018 at 2:35 PM
To: Lyn Crighton lyn@watershedfoundation.org, Lyn Crighton,The Watershed Foundation lyn@tippecanoewatershed.org, Ken Jones kenjones@jpr1source.com, Joe Tynan jbtynan@gmail.com, Jeff Thornburgh jthornburgh@premedtec.com

Fyi for response below.

Shelley Moore
Insight Strategic Concepts
Bloom Success Solutions
C: 574.361.9758

Sent mobile

---------- Forwarded message ---------
From: **Squarespace** <no-reply@squarespace.info>
Date: Sun, Nov 11, 2018, 7:44 AM
Subject: Form Submission - Sign Petition - Lake Tippy seeer project
To: <shelley@insightsc.com>

Name: Michael Proctor

Email Address: Mtproctor11@gmail.com

Phone: (765) 610-4342

Subject: Lake Tippy seeer project

Message: I support this project 110%. Sooner the better! Thank you for this great information contained on this page. We are homeowners on Tippy, amd strongly feel that this project is LONG overdue.

When you are fortunate enough to spend time enjoying one of the most beautiful, natural, deepest, freshwater lakes in the world, you want to do everything possible to maintain that, and even enhance it, if possible, This project will do all of the above, and benefit everyone who lives there, visits there, and enjoys this beautiful when you're fortunate enough to spend time finding of the most beautiful natural, deepest freshwater lakes in the world, do you want to do everything possible to maintain that, and even enhance it, if possible, this project will do all of the above, and benefit everyone who lives there, visits there, and enjoy this beautiful masterpiece that GOD created! Thank you, Michael T. Proctor

(Sent via)

From: **Jim Siegfried** jrsiegfried@gmail.com
Subject: Sewer Initiative
Date: November 12, 2018 at 12:52 PM
To: tippy-chapman@jpr1source.com

Jim Siegfried <jrsiegfried@gmail.com> Tue, Oct 2, 9:16 AM

Opposition to the sewer initiative is not based on logic nor is it based based on forward looking. It is based on reluctance to change and the fear of additional expense. Literally hundreds of properties around these lakes suffer from deferred maintenance and defective septic systems. Numerous cottages and mobile homes are rented in unsafe condition. The rent collected is not earned by the property owner because of the deteriorated conditions and the property taxes paid are hugely insufficient based on the underlying value of the land these residences occupy.
Our county is on the cusp of a great future.That future is being denied by the lack of a sanitary sewer and the resulting gross undervaluation of of the lake front properties. The citizens of our county deserve the benefits of a proper tax base to fund county services.
We, who are in favor of the sewer initiative, urge each of you to advance this initiative for the good of the County. Jim Siegfried, 202 EMS T47 Ln, Leesburg

From: **Lyn Crighton** executive@watershedfoundation.org
Subject: Fwd: Kosciusko County Sewer District for Tippecanoe and Chapman Lakes
Date: November 12, 2018 at 9:35 PM
To: **Ken Jones** tippy-chapman@jpr1source.com

---------- Forwarded message ---------
From: **Mark Bishopp** <mbishopp@live.com>
Date: Mon, Nov 12, 2018 at 6:18 PM
Subject: Fwd: Kosciusko County Sewer District for Tippecanoe and Chapman Lakes
To: tippy-chapman@jpr1source.com <tippy-chapman@jpr1source.com>
CC: Crighton Lyn <lyn@tippecanoewatershed.org>

Sent from my iPhone

Begin forwarded message:

From: Mark Bishopp <Mbishopp@live.com>
Date: October 2, 2018 at 8:32:58 AM EDT
To: "Brad.jackson@tljackson.com" <Brad.jackson@tljackson.com>, "bconley@kcgov.com" <bconley@kcgov.com>, "cgroninger@kcgov.com" <cgroninger@kcgov.com>, "dheinisch70@gmail.com" <dheinisch70@gmail.com>, "sarah@clunetteelevator.com" <sarah@clunetteelevator.com>, "ewiggins@ramseyandwiggins.com" <ewiggins@ramseyandwiggins.com>, "jgarber@kcgov.com" <jgarber@kcgov.com>, "jtruex@kcgov.com" <jtruex@kcgov.com>, "'smitchell@kcgov.com'" <smitchell@kcgov.com>, "kcates@kcgov.com" <kcates@kcgov.com>
Subject: Kosciusko County Sewer District for Tippecanoe and Chapman Lakes

County Elected Officials, I wanted to voice our favor for a regional sewer district. My wife and I have lived part time at Lake Tippecanoe since 2002 and full time since 2008. We feel the benefits for our lake and our community will be enhanced with the construction of a regional sewer district. I am glad to see meaningful and thoughtful discussion taking place amongst stakeholders and the county and hope this will move forward and put us closer to having sewers around our lakes.

Sincerely, Mark & Julie Bishopp

131 EMS T31 Lane
Leesburg, IN 46538

From: **Emily Cowan** ecowan@kremc.com
Subject: **Support Sewer Project**
Date: **November 12, 2018 at 1:29 PM**
To: CGroninger@kcgov.com
Cc: tippy-chapman@jpr1source.com

Good afternoon Commissioner Groninger,
This email to in support of the sewer project for Lake Tippecanoe residents.
Please consider this an investment in the future of our community. Healthy lakes are imperative to the attraction and retention of businesses and employees, not to mention to maintain property values.

I've been involved with environmental efforts for both Lake Tippecanoe and Chapman Lakes for almost 20 years. Unhealthy pollution IS going into our lakes from septic systems now and will continue to add more pollution as they fail and continue to age. This investment seems huge now but will only continue to get more expensive as years pass. It is time to pass this for the good of our entire community. We should not pass along this measure as a responsibility of future generations. .

Thank you for your support on this very crucial initiative.
Sincerely,
Emily Cowan

EMILY COWAN
Manager of Marketing and Member Service
www.kremc.com
Kosciusko REMC I 370 South 250 East I Warsaw, IN 46582

Subject: Tippecanoe Chapman Lakes Regional Sewer District
Date: Wednesday, November 14, 2018 at 12:55:56 PM Eastern Standard Time
From: John Hall
To: tippy-chapman

We have lived on Big Chapman Lake for over seventeen years and are 100 percent in favor of the sewers It should have been done years ago We Appreciate the hard work of the promoters and the Kosciusko County Commissioners for pushing this forward. Thank you.
John & Maureen Hall
227 EMS C27C lane Warsaw In

From: **William Shroyer** wdsmjs@yahoo.com
Subject: Fw: Proposed Regional Sewer District
Date: November 13, 2018 at 6:31 AM
To: tippy-chapman@jpr1source.com

----- Forwarded Message -----
From: William Shroyer <wdsmjs@yahoo.com>
To: tippy-chapman@jpt1source.com <tippy-chapman@jpt1source.com>
Sent: Monday, November 12, 2018, 9:02:16 PM EST
Subject: Fw: Proposed Regional Sewer District

Following is my letter to our elected officials re: Tippy-Chapman proposed regional sewer district that Lynn Crighton asked to be sent to you.

Will Shroyer

----- Forwarded Message -----
From: William Shroyer <wdsmjs@yahoo.com>
To: brad.jackson@tljackson.com <brad.jackson@tljackson.com>; cgroninger@kcgov.com <cgroninger@kcgov.com>; bconley@kcgov.com <bconley@kcgov.com>; dheinisch70@gmail.com <dheinisch70@gmail.com>; sarah@clunetteelevator.com <sarah@clunetteelevator.com>; ewiggins@ramseyandwiggins.com <ewiggins@ramseyandwiggins.com>; jgarber@kcgov.com <jgarber@kcgov.com>; jtruex@kcgov.com <jtruex@kcgov.com>; smitchell@kcgov.com <smitchell@kcgov.com>; kcates@kcgov.com <kcates@kcgov.com>
Sent: Wednesday, October 10, 2018, 9:04:31 AM EDT
Subject: Proposed Regional Sewer District

County Elected Officials:

We are writing to express our desire for you to vote in favor of a Regional Sewer District for the Lake Tippecanoe and Chapman Lakes areas as proposed.

We have lived on Lake Tippecanoe starting with a small cottage in 1978 in Lantzing Bay area that is in the flood plain. This area along with many other areas on Lake Tippecanoe floods annually and most certainly drains septic water into the lake. Many of these cottages on the Lake have old septic tanks that are in need of replacement and many due to the lot sizes do not have room for a mound system as currently required for a new system.

In 1995 we moved to a home on Forest Glen Ave. that also is in the flood plain that almost annually floods with rising waters covering the septic tank and leaching areas.

With our concern for the septic waters leaching into the lake and being good stewards for the water quality of our Lake we have always had our tanks cleaned at summer end to prevent contamination of our Lake.

We believe it is way past time for these lakes to have a sewer system and will do everything necessary in our power to help make this happen whether it is a Regional Sewer District or a Conservancy District.

Thank you for your concern and efforts to make this much needed project a reality.

William and Marilyn Shroyer
3628 E. Forest Glen Ave.
Leesburg, IN

November 13, 2018

Mr. Ken Jones
Jones Petrie Rafinski
325 Lafayette Blvd
South Bend, IN 46601

RE: Chapman Lake Sewers

Dear Mr. Jones:

Please accept this letter on behalf of myself and my wife, Lynnae Hall, for support for the regional sewer district for Chapman Lake. Although my home on Chapman is a summer home, I have been on the lake or connected to the lake since 1985. I am also actively involved with Big and Little Chapman lakes as I am President of the Chapman Lakes Foundation and Vice President of The Watershed Foundation. Clean and Healthy lakes in our community is very important to myself and my family. We strongly believe that a proper sewer system around the lake will benefit the lake and the community.

Please feel free to contact me if you have any questions or need any further support.

Regards,

G Hall

Greg Hall
Chapman Lake Regional Sewer Supporter

From:
Cameron Plew
2135 Chapman Lake Dr.
Warsaw, IN 46582

To:

Kosciusko County Commissioners
Kosciusko County Council
Jones Petrie Rafinski

To Whom it May Concern:

My name is Cameron Plew and my family and I are full-time lakefront residents of Little Chapman Lake, and have been for the last 8 years. My brother, Ehren Plew, also owns a lakefront residence on Little Chapman Lake at 2007 Chapman Lake Dr., as does my father-in-law Greg White at 1977 Chapman Lake Dr. All three of our families, representing three lakefront properties, are in full support of the proposed sewer district for Little and Big Chapman Lakes. The sewer is desperately needed, as most of the lakefront lots around both lakes would not meet the minimum lot size per Kosciusko county standards if a new septic system permit was to be requested today. As an increased number of people are attracted to the benefits of lake living, small cottages that were formerly used on weekends sporadically in the summer months, have become full-time year round residences, thus putting a higher strain on many outdated and inadequate septic systems. The overwhelming majority of my neighbors and friends that also own lakefront property on Little and Big Chapman Lakes are also in support of the sewer system. We all know that our septic tanks have a limited useful life, and that a sewer system is the responsible choice for our lakes. Please make the wise decision to form a regional sewer district for Tippecanoe and Chapman Lakes.

Signed,

Cameron V. Plew & Family

11/16/18

APPENDIX C

PUBLIC NOTICES

PUBLIC INPUT

PUBLIC MEETING MINUTES

Prescribed by State Board of Accounts

General Form No. 99P (Rev. 2009A)

Kosciusko County Auditor
(Governmental Unit)

To Mail Journal

Kosciusko County, Indiana

Syracuse, IN

PUBLISHER'S CLAIM

LINE COUNT

Display Master (Must not exceed two actual lines, neither of which shall total more than four solid lines of the type in which the body of the advertisement is set) -- number of equivalent lines .....

Head -- number of lines .....

Body -- number of lines .....

Tail -- number of lines .....

Total number of lines in notice .....

COMPUTATION OF CHARGES

150 lines, 1 columns wide equals 150 equivalent lines at 1.09 cents per line $ 163.50

Additional charges for notices containing rule or tabular work (50 per cent of above amount) .....

Charge for extra proofs of publication ($1.00 for each proof in excess of two) .....

TOTAL AMOUNT OF CLAIM $ 163.50

DATA FOR COMPUTING COST

Width of single column in picas 11 Size of type 7 point.

Number of insertions 3

Pursuant to the provisions and penalties of IC 5-11-10-1, I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

I also certify that the printed matter attached hereto is a true copy, of the same column width and type size, which was duly published in said paper 3 times. The dates of publication being as follows:

August 22, 29, Sept 5, 2018

Additionally, the statement checked below is true and correct:

..... Newspaper does not have a Web site.

..✓.. Newspaper has a Web site and this public notice was posted on the same day as it was published in the newspaper.

..... Newspaper has a Web site, but due to technical problem or error, public notice was posted on .....

..... Newspaper has a Web site but refuses to post the public notice.

Ronald Baumgartner

Date August 22, 2018 Title Publisher

NOTICE TO PROPERTY OWNERS OF MEETING OF THE KOSCIUSKO COUNTY BOARD OF COMMISSIONERS AND KOSCIUSKO COUNTY COUNCIL TO APPROVE FILING A PETITION WITH THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SEEKING AUTHORITY TO ESTABLISH A REGIONAL SEWER DISTRICT

Notice is hereby given to property owners of Kosciusko County, Indiana that the Kosciusko County Board of Commissioners and the Kosciusko County Council will hold a public meeting at the North Webster Community Center, 301 North Main Street, North Webster, Indiana 46555, in the gymnasium, at 1:00 PM, on September 29, 2018, to consider filing a Petition with the Indiana Department of Environmental Management ("IDEM") seeking authority to establish a regional sewer district in accordance with Indiana Code § 13-26. The proposed regional sewer district will generally encompass the areas surrounding Lake Tippecanoe (including James Lake and Oswego Lake) and Big Chapman Lake and Little Chapman Lake, including the additions and subdivisions known as Ashton's Addition; Bartel's Point; Beavers Landing; Bellrohr Park; Bellrohr Park, Eighth Addition; Bellrohr Park, Fifth Addition; Bellrohr Park, First Addition; Bellrohr Park, Fourth Addition; Bellrohr Park, Ninth Addition; Bellrohr Park, Second Addition; Bellrohr Park, Seventh Addition; Bellrohr Park, Sixth Addition; Bellrohr Park, Third Addition; Black's Landing; Briemae Subdivision; Brock's Subdivision; Cripplegate Crossing; Cripplegate Heights; Du-Ce-Ne Village; Du-Ce-Ne Village, First Addition; Du-Ce-Ne Village Second Addition; Echo Spring Condos; Fair Oaks; Forest Glen, First Addition; Forest Glen Park; Frazier's Landing; Frazier's Landing, First Addition; Hamman Estates; Hepner's Addition to Pleasant View at Cripple Gate Heights; Hoy's Landing; Kelorama Park; Kelorama Park, First Addition; Kelorama Park, Second Addition; Kelorama Park, Third Addition; Lakeside Development; Lakeside Development, Second Addition; Lakeside Development, Third Addition; Levallen Park; Long's Park; Long's First Addition to Long's; Mead Park, Section A revised; Mead Park, Section B; Mead Park, Section B revised;

PUBLISHER'S AFFIDAVIT

State of Indiana)
) ss:
Kosciusko County)

Personally appeared before me, a notary public in and for said county and state, the undersigned Ron Baumgartner who, being duly sworn, says that he is publisher of The Mail-Journal newspaper of general circulation printed and published in the English language in the (city) (town) of Syracuse in state and county aforesaid, and that the printed matter attached hereto is a true copy, which was duly published in said paper for 3 time ____, the dates of publication being as follows:

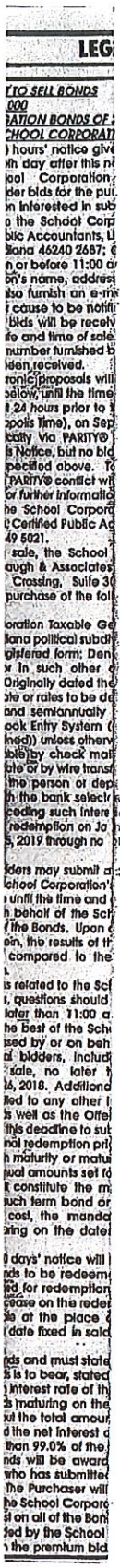
August 22, 29, Sept 5, 2018

Ronald Baumgartner

Subscribed and sworn to before me this 22 day of August, 2018.

Annette Weaver
Notary Public

My commission expires: 7-22-2022



Prescribed by State Board of Accounts

General Form No. 99P (Rev. 2009A)

Kosciusko County Auditor
(Governmental Unit)

To Warsaw Times-Union

Kosciusko County, Indiana

Warsaw, Indiana 46581

PUBLISHER'S CLAIM

LINE COUNT

Display Master (Must not exceed two actual lines, neither of which shall total more than four solid lines of the type in which the body of the advertisement is set) – number of equivalent lines .....

Head – number of lines .....

Body – number of lines .....

Tail – number of lines .....

Total number of lines in notice .....

COMPUTATION OF CHARGES

105 lines, 2 columns wide equals 210 equivalent lines at .9255 cents per line $ 194.36

Additional charges for notices containing rule or tabular work (50 per cent of above amount) .....

Charge for extra proofs of publication ($1.00 for each proof in excess of two) .....

TOTAL AMOUNT OF CLAIM $ 194.36

DATA FOR COMPUTING COST

Width of single column in picas 10 Size of type 7 point

Number of insertions 3

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Jessica Rodriguez

Date September 5, 2018

Title Comptroller

NOTICE TO PROPERTY OWNERS OF MEETING OF THE KOSCIUSKO COUNTY BOARD OF COMMISSIONERS AND KOSCIUSKO COUNTY COUNCIL TO APPROVE FILING A PETITION WITH THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SEEKING AUTHORITY TO ESTABLISH A REGIONAL SEWER DISTRICT

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Buchanan Property Replat; Teeple's Addition to Forest Glen; The Treetops Condos; Town of Oswego, Original Plat; Walker's Park; Wildwood Isle; Wildwood Park Addition; Wildwood Park, First Addition; Wildwood Park, Second Addition; Wildwood Park, Third Addition; Wood's Oswego Lake Addition; Wood's Oswego Lake Addition, 1st Addition; Wood's Oswego Lake Addition, 2nd Addition; Wood's Oswego Lake Addition, 3rd Addition; Wood's Oswego Lake Addition, 4th Addition; 5 K's Happy Landing; 5 K's Happy Landing Number 2; 5 K's Happy Landing Number 3; Arrowhead Park; Arrowhead Park, First Addition; Arrowhead Park, Mel-Vue Addition; Arrowhead Park, Rosnagle-Camden Addition; Arrowhead Park, Rosnagles Eastern Addition; Arrowhead Park, Rosnagles Second Addition; Arrowhead Park, Rosnagles Third Addition; Chapman's Lake Park, First Addition; Chapman's Lake Park, Second Addition; Chapman's Lake Park, Third Addition; Dynes and Davis Chapman Lake Addition; Elmhurst Park; Elmhurst Park, Priser Addition; Elmhurst Park, Second Addition; Elmhurst Park, Stoneburner's First Addition; Greystone; Greystone, Replat of Lots 1-5 in the Plat of Greystone; Hall's North Shore Addition; Hall's North Shore Addition, Section 2; Irvine's Park; Irvine's Park, Baxter's Addition; Irvine's Park, First Addition; Irvine's Park, Fourth Addition; Irvine's Park, Irvine's Second Addition; Irvine's Park, Third Addition; Island Park; Island Park Annex; Island Park, Gunter's First Addition; Island Park, Revised Plat of Park Addition; Lake Forest I; Lake Forest II; Lakewood Park; Lozier's Lakeview Park; Maple Grove Addition; Maple Grove, First Addition; Osborn's Bay Shore; Osborn's Hilltop; Osborn's Subdivision; Osborn's Subdivision, Amended Plat; Osborn's Subdivision, First Addition; Osborn's Subdivision, Second Amended Plat; Pence and Harman's Chapman Lake Park; Rummel's Haven; Rummel's Haven, First Addition; Rummel's Haven, Second Addition; Rummel's Haven, Third Addition; Rummel's Hills; Strickler's Place; Stouder's Addition to Chapman Lake; The Highlands; The Highlands, A.C. McDonald's First Addition; Waw-Wil-A-Way Park; Waw-Wil-A-Way Park, First Addition; Waw-Wil-A-Way Park, Second Addition; Waw-Wil-A-Way Park, Third Addition; all located in Kosciusko County, Indiana. The regional sewer district boundaries will also include parcels not located within any particular subdivision; for those interested in determining what areas are proposed to be included, as well as all others interested in viewing the proposed boundaries in more detail, maps of the proposed district are available on the County's website at: www.kcgov.com (the map for the area surrounding Lake Tippecanoe, including James Lake and Oswego Lake, can be found at: http://www.kcgov.com/egov/documents/1532635796_17401.pdf and the map for the area surrounding Lake Chapman can be found at: http://www.kcgov.com/egov/documents/1532635854_53399.pdf) or copies can be obtained at the office of the County Auditor, 100 West Center Street, Warsaw, IN 46580. During the public meeting, the Kosciusko County Board of Commissioners and the Kosciusko County Council will discuss and receive comments on the proposed district.

Dated this 20th day of August, 2018.

Kosciusko County Board of Commissioners
Bradford Jackson
Cary P. Groninger
Robert Conley

Kosciusko County Council
Doug Heinisch
Tom Anglin
Emie Wiggins
Jon Garber
Joni Truex
Sue Ann Mitchell
Kimberly Cates

8-22,29, 9-5

AFFIDAVIT OF MAILING OF NOTICE OF
PUBLIC MEETING

STATE OF INDIANA)
) SS:
COUNTY OF KOSCIUSKO)

Michelle Puckett, County Auditor, having been duly sworn upon his or her oath deposes and says that he or she did on or before September 14, 2018, mail to each freeholder within the proposed regional sewer district in Kosciusko County ("County") a copy of the notice to property owners of the public meeting of the County, which notice was in the form attached.

Michelle L. Puckett

Subscribed and sworn by me, a notary public this 30 day of October, 2018.

Chasity A Sandy
Notary Public Seal State of Indiana
Kosciusko County
My Commission Expires 02/29/2024

Chasity A Sandy
Notary Public

Resident of Kosciusko County, Indiana

My commission expires: 02-29-2024

I\13620053.1

NOTICE TO PROPERTY OWNERS OF MEETING OF THE KOSCIUSKO COUNTY BOARD OF COMMISSIONERS AND KOSCIUSKO COUNTY COUNCIL TO APPROVE FILING A PETITION WITH THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SEEKING AUTHORITY TO ESTABLISH A REGIONAL SEWER DISTRICT

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Dated this 20th day of August, 2018.

Kosciusko County Board of Commissioners
Bradford Jackson
Cary P. Groninger
Robert Conley

Kosciusko County Council
Doug Heinisch
Tom Anglin
Ernie Wiggins
Jon Garber
Joni Truex
Sue Ann Mitchell
Kimberly Cates

AFFIDAVIT OF RADIO BROADCAST OF NOTICE OF PUBLIC MEETING

STATE OF INDIANA)
) SS:
COUNTY OF KOSCIUSKO)

Chad M. Miller (Count a Horse), having been duly sworn upon his or her oath deposes and says that he or she did on or before September 14, 2018, provide notice for radio broadcast to two radio stations operating in Kosciusko County ("County") for public broadcast three times per day for fourteen (14) days; a copy of the public service announcement and the invoices for such broadcasts are each attached.

Subscribed and sworn by me, a notary public this 30th day of October, 2018.

Chasity A Sandy
Notary Public Seal State of Indiana
Kosciusko County
My Commission Expires 02/29/2024

Chasity A Sandy
Notary Public

Resident of Kosciusko County, Indiana

My commission expires: 02-29-2024

I\13620053.1

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The meeting will be at 1:00 PM, on Saturday, September 29, in the North Webster Community Center gymnasium, at 301 North Main Street in North Webster, Indiana.

The proposed regional sewer district will generally encompass the areas surrounding Lake Tippecanoe including James Lake, Oswego Lake and Big Chapman and Little Chapman Lakes.

The regional sewer district boundaries will also include nearby subdivisions and parcels not located within any particular subdivision.

For those interested in more details, maps of the proposed district are available on the County's website at kcgov.com or copies can be obtained at the office of the County Auditor, 100 West Center Street, Warsaw, Indiana.

During the public meeting, the Kosciusko County Board of Commissioners and the Kosciusko County Council will discuss and receive comments on the proposed district.

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Dated this 20th day of August, 2018.

Kosciusko County Board of Commissioners
Bradford Jackson
Cary P. Groninger
Robert Conley

Kosciusko County Council
Doug Heinisch
Tom Anglin
Ernie Wiggins
Jon Garber
Joni Truex
Sue Ann Mitchell
Kimberly Cates

JONES PETRIE RAFINSKI

Tippecanoe, Chapman and Oswego RSD & Public Sewer Meeting
Saturday, September 29, 2018 @ 1pm

SIGN-IN SHEET

NO.	NAME	ADDRESS	EMAIL ADDRESS
1	JON TYLER	5867 N. 450 E. LEESBURG, IN 46538	JMLTYLER@MCHSI.COM
2	Kevin Edmonds	3119E 450N Leesburg, IN 46538	Kevinandcarol@hotmail.com
3	Carol Edmonds	" " " " "	" " "
4	Gene Topolski	38EMS C27C1 Ln WARSAW 46582	eugenetopolski@gmail.com
5	Ron Moser	47EMS T26B Ln. Leesburg	ron.moser@centurylink.net
6	Mary Hamilton	143 EMS C27C WARSAW	
7	John Durham	88 EMS T15 Ln Leesburg	lakelady88@embarqmail.com
8	Sherri Durham	" "	"
9	John Weber	4355 N Aspen Dr Warsaw	
10	Larry Simmons	46 EMS T2A Lane	
11	Lynn Moser	47 EMS T26B Lane-Leesburg	ron.moser@centurylink.net
12	Chris OSBORN	46 EMS C27C LN WARSAW	CKOSBORN@CENTURYLINK.NET
13	Tony Sutton	66EMS C29A LN Warsaw	
14	Edward Boyts	74EMSC27C1 Ln. Warsaw	docb@hnin.net
15	RONALD SCOTT	6987 KALORAMA LEESBURG	rlsmls@hotmail.com
16	LEO M. GLASS	101 EMS C19 WARSAW	lmglass1956@YAHOO.COM
17	Dan Swanson	38 EMS T5a Lane Leesburg	danswanson@camerite.dh.net
18	Rick Patton	26 EMS T34 A Lane, Leesburg	

JONES PETRIE RAFINSKI

Tippecanoe, Chapman and Oswego RSD & Public Sewer Meeting
Saturday, September 29, 2018 @ 1pm

SIGN-IN SHEET

NO.	NAME	ADDRESS	EMAIL ADDRESS
1	CHARLES BENTZ	15 EMS TSC LANE LEGGSBURG IN 46538	
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JONES PETRIE RAFINSKI

Tippecanoe, Chapman and Oswego RSD & Public Sewer Meeting
Saturday, September 29, 2018 @ 1pm

SIGN-IN SHEET

NO.	NAME	ADDRESS	EMAIL ADDRESS
19	Lonnie Fisher	4 EMS T34 Ln Leesburg 46538	radarman26@yahoo.com
20	Carolyn Leiter	~~2555~~ 455 W 250 N WARSAW	carolynleiter@gmail.com
21	James Cavender		
22	LINDA WEIR	6718 KALORAMA, Leesburg	lkweir@att.net
23	ROBERT PATON	3 EMS T33 LANE	patonrj@grace.edu
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JONES PETRIE RAFINSKI

Tippecanoe, Chapman and Oswego RSD & Public Sewer Meeting
Saturday, September 29, 2018 @ 1pm

SIGN-IN SHEET

NO.	NAME	ADDRESS	EMAIL ADDRESS
39	DON MATCHETT	3544 E. FOREST GLEN AVE.	spikenzils@gmail.com
40	Dorothy Potter	110 EMS C-19	dorothy400@yahoo.com
41	JOHN BROOKS	199 EMS T13	jbrooks@brooks-stevens.com
42	JOHN WARREN	233 EMS T26 LN LEESBURG	WARREN@CROSSPOINT.NET
43	Sharon Farnsworth	39 EMS T40A LN "	
44	Glenna Shelby	4080 E Forest Glen Ave "	99shelby@msn.com
45	Gary Calhoon	31 EMS T42B Lane	
46	Jim SIEGFRIED	202 EMS T44 LN	JRSIEGFRIED@GMAIL.COM
47	Josh Goon	36 EMS T34 A LN	goonsQR@yahoo.com
48	MIMI Weaker	~~[illegible]~~ 10 EMS T-21 Lane, Leesburg	
49	Laura Hawkins	111 EMS Lane C-30	Hawk11@inchsi.com
50	J.T. WEINGART	3MS 28.	~~PARKFOOD~~ PANTODDLE CONCAST.NET
51	MARK ENNES	64 EMS T4	
52	Tom Hayhurst	25 EMS T40A	
53	Dan Miller	2101 Chapman Lake DR	danmiller@hotmail.com
54	VISENTE GARZA	8 EMS C29 LANE	23Tyger@gmail.com
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NO.	NAME	ADDRESS	EMAIL ADDRESS
59	Phil FORD	3603 S 1150 W Dunkirk, IN	dpford68@msn.com
	Gary ADAMS	17 EMS T5B LN LEESBURG	gssadams.hotmail.com
60	Jeff Tyner	6641 N. 300 Leesburg IN	Jttippy@centurylink.com
61	Rick Cowsert	2179 Chapman Lake Dr.	
62	Charles E. Munly	313 EMS C 24 LN Warsaw, IN	
63	The Lenon's	91 EMS T-13 B Ln Leesburg	JISlenon@att.net
64	Clayton Moudy	43 EMS T7 LN leesburg	
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NO.	NAME	ADDRESS	EMAIL ADDRESS
78	ISABELL VINCI	39 EMS C22 LN	dizzyizzie7@hotmail.com
79	Vickie Christman	207 EMS T26 Lane	
80	Lyn Crichton	18 EMS T13F Lane	lynhaTman@yahoo.com
81	CORAL AMSPAUGH-TOPOLSKI	38 EMS C27 C1 LANE	ctopolski@hotmail.com
82	Bob Hoyt	2720 E. 550 N	
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NO.	NAME	ADDRESS	EMAIL ADDRESS
158	Elaina Kolenz	35 EMS LN C22 Warsaw	———
159	Kathy Susarabe	250 EMS C29 Lane Warsaw	KSUSARABA@GMAIL.COM
160	Barb Fabyan	42 EMS T6 Ln Leesburg	~~fabyanbarb@gmail.com~~
161	Karen Bedwell	6734 Kosciusko Rd	karen.bedwell@hotmail.com
162	Michael McDaniel	52 EMS C29 LN WARSAW IN	MJDEVILMIKE@GMAIL.COM
163	David Swanson	148 EMS C29A Lane Warsaw IN	davidtswanson77@gmail.com
164	James Cavender	8 EMS T7A Lane Leesburg IN	Firecavenders@yahoo.com
165	Tina Kauffiber	2719 Lilly Ct Warsaw IN 46580	tinakauffiber@gmail.com
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Chad Miner:	00:00:01	Well, I think we'll go ahead and get started. So, first of all, I want to thank everybody for coming out this afternoon. I know it's a beautiful day out, so I appreciate everybody taking the time to be here. We're going to go ahead and call the public meeting to order. It's a meeting of the Kosciusko County Board of Commissioners and Kosciusko County Council and I wanted to recognize, we have several of them with us here this afternoon. I think we've got a Brad Jackson, Cary Groninger, Bob Conley, Sue Ann Mitchell, Kim Cates, Bernie Wiggins, Joni Truex. We've also got Bob Weaver, the Director of the Health Department here as well, and Alice Quinn, who's the Senior Environmental Manager for the Environmental Public Health Division of the Indiana State Department of Health. So, we've got quite a few people with us this afternoon. The purpose of this public meeting is to discuss and receive comments on the proposed creation of a regional sewer district under Indiana Code 13-26A and first, I'd like to have everybody please note that there is a sign-in sheet located in the front.
Chad Miner:	00:01:21	So, if you haven't signed in yet then I think we'll circulate that. Is that still the plan? Are we going to circulate the sign in sheet or maybe catch it on the way out? Our intention for the public meeting is that we'll work...we're shooting to get it concluded in around two hours. I think some of us are gonna stick around afterwards in case there are some questions or anything like that, that we're not able to answer within that 2-hour timeframe but we're going to start with a short presentation on the proposed regional sewer district and then we'll move on to the comments and questions and we do have two microphones up at the front. So, if you signed in to present a comment or question, then once we get to that point in the meeting, we'd ask that you please form a line in the isle near the microphone and we'll proceed in an order.
Chad Miner:	00:02:22	We'll limit each person to two minutes, just because given the obvious number of people here, we want to give as many people as possible an opportunity to ask a question or two, or to give a comment. We'd ask that you please refrain from asking a question or providing a comment that has already been addressed by another speaker and also, we are recording today's proceedings. So, we're going ask that if you have a question or a comment that it only be done from one of the microphones. Did we press the record button? Done. Okay, good. Oh, I'm sorry. Are you better?
Chad Miner:	00:03:10	Okay. So there, is that better? Still good. Okay. Sorry. So, while the Board of Commissioners and the County Council did call this public meeting, neither body will take action, at today's

meeting. The meeting is for public discussion and question only. There are some professionals in attendance to assist in the presentation and to provide input on questions that you may have. Those professionals include Ken Jones, to my right there, JPR, and they're the engineering firm that's been working with the County. And we have Jeff Rowe from Umbaugh and Associates, they're the financial advisors and consultants. And then to my left, Patricia Zelmer, she's an attorney with the firm of Ice Miller. That's the firm that's been assisting us through this process. And then I'm Chad Miner, I'm an attorney with Miner and Lemon and I serve as the County Attorney; the team that the County has assembled to deal with this has extensive experience in creating regional sewer districts. And also once a district is created, then this team will be able to assist in implementation of the projects. And we'll also be able to assist with respect to financing and great structuring. So, I'm going to go ahead and turn it over to Ken and as we're going through this again, if you can't hear something, please speak up and, we'll try to... we can turn up the volume or something like that.

Ken Jones: 00:04:51 I'm a loud talker anyways. We're very fortunate to be involved in this project and hopefully we can bring a much-needed improvement to the community. That's our job after all. I have a few of my folks here today, they're going to stick around after the meeting where you can go up and maybe ask them a specific question. Jennifer Ransbottom as a project manager for JPR. She's also been intimately involved in the implementation of the billing system and the property owner interface for the Lakeland Regional Sewage District. So, she has experience here in the community. She also takes care of utility billings for multiple other regional sewer districts. So if it's a property owner issue, she probably has dealt with it at some point. My assistant Victoria is here, she's my interface with just about everybody, so if you need to give or get your contact information to me or something, see Victoria for that.

Ken Jones: 00:05:56 These two gentlemen over here were involved in the connection phase of the Lakeland Regional Sewage District, and the gentleman to the right, your left is my eldest son Ken Jones Junior and he is very critical to construction projects that we've done over the years. So again, if there's a construction concern or question, he probably will be able to answer it. Same with Josh Thomas, he's the guy that looks like grizzly Adams here. He will be able to also give you some very complete insight relative to what property owners should expect when the construction phase is underway and when your connection period begins. So, and again, feel free to visit with them after the meeting and they're going to stick around as well and I will also. As Chad

mentioned, this project actually started with the initial contact with the commissioners and with the community by a grassroots effort in Tippecanoe Lake and that group of folks that contacted me and asked if we could get re-involved. We've actually been a part of this project several years ago and to helped them move forward with the formation of the Conservancy District.

Ken Jones: 00:07:24 I'm sure that if you folks read the paper or otherwise here locally, you were well aware of that effort going forward. They were able to complete a successful petition drive gathering the minimum number of signatures required to submit that request to the local court and then as that was going forward, a dialogue with other members of the community as well as the core group from Tippecanoe took place and the commissioners got involved and asked if they could park that for now; and look at the alternative instead of the conservancy district looking at the formation of a regional sewage system. The commissioners also thought it was a great idea. And I would completely agree that the project spread out to include the Chapman Lake area and the goal for that would be because of the cost of these projects and how they're put together. The interconnecting pipeline to the potential treatment provider, that cost can be shared by both parties as opposed to a little bit now a little bit later.

Ken Jones: 00:08:43 So, the commissioners asked us to get involved along with the professionals you see you at the table to help guide them through this process. My firm is about 30 years old and we've been doing these projects for probably 27 or 28 years of that history. So, we've got a little bit of a track record with success and then bringing the details together.

Patricia Zelmer: I'm Patricia Zelmer, I've worked with on multiple projects saying with Jeff Rowe of Umbaugh, and I've come to rely on them in as good partners in this process, which is quite complicated. So, we're in the process right now of completing the petition and one of the things that has to be a key to that petition is the engineering report. And this is the list of things that really need to be the minimum required to be in that petition is the name of the statement, which the district has not been named, a statement regarding the need for the district, which will be included in the Preliminary Engineering Report, the purpose of the district, which in this case is, the design and implementation of a wastewater project.

Patricia Zelmer: 00:10:02 Only a statement of how the district will pay protection of health, welfare, safety and convenience of the district residents.

		And that is already kind of assembled and being refined. And it will be in the final report, a legal description of the proposed district. Our firm has prepared that and that is being represented by the graphics in black and white on both walls. That legal description is probably going to continue to be reviewed to make sure it's accurate before the petition is filed. And then also, of course, a statement of how the board members are going to be selected and under the code we can have up to nine and as few as five and typically those are appointed by the elected officials for a living or in some cases you would call those elected officials and the eligible entity that is moving the information forward.
Speaker 2:	00:11:01	So it must be, like I said, accompanied by an engineering report, detailed map, an affidavit that we notified all of the potential effected governmental entities. So in this case it would be the County, both townships, letters of support from the county commissioners, health for state health department, homeowners, etc. And we are in the process of gathering those and that's going pretty well right now. We have received support from the local, Kosciusko County Board of health which was unanimous. I think we're missing maybe one signature there. We've also received support from the Indiana State department of health and we have that correspondence as well. And then of course the list of feeholders, which is every owner within that boundary. On those maps that you see is a list that will continue to be defined. We think we're pretty, good on it right now.
Speaker 2:	00:12:03	We haven't had a significant number of returned envelopes, but we probably will see some we'll continue to refine that working up towards petition filing. So here are all of the stuff from some middle all the way down to. Sorry, right off the bat. Maybe I need to adjust my unit there but all the way through that and to the bottom where the commissioner I know will issue his concurrence on the formation of the district. And then the order is issued in the district it is for, that's probably a 6-8 month process. We'd like to see it go a little faster in this case, but really it's going to be dependent upon the work load and what's going on at [inaudible] at the time that the filing of the papers, there will be opportunities for more public input including a public hearing. It's a compulsory that will be organized and directed by IDEM and their regional sewer district liaison and that will come probably in the first quarter of 2019. I would assume
Speaker 2:	00:13:18	Again, the current status is we are in the final push to complete the engineering report. We have been discussing the potential

for interlocal agreements with the Lakeland Regional grocery and the City of Warsaw for treatment of the waste after it's collected. And so that is ongoing and until that piece of critical information is available, I'm Jeff Brown could not do his work, which is to develop a proposal, a funding structure and a proposed rate structure. Maybe a couple of different alternatives there too that would then have to be included in the report to make the report final.

Speaker 2: 00:14:02 So a little bit about what we've learned about the community and where we think we can help you. Just so everybody understands we'd have to be a little bit familiar with how those projects are put together and how communities use them. So we can plan most completely. The average home generates about 150-300, maybe 300 gallons of wastewater daily at the high number. We would assume that that we would see around somewhere between 350 and 416,000 gallons of waste water generated in the community daily. And that is currently being deposited in the ground in all of those, those neighborhoods at some point. And from my background and from the history of working with this project, we find that communities really kind of run up against the wall when it comes to viable alternatives to continuing the status quo, which is using onsite septic systems.

Speaker 2: 00:15:08 The risks to health are possible. There are folks here that could speak to that today. You may already have a good understanding for that, the risk of the environment, the environment of the possible and the risks of drinking water supply real and uh, and again, there we may have some more information and you know, maybe based on questions that you might have. And of Course, one of the things that we're seeing that become a critical issue for a lot of the communities that we're working in is the preservation of the housing stock and home values. And we've seen this over and over again where a, lake front community has already gone forward with the construction of a community wide sewer system and then maybe one, six or seven miles away has, and we start to see a disparity occurring between home sales and things like that.

Speaker 2: 00:16:01 And that's a reality that we've seen over and over again. So what about the lakes? We've heard a lot of comments relative to the water quality at Chapman Lakes and a typical new lake and we don't know of any issues and we are all about looking for those issues. We know that the lake, especially Tippecanoe, is in the watershed of the typical new river. And so, you know, for us to be able to come up to you and say, yeah, this is a problem. We have done that type of analysis and we don't plan

to, that hasn't, that isn't what we were asked to do, that really is your responsibility as residents and caretakers of your own environment that is really your responsibility to make that call. So, um, right now we don't know of anything and hopefully that lasts forever.

Speaker 2: 00:16:58 And one thing that you can do to maybe offset that potential is to do something like what we're talking about today. That really is a collective and a community effort. Uh, we're encouraging you to consider your opinion of that and decide whether it's something that you support or not, but it really is a community effort if you're going to bring that topic up and then care about. So this is the current boundary that is included in the legal description that would be filed with the petition if no changes are made up till the time that the petition is filed. And this is the same Chapman Lake discussion and adjustments made. And I'm not sure at this point in time were there marble may be made. but that discussion continues, and so if these two maps getting changed, the legal description will be changed as well.

Speaker 2: 00:17:57 So here's what we found out in the current and that boundary in that area that we currently just showed you. We have it up on the walls. By the way, if you want to take a closer look at it, we found about 1,498 residential equivalence, Tippecanoe Lake and 894 at Chapman. And when I say residential equivalent, that is also including businesses and non-residential uses that we are assuming a multiplier for to get to that number. So most of the home sites that we've reviewed, and we've taken a very close and careful look at the home sites, have in both lake communities, actually are under the 20,000 square foot minimum, allowed by coordinates and Kosciusko County for home sites without sewer. So that is one of the first criteria is you should probably put a check mark in and your personal evaluation of this project.

Speaker 2: 00:18:58 The county health department has done a fantastic job of helping people overcome any concerns with their onsite system systems. However, even they will tell you that is a huge challenge and that probably won't be able to be continued for forever as a matter of fact. They're having trouble hearing. Oh, I'm sorry. I'm walking away too far from the microphone there. So anyway, the Health Department has done their best to help as many people as possible and that will continue until there is a community wide solution. One of the things we found was that 56 percent of the soils in the area are rated by the FDA as being unsuitable for septic systems and probably all of the good soils that are available already have septic systems in them. And that is pretty evident by just the cluster of development that

occurred in both lake communities surrounding each water body.

Speaker 2: 00:19:59 In many areas we found that the density exceeded six to eight units a day and some places are being an acre. And we found in some places it was actually as many as 10, so that's an issue. The Indiana department of health has advised us in writing that this cannot continue and it probably ought to change in some time in the near future. And uh, Alice Quinn might be able to help you with a couple of reasons as to why that would be during the comment period. So one of the things that we occasionally will do is our own evaluation. We did this in multiple areas. And here's one, if you live at Chapman Lake, you probably know where this is at, I believe it is definitely. The two yellow areas are a cluster of homes where that density that I just spoke of is exceeded.

Speaker 2: 00:20:51 In the first one area, one that is about two acres, um, there are 10 units and five units per acre. That's 10 wells, 10 septic systems, and all of the setbacks and isolation areas for the wells and the subjects all has to happen in that two acres. And so when you do the math and just this one area alone, when you get down to the bottom, you'll find that there's about 15,000 acres a third of an acre, I mean 15,000 square feet, a third of an acre in deficit. So there just isn't enough room to do what you need to do to meet the code required by not only the local health departments but by the state health department in the area too. There are eight units. And so eight subject system eight, the wells and the deficit is much more significant at 31,000 square feet, so two thirds of an acre.

Speaker 2: 00:21:49 So, uh, just a demonstration and you could probably do this at just about every corner of the lake and multiple communities, multiple, multiple neighborhoods. So we found the homes to be about 50 years old. we found the subject systems to the independent 25 years in age and probably some that are a lot of older. When, when a septic system reaches that 20 year mark or 25 year mark, they're pretty mature. However, in part time residents, you might be able to extend that system even longer if you take care of it. And well, the actual account of residential properties, by the way is 1,870. That's before we add the nonresidential equivalence. So there are a couple of other things that we need to be concerned about at the Tippecanoe Community and Chapman Lakes, a lot of them, besides a good percentage of them are in an area that probably is only about three and a half feet to four feet above the water table.

Speaker 2:	00:22:52	And so that's another constraint in your ability to continue to install and repair and operate an onsite septic system. as we kind of go through this, we want to make sure that people understand that this is not a, uh, this is not a sustainable model. it probably is going to have to change. And it's gonna take a group. It's not going to be something that you can do on your own. So the average home site not only needs to make room for that well isolation area, which by the way is 50 feet, you draw a circle around the center point of your well no septic system, including your neighbors, can be within that point, within that circle, according to code. And that makes it really hard for your local health department to overcome that, that issue.
Speaker 2:	00:23:45	So you also got to have grief for your home and your sidewalk and your deck and your garage and all the other improvements that you want to be able to enjoy on your property. So What's that lead down a lead up to either we're going to have a problem with, with replacing wells or we're going to have a problem with replacing septic systems. So in most communities they kind of lean towards the wastewater side and uh, because really we probably can't afford to do both. So septic systems usually are the ones that end up being sacrificed as opposed to the onsite water. So at this point in time, from what we know and Bob Weaver from the health department is helping us with an inventory of the document of systems. We don't have that from him yet. We are probably going to be able to demonstrate that most of the systems in the community, probably the greater majority have reached their maturity date. That means there is a replacement or repair in your future if your system is 20 to 25 years old.
Speaker 2:	00:24:49	So what we would, what we've always recommended for people is when you try to decide whether you're going to support a project like this to try to maybe do your own homework because we consider as a panel up here and say this is the right thing to do or this is something you ought to think about, but it really is much more effective for you to do this on your own. And there's a couple of different ways you can do it. We can provide and we will have this powerpoint presentation. By the way, everyone that is here that wants to get a copy of it can get a copy of it. We'll tell you how to do that. At the end of the session here, we would encourage you to contact a well driller and contact the septic system installer. Now these guys are experts at finding ways for you to be code compliant.
Speaker 2:	00:25:36	So if they can solve it, they will show you how to solve it. If they can't solve it, they are obligated to tell you. So that is probably the best way to really understand what your future looks like

relative to your onsite water well, and if it's compliant or not with your septic system. The other way to do it is to maybe do it yourself, which you can do. It's not that hard to do. Here's the list of links that you can access, including the code requirements from the local health department for your location of your well and your septic system and then there are installers on both the well side and a septic side that you'll find them this link that will provide a in this powerpoint. So one of the things you could do is you can go to the, to the customer. Yes. I have one, but maybe I'm close enough.

Speaker 3: 00:26:46 Um, how about if I. How about if I sit down and get the mic closer? He can, I could, if we had something we could put under the Mike Torres at higher for you. Would that help? Might help. Do you want to try that?

Speaker 2: 00:27:11 Oh, you mean turn it that

Speaker 3: 00:27:13 just reorient the. Sorry. I'll tell you what, I'll just pick that thing up so this might help you. Alright. Little bit better. Sorry about that.

Speaker 2: 00:27:42 Anyway, what I was saying is you can do your own analysis by, uh, getting on the website and gas county, navigate to the gis, download a map on your own or you can go into the, into the gis department at the county and have them help you prepare with. The idea is that if you access these other websites you will be able to figure out what you have to have. If you're on the lake, you have to be 50 feet back from the water's edge, you have to be five feet from your interior property lines and you have to be 10 feet from the nearest dwelling and then you have to be 50 feet from your well. And if you're handy at all with a ruler, a red pencil, you could probably do this analysis on your own. And so here's the standard. Again, it's available to you, not only at the state website that we have on there, but it'll be in this powerpoint if you decide that access. Once you do that and you are, you know, you'll probably find that in most cases you will have a very limited or no space left for the next septic system installation. And that's where the local health department comes in and assists you. And again, there will be things that they just won't be able to do. So the only other way interests to help you resolve this is to look at a community sewer system.

Speaker 2: 00:29:15 I've also included in this powerpoint and it's posted up on the wall some comparative costs analysis relative to the construction of an alternative septic systems and comprehend actually conventional stuff systems as a compared to what we

think the cost of the sewer is going to be, so take a look at that and that'll maybe help you a little bit of a doing the math down that decision making point as well as the other things that we spent some time on, and this has also been detailed, the is what is the need for the project and how, how long has this been going on world? We started when we first started looking at this, we found that it's been going on for well over 40 years and the first study occurring in 1970, there was a comprehensive plan done for most of the county.

Speaker 2: 00:30:05 And in that plan there was a very strong recommendation for sewers to happen at the Barbie Chain at Tippecanoe Lake and Chapman Lake right. They recommended that he dug a, some somewhere between 1970 and 1975. It didn't go forward at that point. Uh, the topic came up again in 1994. Another study was completed and this was done by the Stow County Development Corporation and they also recommended those. Both those studies are available to you and they're pretty complete and the analysis was sound and the recommendations were strong in 1995. The health department wrote a letter in Support of that project that basically I'm also stipulate in the kind of challenges they were having and why they thought it was a good idea. In 1990 $7, typically weight capacity study was completed and the recommendation goes through every sewer, every home within 7,500 feet.

Speaker 2: 00:31:11 And Blake, there ought to be a sewer in 2001. The very significant effort was undertaken for the typical new river watershed that includes these lakes. And that was a really exhaustive study involved a lot of people from the community. Maybe it was you were on that committee and the same thing was discussed. How do we overcome the challenges by others that are being brought about by our human encroachment into this watershed, and the recommendation was to look at a collection system for the lakes in 2007, Chapman Lakes group completed a strategic management plan for the lake. They also recommended sewer and they thought it shouldn't be done by 2015 in 2008. A feasibility study for environmental lodge was done actually did that study, and we were able to find a doable project here and that study also lived recommend sewers. In 2008, the Lakeland Environmental Task Force looked at a typical new lake and they were very, very aggressive. Now their recommendations and they felt like there were five factors that were challenging the lakes and that we're driving the need for sewage and they were overdevelopment small lots. Same

Speaker 2: 00:32:40 thing I've been knowing about houses, all types confirmed by the work that we're doing now adjacent to the flood plain and

we've seen that really be an impactful having communities and then no mandate for change. There was no mechanism at the time to change anything. In 2009, we completed a gpr, completed another study for a typical new leg that provided an implementation strategy and a timeline and that did not go forward at that time. And then 2016, 2017 working with a group from Africa, new lake that was seeking a conservancy district, we updated the study again and took the Tippecanoe Lake and found the same things that were discussed 47 years ago in the initial study. So this is not a new concept that is definitely not any less critical or important than it was in 1970 as it is today.

Speaker 2: 00:33:33 If this project goes forward, there are some advantages. Those advantages are mostly related to the flexibility that regained and your home site launch. That septic system is no longer an issue and when that septic system is replaced by sewer, you're concerned for your water, well a begIns to evaporate. The concern for being able to fully develop your lot for remodeling your home and bedrooms, uh, is, uh, is, is gone. And you're only really subject to the zoning ordinance and the development standards in the zoning ordinance and not an environmental issue. Uh, we have shown we haven't been able to, to, uh, to show in the past, and I haven't updated this study in probably five years, that there is some impact, positive impact property values. Now that doesn't say that it's going to immediately impact your assessed value because of something replacing your septic system with the sewer, doesn't have that impact, but it does have an impact if you are looking at the value of your home and someday the potential for selling it or passing it onto your family. So what the best thing that happens when this project is done is wastewater is collected. It is taken to a central treatment location. It is treated almost a drinking water standard and reintroduced into the environment with no impact to your health or the environmental health of the community.

Speaker 2: 00:35:07 So I put together some questions and I'm going to try to answer in this. Might answer a couple for you. Um, and, uh, and you might have to expound on this. So why should our community consider it? The taking a proactive approach to wastewater, uh, handling is one of the single things that humans can do to benefit the environment and to protect their drinking water resource and a, there isn't a whole lot else you can do rather than hope that you don't see a negative result. Uh, what would the project affected it if local officials officials go forward with it? I said the district is forward. It goes forward, informed. If you live within the boundaries of those districts, the sewer wouldn't get the bill and you would be compelled to connect to it. That is something that is a function of financing and it's a function of a

good and sound plan for developing a brand new utility from scratch and then operating it in the most cost effective method. The project timeline, I'm thinking that the best we can hope for is about 36 months out. We would probably be in the construction phase probably a year, maybe a year, maybe nine months after that, when you would see the first connections occur.

Speaker 2: 00:36:31 The project cost is estimated by a detailed engineering study. We've done these over and over again for multiple communities and it's represented by a preliminary design of at least three, at least two collection concepts and three treatment concepts and the idea is we're trying to whittle our way down or carve our way down to the most cost effective option and we use market what we find in the market relative to unit prices on other projects and we use our own experience. We talked to contractors and we look at what's happening in the local market.

Speaker 2: 00:37:10 How would the project be funded? Well, we're a long ways off from making a decision, but typically this team endeavor on your behalf to see comedy federal or state level grant loan package. We don't know what the availability for grants will be when this project comes to construction, but we do have a very strong feeling that we will have access to long term low interest loan money from either the federal government or the state, you know. Um, and then the bond is completely repaid by your utility rate. Typically, mrs jeff's area, but typically we do a lot. We do a lot of analysis to try to get to what we consider to be the lowest possible rating, to support the data and operate the system.

Speaker 2: 00:38:02 So here are a couple of thIngs that we're trying to address. I know that there has been some concerns in the community and questions that have gone unanswered and so we're gonna try to give you what we understand those concerns are and see if we can answer so concerned about installation cost and there's been some folks that are very concerned that somehow this project relates to significant high capital, a obligation for them to write a check at some point to connect to the project. The only requirement for the property owner in a project like the to make the connection between the sewer lead that's provided by the district utility and your whole. normally that is done by intercepting the waistline between the home and your existing septic system. You cannot spend public works. A dollar was put on your private property, so that is going to be your obligation, but it's our obligation to bring that connection point to you.

Speaker 2:	00:38:57	So right now there is no, we haven't determined whether the connection fee is going to be required or needed. Um, and in most of a brand new utilities in the initiating stages, not operation, uh, there is very few times we actually see the district officials implement the connection fee and we've heard numbers like between 1800 and $18,000 that none of that is based in fact and is not being so not anything that's been proposed so far on this project. So your obligAtion is to grab onto your waistline, bring it to the sewer lead, we're going to leave with you. That usually can be estimated at 28 slash $25 a foot for the pipe. And then the cost of abandoning your septic system, which means pumping it and filling it so it can never be used again.
Speaker 2:	00:39:50	A future rates and public input. And the concern for lack of control by the customer. I'm actually the opposite is true in the case of a public utility like this one. Your ability to provide input even far exceeds what your ability to put up the right input is to the electric company or the gas company because you have the right to elect the officials that will appoint the board and then you have the absolute right to know ticket every public hearing or public meeting that occurs at that district board and they do have them once a month and to set it to set a new rate or increase or rate, they have to advertise that well in advance and hold a public hearing. And so the input is clear. The other thing that is very important for you to understand is that these utilities are very closely monitored by the state board of accounts and the department of local government finance and they cannot operate on a system where they're collecting more than it takes to run the system, repair it, and take care of it over the license, the system, and there's just no way for them to do it.
Speaker 2:	00:41:02	New source systems and new development lead to new development, more condos, more people. Um, we've never found that to be true. as a matter of fact, what we typically see is that the community becomes more stable and a lot of times what's happening is homes that exist that could not remodel or add on or be approved, uh, to add existing bedrooms or additional bedrooms a are usually reinvested and as anchors in their community. We did look at the, um, the ordinance of constant pasco county relative to the concept of funneling. And I think this is what this comment or concern was, was worried about was that somewhere on the lake, uh, some existing property or land use was going to be replaced with a massive condominium project. And, uh, so we looked at chapman lake and we found two properties on tap lake that probably could

convert from a vacant property, is currently zoned probably a residential or agricultural, but not multifamily.

Speaker 2: 00:42:12 And they did have the requisite frontage for multiple units. But the property itself isn't large enough and couldn't support the number of units that Would be allowed under the funding law. And the reason that the funneling port is there is to protect the lake front environment and to restrict the opportunity to overuse the water body and that is and also to protect your land values. So that's part of the ordinance. And for those properties to change tepidly, there's a pretty extensive public input process that has to happen before that development could go forward. And um, we also looked at typical new lake and we really only found one property that could convert and to me it looked like there would be fewer units that would be the result of a condominium project as opposed to what's currently there. So I think it's a, it's a valid concern and we wouldn't want you to, to just brush that aside because it will be your responsibility if that's something you don't want to see happening. That is your responsibility to monitor that and to make sure that those zoning rules are followed through on. and that really is the public's responsibility.

Speaker 2: 00:43:31 A overcrowding and more boat traffic. Again, we haven't seen this happen in a, in 20, 20 or so, 28 years of working on these projects. The first one I was involved in back in 1990 was at diamond lake in cass county, Michigan, and a beautiful lake hawk, the same size as typical new lake and um, and bring with summer cottages and cabins. And what happened there. I didn't have anything to do with multifamily. There might've been a few that were done early on in history, but mostly what happened, there were a smaller homes and we're in a lot of cases of property owner would buy two and put them together to build a bigger home or they would buy a smaller home, tear it down and build a bigger one. And that has been an almost every community that we worked in. Generally the rule and I haven't seen and maybe it just the project I've been involved in that, that we haven't seen that happen,

Speaker 3: 00:44:38 uh,

Speaker 2: 00:44:39 concerns for requirements to connect. And I've talked to a few people, more than a few people about this concept. Their concern is that if we build a sewer and you are not within the district, remember if you're in the street, you will be compelled to, if you were outside of the district, um, you would have to ask permission to be connected and the reason that that permission has to be granted and normally it will come with an extra

territorial contract with the district board because unless the boundaries of that district or changed your ability to enforce their own adopted ordinances outside of their district boundary is pretty much luke warm. So typically districts don't allow connections outside of their district boundaries for that reason. There really isn't any way for the district board within that district boundary. And if you were right across the street to compel you to come back, there's no legal way for them to do that. You can ask and they might give you permission. But that's about the only way,

Speaker 3: 00:45:47 uh,

Speaker 2: 00:45:47 concerns for district in spanish. And there was a concern that when we get this petition prepared at the commission, your sign and that goes in, that I know will turn around and say this not good enough. We want you to expand to a much larger area. Um, I'm not a lawyer. I got, I have two of them sitting up here, but from my review was that code. It does not list, I know as an eligible entity in the parties that are allowed to establish the boundaries of the regional. So each district only local a fiscal bodies like, like the county council, the county commissioners or the township officials can make that call. So I don't tend to just think that's a non issue if you're concerned about it, I just can't see that happening.

Speaker 2: 00:46:36 So here's the project point summary and I'm coming to the end that when I've been at district boundaries are proposed as we see them now. However, their commissioners could decide to make minor changes going forward until the petition is signing a. Currently we anticipate or bob customers 2,392 residents equivalence. A product project costs estimated at between 40 and $42 million and that really is dependent upon what treatment resource use we are targeting or rate of somewhere between 75 and $85 a month. And that's, that is pretty typical right now for a lot of communities and that's going to be very dependent upon the cost of money and whether we receive any grants we are proposing and no, no need to implement a connection fee. The district board could change that but we are recommending that at this time there will be a permit fee as third word as there was in the late one project, I think it was a hundred and $25 or $75 or something like that and you had to come in and buy the permit and that got you the ability to connect and it also got the instruction taking care of customers will be required to have a pump.

Speaker 2: 00:47:53 Their system and abandonment onsite dislike I mentioned. And then connect to the sewer lead that we set up at your property

system is sized primarily to serve the district boundaries but we do just, just to be proven it, the are committee incorporating some of the potential for growth because there are some peripheral areas outside the proposed district. Like someday whenever that might be, could use that out. Hey, can you say a few words about resources that might be available for lower income or fixed income? Have something.

Speaker 2: 00:48:30 So here's some, here's some helpful links and then here are some resources that you should be available and there's probably some more. And the question that we get and every project is, what about the people that are on a fixed income and can't afford to pay for the connection? Here are a couple options for you. Um, the ice hva, Indiana community housing development authority provides fundings for home improvement grants and loans to real services here in mercer county. That is the pipeline. I'm sorry, a costly haskell county that is the pipeline are located and you can, you can, you can, um, you can do a pre app and get involved in that program is something that is in a income qualifying. It is also restricted to owner occupants of their homes. So if you are a rental, if you have a rental and you wouldn't be eligible, um, but uh, that, that program can not only help you pay for the cost of a connection that it's also help you maybe put a new roof on your whole replace out of date and windows or other energy efficiency type things.

Speaker 2: 00:49:38 And uh, I believe that. I'm not really sure what, what the cap is on that and I think it's based on the amount of available funding. And then the other one is through the usda rural development, their office that search this area is in columbia city and they have a program for home rehabilitation and we have routinely seeing this program access for this very same reason. And I think, uh, between grant and loan, the total of somewhere in the $27,000. Usually the connection to a sewer or the grant if you're looking for a grant, is the top 7,500 bucks. So I doubt very much that many of you, if any of you, whenever see your sewer connection in the beginning or close to that number, unless you're, have some extraordinary circumstance. Um, also the, the thing that I would mention is that there were some people that said, what about the fixed income folks that would have a difficult time, a 75 or $85 additional out of their budget.

Speaker 2: 00:50:42 We've had a couple of these projects that resulted in property owners who, um, who understood that there wouldn't be a problem getting together and developing a private phone to help offset the costs for those that were in need. And um, again,

		that was not, that's not something that the district board or local government can take off and do. That's something that has to come from the private part is the other option is through the township trustee, the township, one of the township trustees, um, responsibilities just to administer assistance to low income families for utility bills. And uh, and that can be accessed as many as three times a year.
Speaker 2:	00:51:30	But again, it probably depends on the amount of available funding. So you would have to go see your or discuss that with your township trustee if you, if you had that meeting, but there are resources and um, so, um, and if you, if you need more information on that, again, it's in the powerpoint and we'll be, we'll be giving you the opportunity to get a hold of this material. So here's a potential schedule and again, it's out there, you know, 36 to 48 months I'm thinking and maybe sooner if things go well moving forward. This email address for the dominant here at chapman, at jp jpr, one source.com is where you can send me know and we will forward you a link to the powerpoint and you can also ask any question you want a right up to and including, hey, can you come out and look at my site because I got a concern because we will do so. Other than that I don't have anything further. And so we're going to move him to a question with question and answer this and um, and statements. And we did, we didn't ask you to sign in. So if you've signed in, feel free to line up and please state your name before your comment before your question, can you kind of trying to attract that keeping you so notes. We are recording again so we will have enough.
Speaker 2:	00:52:59	Thank you so much. So microphone over here.
Speaker 4:	00:53:12	One over here.
Speaker 5:	00:53:25	And is this going to be private or the state?
Speaker 6:	00:53:38	Um, the, uh, this project is public work in front of deck, so it is subject to the word the to the requirements of the state board of the council and the department of local government finance, which means that the project will be preliminary preliminarily designed than final design and then funded and then put out to bids. And so typically we would see some pretty significant construction contracts issued a, but it was 100 percent competitive.
Speaker 5:	00:54:11	Well, what happens if they go belly up?

Speaker 6:	00:54:14	Uh, in the, in the construction contract there is a requirement for anyone that is bidding the project to provide a financial statement that shows their financial qualification. Once the contract is assigned, the uh, contractor is required to provide a performance bond that covers the entire cost of their contract. So if something were to happen to that company, uh, we would go to their insurance company, collect on that bond and hire another contractor,
Speaker 5:	00:54:48	then we're stuck in limbo.
Speaker 6:	00:54:52	That would be the worst case scenario that I can tell you that I've never been involved in a project where that occurred.
Speaker 5:	00:55:00	No, I've got a mound so. And they're not cheap. So my stove, um, be required to hookup.
Speaker 6:	00:55:08	Um, you could seek. And by the way, um, that is one thing that all of the property owners within the service area are entitled to, is to file for an exemption if they qualify for the exemption, is for homeowners that own septic systems that are less than 10 years old. If the system is less than 10 years old, you're required to get an inspection done by a qualified inspector and then issue a report and file for an exemption with the district board after the board is foreign. If you meet all those qualifications, you could be exempt from connection for 10 years and then for five year increments thereafter up to 20 years if you can continue to show your system as well.
Speaker 5:	00:55:52	Good working order. Okay. That's all I gotta say outside of time against it. Hello? Robert peyton. So there are 2000, 392 residential equivalent so that if we take $42 million, that's $17,558 per residential equivalent. Is that aside from getting grants, that type of thing, is that money needs to be paid by each person right up front or do you break it out? Yeah, I mean you're talking about people getting help and assistance. That's quite a chunk of money per house equivalent.
Speaker 7:	00:56:44	Yeah. So, um, ken touched on a little bit about the financing piece coursework early pretty early. I'm in the process at this point to know it. If the project moves forward, who the funding agency will be a projects as these are typically funded through a loan, could be a combination of loan and grant through either the federal government or the state. And those loans are typically anywhere between 20 and 40 years. So to answer your question, no, those costs are paid up front. They are spread over a 20 to 40 year period to help make it a more economic

Speaker 5:	00:57:23	and is there probably interest passed onto the resident or
Speaker 7:	00:57:28	right. So the, um, the monthly bill that everyone, the residents would pay would be made up of essentially three components. One is the operation and maintenance costs of just operating the system on it on a day to day basis. I'm also a debt service, which would include loan repayment, which would include a component of interest. Typically these projects are financed at a pretty low a subsidized interest rate, again, either through the federal government or state. And then the third component is setting aside funds for a future equipment replacements. So capital needs in the future. So I'm out of those three buckets of costs, um, every customer shares and those costs, uh, based on, uh, edu or equivalent dwelling unit basis.
Speaker 5:	00:58:24	Okay. And um, I was just earlier in the presentation, there was something about how there was really no sign of pollution or no, whatever in the lakes. I'm just wondering that comment. I was trying to put it together with that we need, we needed this for 40 years. But is that because that's not because lake pollution.
Speaker 6:	00:58:50	Oh, we're not aware of them.
Speaker 5:	00:58:53	Not aware of any coalition. Okay. So it's just why, what's the need then if it's not pollution?
Speaker 6:	00:59:01	Um, well, um, the, the need for the project is really, again, it's been well documented but it mostly has to do with the density of development and the fact that I'm in, in most cases in several cases around the lake and in that community, whether you're on the lake or not actually, your ability achieve the standard requirement for some isolation from your well and for the installation and good operation of your septic system. Is it tube? And it's just not possible. Think about the city of warsaw for instance. They've had sewer for 50 years and a lot of cases, the density of development and at the tippy canoe, lake community, and the chapman lake community is the same or even more than in that city and it's just a, it is a, it is a public health, uh, driven, um, issue. Okay. So one last question. So you're a consumer, you represent a construction firm or you have a construction firm. Are you doing just consulting for this project or do you hope to get the actual job? We will not build it. No, we are not a construction firm. We're a consulting engineering consulting engineering firm. Okay. So you're consulting at this phase but you won't be a part of the actual construction or will you be. It's way too early to say that instruction. Okay. All right.

Speaker 8:	01:00:39	Yes. Hi, my name is vicki chrisman. I live on oswego lake and I had a couple of questions. First of all, I noticed the maps didn't include standing lake. Is there a reason for this? I mean, it's right close to us.
Speaker 6:	01:01:03	We haven't been, we haven't been asked to include it.
Speaker 8:	01:01:06	Pardon?
Speaker 6:	01:01:06	We have not been asked to include it if it's not included on that map, we haven't been asked to.
Speaker 8:	01:01:11	Who asks you to do it? The residence
Speaker 3:	01:01:16	initially. Initially, initially
Speaker 6:	01:01:20	we concentrated on the typical new lake area and that was with the conservancy group, uh, when, when the county commissioners asked the group that typically canoed to, to stand down until they could move forward with the regional. So each district, the, the areas that were included were a direct result of our direction from the county commissioner.
Speaker 8:	01:01:45	Okay. I guess. Okay. I had another question there. I noticed north of lake tippy, it looks like it includes a bunch of empty farmland up there. Is that right? Um, and if so, somebody's got an idea of building a subdivision or something
Speaker 6 Ken :	01:02:05	We don't know. We don't know of any plans for a subdivision.
Speaker 8:	01:02:08	Well, are they going to charge the farmers to hook up when they're going through their field?
Speaker 6:	01:02:15	Typically if you own a dwelling or you own 10 acres or more, you will be exempt.
Speaker 8:	01:02:22	Okay. It didn't show any on the map. I didn't know. Okay. You brought up the conservancy. Okay. I was told...I've been told different things, but I was told that the conservancy is done, over, void and then I was told it was not. So, if it's not and the regional is voted down, it will probably automatically go to conservancy. Am I right?
Ken		That's my understanding.
Speaker 7:	01:02:55	Yeah, I can, I can make a kind of a response to that. Yeah, at this point in time, the group that had originally started the

conservancy process, are there, they're...they had filed their petition with the court, it had gotten set for a hearing and that hearing has now been continued indefinitely. So that group, if they chose to do so, could at some point reset that hearing and start that process again? In conversations with that group they soon would. That's what we've come down to is that the accounting has basically said, well, we'll push forward with the regional sewer district and then at that point then the conservancy district would not be necessary. So that's basically where we're at. So, it's not going entirely, but it's not at this point moving forward.

Speaker 8: 01:03:58 and I have one more quick question. Well maybe two.

Ken We have a two minute time limit.

Speaker 8: Two minutes? Oh... I'll hurry. I'll talk fast. Okay. If this sewer line runs down a road, one side's included, the other side isn't, but they're within 300 foot of the sewers, are they automatically made to hookup?

Ken: No.

They're not? Okay. That was a question also. One other question real fast. There's a yellow line on the map and what's it called? Low pressure. What does that mean?

Ken: 01:04:39 One of the concepts that is being considered for collection is a low pressure sewer that had the exact same system that was just recently built in the Barbie Chain Community. So, that is a series of small diameter pipes energized by low grinder pumps, low pressure grinder pumps that are installed probably every two homes or every three homes or two or even in single homes. And so, there's a network of those pumps that operate and energize that system.

Speaker 6: Are there supposed to be grinders for every connection?

Ken: No.

Speaker 6: Oh, there well.

We, even in in the Lakeland System, we try to put two homes to each pump station if possible. The idea is to reduce cost and those pump stations are well equipped and capable of handling that.

Speaker 6:		Okay.
Ken:		Thank you.
Chad Miner:		If any questions don't get answered during this part, I know, I think Ken's going to stick around, I'll stick around, so we can answer questions afterward as well.
Speaker 9:	01:06:00	Sir. My name is John Tyler and we've had some discussions about the conservancy district and I was one of the members of that group that had the Tippecanoe Lake Sewer initiative that began that conservancy district. We have, as part of that process, I want to remind the commissioners, but I understand this is not about a conservancy is about a regional sewer district, but that process of establishing a conservancy district required us to get petitions of freeholders from actual individuals that live within the proposed district. And we did receive the number to move forward with our conservancy district and I want to make sure that those over 200, I'm sorry, make sure that over 625 parcels that are representative in that petition, that we recognize those as part of this process for the regional sewer district, that the Tippecanoe Sewer initiative group made a commitment to move forward with the sewer district and then we still want to continue with that to move forward with the sewer district.
	01:07:02	And we have a petition that represented true residents within the district that needs to be recognized in this process also. They signed the petition recognizing those conditions that Ken has laid out, lot sizes, soil conditions, zoning conditions, and have determined that they want to support a sewer district. They still have that desire. Even groups that were in opposition to the conservancy district recognized that desire and have brought forward this petition to move forward with a regional sewer district. So even those that are opposed to it, still want to get to the same place. They still want to get to that same location of a sewer district. And so, I just want to make sure that the county commissioners and the county councilmen and women that are here and understand that that petition is still there, that we still represent them and we still want the sewer system in these communities.
Speaker 10:	01:08:06	Good afternoon. My name is Mimi Achy and my question is in regards to the installation of the grinders. I have some friends that just went through a process
Speaker 10:	01:08:16	like this. They installed the grinders on top of the land and what happened is they are very, very noisy. They don't open up their

windows at night like they used to. If the grinders were installed underground, it would be quiet. Now, if they're not gonna, put those grinders underground, how are you going to suppress the noise that they make?

Ken:	01:08:43	We can answer this question pretty easily. The grinder units, the pump units that we use are...and anything that we would recommend that you use are designed to be constructed in 100 percent on the ground. The only thing that you will see is a plastic cover and its control panel. Its power dropping into the control panel. Those...accordingly, they're virtually silent.
Speaker 10:	01:09:15	Okay. Thank you.
Ken:		You're welcome.
Laura Hopkins:	01:09:19	Hi, I'm Laura Hopkins. I live on Chapman Lake Forest station and we've had several meetings about this sewer district and we had David Hawkins attended two of the meetings. Now he is on the committee who makes up the rules that I down enforces and he tells us that if a sewer line passes within 300 feet of even one house in an addition by Indiana state law, every house in that edition has to be on the sewer. So how can you draw a map that has some houses in lake forest on the sewer and other houses that are not, or are they just not get sucked in at a later date?
Ken:	01:10:08	I'm not sure how I can answer that other than to tell you that he's wrong,
Laura Hopkins:	01:10:12	He was on the committee that makes the rules, but he's wrong?
Ken.:	01:10:22	The code is clear. And...just because. And it mostly has to do ma'am with the fact that when the regional sewage district is formed, it becomes a municipal jurisdiction, and within that municipal jurisdiction, they have rules, they have the ability to adopt ordinances, they also have the very significant ability of deciding who they're going to serve and who they aren't going to serve, and at some point, in time, that boundary has to be drawn. And so even if we were to build a part of their collection system outside of their district boundary, they have the right to occupy that public right away with their district owned sewer. Even if that sewer is outside of there, it belongs to them. They still cannot require you to connect to it. Here's how that would work. Let's say your septic system is perfectly fine,

Ken:	01:11:20	you have no need to connect. You will not have to engage with the health department to repair it or otherwise. So that question relative to what the state law says about the 300-foot rule never comes into play. When it does come into play is when your septic system fails. You go to the health department or your contractor goes to the health department and says hey, this lady's septic system failed, I need to get a permit. The health department would have the ability to say, "well, wait a minute, she's within 300 feet of the sewer. I'd like to issue that permit and I will issue that permit after you bring me a letter from the regional sewage district that says that you can't connect". And again, it's been my experience that regional sewage districts do not usually reach outside of their border for that purpose, because their ordinances don't apply to you unless you're in their jurisdictional area.
Ken:	01:12:16	So now, if you had a failed septic system and you had no alternative, you would have to write a letter and probably go appear to the district, in front of the district board and request that and they would normally have to get into some kind of contract with you until maybe some day the boundary could be changed to include you, but the only way the boundary can be changed is to go through the same exact steps that we're going through now, very time consuming and costly to change. So in that particular case, if you're just outside the border and even if the sewer is within 300 feet of your property line, like the code says, it doesn't mean that it's available to you. And that is the key qualifier, it has to be available to you.
Dan Swanson:	01:13:07	Certainly. My name is Dan Swanson. I'm on James Lake, otherwise known as Little Tippy. I would first like to thank all of the people who have no self interest in this project for trying to help the water quality, the drinking water quality of our community and recognize the fact that this has been a need for 45 years that we do this. I would like to just first give them a round of applause.
Dan Swanson:	01:13:38	Thank you.
Dan Swanson:	01:13:42	I would like to separate too the fact that this is not necessarily all we all want clean lakes, but this is more about the public health issue and recognize that that's the major thing that we're going for here is to try to pay this forward so that our community is a good community, it's a safe community for our kids and our grandkids. And I would also like to ask you, I know this has been, you know, feasibilities have numerous times...has the project cost going down since these were originally created?

Ken Jones:	01:14:21	When we reviewed the original study that was done in 1970. The project estimated for these two particular legs was about 50 percent of what it currently is estimated at. And right now, I would say that kind of all bets are off relative to what could happen 20 years from now. I wouldn't want to hazard that guess.
Dan Swanson:	01:14:54	Have interest rates been ever been lower?
Ken:		No.
Dan Swanson:		Okay.
Ken:	01:14:59	Right now, and this is more of a Jeff Rowe topic but the state of Indiana and the federal government is really energized and trying to do what they call septic system mitigation projects, a septic system elimination projects and they have been very aggressive. We have no fewer than three projects right now that were funded by the State where they recognize that property owners can only afford so much. So, they're doing their best to provide us with the best interest rate for the longest term and they're doing their best to mitigate those rates... everything they can do to make this more affordable. And they are... you know we have actually, we have one project that's been bit, we're getting ready to award in Lagrange County and we have another one in Steuben County and it's about the same size. It's probably... both, between those projects represent some $35 million dollars-worth of public works projects and those are are both funded with interest rates that we've probably not in our careers collective careers seen. So, it's a... the state and federal government are really stepping up on this topic and it mostly has everything to do with the public health issue that's tight.
Dan Swanson:	01:16:30	Thank you. I guess I'd like to just leave one last comment and that is I'm not a huge historian, but I think like 2,000 years ago, Rome use to run their stuff down in the gutter and I'm not so sure that with the quality of soil that we have in our communities and the saturation level when we get the rains that we do that we're much different than Rome with the current system that we have. Thank you.
Elaine:	01:17:05	Hello. My name is Elaine and I've done research
Elaine:	01:17:10	and I want to know why we have to destroy our septic tank. Why can't we use our septic tank as this first stage that it actually does? Jim Davis of Garfield uses this system where his

		septic tape does its job. Paytona Bay also uses the same system Our grinders, will not be stuck in, they're gonna last a lot longer and since all of us have to pay for our grinders, we want them to last a long time. So, if you use our septic science systems as they are, trying to disconnect them from the drain field, put them the grinder and it only pushes water that's going to be more economical for you to break it down because the septic tank itself, is doing its job. Well, Wawasee also uses the same system? Why do we have to destroy, fill our septic tanks and render them useless?
Ken:	01:18:27	There is a collection system concept that is called septic tank effluent pump system and that does use a, what we call a trash tank or a septic tank as in some initial treatment component. However, it is rarely, if ever, recommended to use the existing tank on the property and the reason that is true is that the regional sewage district board under their authority, is going to be responsible for the treatment of that waste, whether it's the solids in the tank or the effluent being pumped or the combination thereof going through a grinder pumps who are low pressure sewer or gravity sewer they are still responsible for it. So they have to be the operating authority of that new utility has to know absolutely that the project and the components that they built accomplished what they set out to do.
Ken:	01:19:33	And the problem was they had, and I get where you're going with this because it makes sense to me, but the problem is that we would not be able to guarantee or to be able to even recommend the use of an existing septic tank without having some concern about the potential for it to continue to leak if it's already leaking or for it to develop a leak. So, basically what we're looking for is a stamp in time where we're going, by the way the septic effluent system uses a brand new, a poly tank, that is 100 percent watertight inside and out and we can't necessarily say that about a septic tank unless it is also poly or it's brand new and even in that case we probably wouldn't be allowed to use it and this is not only a function of the responsibility of the district board, but it is also the responsibility of meeting the standard required to permit it. So, I get where you're going and it makes sense to me because it...you're paving to save money and I get that, but we have never been able to approach that in a permittable way.
Elaine:	01:20:48	So why is, Wawasee allowed to do it and not us?
Ken:		I don't know

Elaine:		Because they use their septic tank and why are we not allowed to do that? We are no better than they are and they're no better than we are.
Ken:	01:21:06	Yeah. I really am not familiar with it ma'am. I wouldn't be able to answer that.
Elaine:	01:21:10	Okay. Thank you.
Ken:		Thank you.
Ken:		Sir.
Monte Fisher:	01:21:16	Hi, my name is Monte Fisher. I am one of the residents of Old Widow Place Blocks C, which was kind of well above the light up on the far northwest corner of what's the proposed district and I'm wondering, it looks like based on where they're going to have to run the line is going obviously have to come through our neighborhood and to get down to our neighbors, which we know several of them down at the Lake and are not opposed to the sewer itself, but wondering exactly the process. We have no need for and all of our properties have half acre lots, well above the waterline. Flooding does not occur that there's no need for it. All of our systems work fine. What exactly from what you talked about the exemption to be exempt. Did you have to be 10 years or less for the septic system? Most of these places were built in the early to mid-nineties. So, obviously that's out. What is the process to somehow have the line, you know, run in a different direction so that, you know, we obviously have no need for it, I have no desire to connect to it. Uh, how, how would that work?
Speaker 6:	01:22:27	Well, the uh, the final design of the project is quite a ways off yet and the goal always is to try to provide the most cost effective system and the routing of that is pretty important and um, but for me to probably even offer you any assurance that that change could happen at this point we would be out of the question and uh, not maybe you could stick around a little bit after the meeting and you could point to that area. Maybe we can a little bit more detail
Speaker 7:	01:23:06	about it. So thank you. That's all I have. Thank you. Appreciate it. Bob. Arena. I was looking for a little bit more clarification on the financial aspect of the project. Assuming, and again maybe touched on it a little bit from the aspect of some of the projects that you've already been involved in recently. I'm assuming that from a federal and a state level, some of the grants are probably

		limited in regards to the scope that they are offering. So I'm assuming that the district would probably have to finance the project mostly box that they would sell and obviously the interest rates are low and they're going up, um, per the statement this past week. I think you were indicating $40 -$42 million for the project and assuming you even do that in phases and I think was it...300 something odd residents would be in the district that would be hooking into the system.
Speaker 7:	01:24:08	Was that around 300? What was it? What was the number of residents connecting
Ken		On actual residence there are about 1,870, about 1,900.
Bob		Okay. So, 1,900. So, I'm thinking, depending on the structure of the bonds, let's just say 41 million and you have a monthly service fee, you have a, I think there was $100 for a permit fee and then outside the cost of a contractor installing their grinder pump in lateral line to hook in. It would seem to me that the, you know, without a connection fee, you indicated there was no connection, the initial connection fee but permit that the project wouldn't be underfunded, there wasn't enough revenue stream and then once you consider the fact that, you know, you have maintenance of the system and then you have overhead of employees that have to maintain the treatment plan, it just doesn't seem like it's feasible from the standpoint whether it's a 20 year bond and a 40 year bond, a of $40 million, it just doesn't seem like there's going to be enough money being generated out of those 1800 residents.
Bob	01:25:23	And can you clarify that then? The process that you just described of coming up with the financial model is the process that we're going through now. So, we don't have a preliminary estimate at this point but I think as Ken mentioned earlier in the presentation that for similar projects that we've seen that have been funded, those monthly fees range anywhere between $75-$85. And we're certainly not a...That is not a hard and fast number at this point, obviously, but we're going through that process ultimately before the district can close any financing either with the federal government or the state that we have to put forth in case that demonstrates that the district would have the ability to not only be the debt service on the loans, but also pay for the ongoing operation, maintenance of future replacement costs of the assets. We will be putting those numbers together.
Speaker 7:	01:26:27	and depending on where those numbers end up, also depending on a household income levels in the area and some

other factors, we present that information to the funding agencies, whether it be USDA federal government or a state revolving fund loan program and they make a determination based on those factors and availability of funds as to whether how much of the project would be funded through a long-term loan or whether there would be some grant availability to apply to the project. So, we will be going through that process along with JPR to estimate what those total capital costs are, what the ongoing operating costs will be of the system and what allowances need to be set aside to replace those assets as they get further along in terms of their life cycle. So, we'll be going through that process but at the end of the day, first, we can't move forward unless we have a viable financial plan to be able to present to the funding agencies.

Speaker 3:	01:27:51	Sure.
Speaker 12:	01:27:53	My name is Larry xxxx. I live in Lakeside. I would have a question. We've got five seniors in our district there on 7th and 8th and none of us can really afford this probably and I just want to know how the middle class ever got any help for anything. I mean we've never gotten no help. They're not going to help us. The government is not. And most of us has got medical bills that's so high now, we can't afford it. And here you always are asking us to pay more, we're blocked from the Lake at least. And you took Sawgrass out of it and left us in it and I'd like to know why.
Ken		I'm trying to remember where Sawgrass is...okay, I remember where Sawgrass is.
Speaker 6:	01:28:42	Sawgrass was never included in... that is that Tippecanoe Lake? Right? That particular subdivision was not included, mostly because a development standard that they were able to achieve was in compliance with what the state and local governments require. And most of those systems would probably be exempt anyway, so they are on the edge, they're on the peripheral, we could serve them at some point in time if they're needed or if they need it, but that's the reason they were not included. It actually weren't included in the efforts with the conservancy district either. But...and again, I'm not really familiar with the neighborhood by name. You can probably point to it and let me know that. Again, the goal of including the areas that we've included are primarily related to health and human welfare. We do have a high concern for those that are on fixed incomes and you know, we try to find ways in every case and every project to try to keep the rate as low and as affordable as possible...and again, there are some resources available. I can't honestly sit

here and tell you because I don't administer those resources, but we would help you to try to get access to them.

Larry: Thank you.

Ken: Thank you...sir.

Kevin: 01:30:23 My name is Kevin Edmonds. I live on 450 North just north of Chapman Lake, east of 300 and my wife and I, we own nearly an acre and for people who need to visualize how big an acre is, go to the high school and look at the football field thinking an idea of what I own. And yet I'm still in the sewer district. I don't have a need for it or a want and as it's been explained, hinted on today and at the June meetings that it's not a water quality issue right now and that is about laker-lifestyle enhancement. I guess, I don't think I should have to pay for laker-lifestyle enhancement. And I think it's just a really pathetic reason for this project. Ten years ago, county commissioner Ron Truex promised us that if we didn't need a sewer, we wouldn't get a sewer,

Kevin: 01:31:17 we didn't get one, we wouldn't pay for one and I just think you need to look at your boundaries a lot closer and be more precise on where you're running it and who really needs it or who wants it and some of us have been told that we were out of it, have been verbally told were out of it, but yet the maps still has us in it and I just wondered is that ever going to change? I'd say as of now, I have to assume that I'm in it and in closing I just say, it just looks like the neighbors and I who say have the large lots that were just in it for the money grab for the lakers.

Rick: 01:32:09 My name is Rick xxxx

Rick (cont.): 01:32:10 I live on Chapman Lake Drive and I've been in numerous council meetings and then a lot of other meetings involved and I want to state right up front, I am against the sewer project.

Rick (cont.): 01:32:30 This gentleman that has

Rick (cont.): 01:32:33 talked about this and representing the sewer. I attended the meeting at Chapman Lake, the first one there was and after the meeting, he can say himself that he stated that he didn't believe that there was hardly anyone against the sewer project at Chapman Lake. Since that statement made by him, I've been all around the Lake, talking to the people at Chapman Lake and asking for their thoughts on whether they wanted it or not. In

		my opinion, 70 percent of the people of Chapman Lake do not want the sewer project.
Rick (cont.):	01:33:15	I imagine through a show of hands of the people who don't want the sewer project.
Rick (cont.):	01:33:21	Am I wasting my time? Do you want the sewer project or not? That should give you your answer.
Ken:		Sir
Rick:	01:33:37	Yes.
Mark:	01:33:37	Thank you for allowing us this opportunity to present our thoughts and opinions here. I'm going to repeat some of the same things you said because I didn't have... I was not privy to your notes ahead of time. So, my name is Mark and I'm a legal resident of Valparaiso, Indiana, however, I do own, our families own a cottage on James Lake or Little Tippy since 1994. Since then, I've been a member of LTPO, Lake Tippecanoe Property Owners serving as President for two years. I helped them for what is now known as The Watershed Foundation, also as instrumental creation it goes on Big and Little Tippy. I'm a supporter of the center of lakes and streams and numerous environmental organizations. Finally, I was on the board of the Valparaiso Lakes Area Conservancy District for 20 years, serving as chairman for 10 of those. Besides providing water and sewer service and eliminating septic systems,
Mark (cont.):	01:34:32	VLACD created the first erosion control ordinance in the state of Indiana. Now I share this information not to receive accolades, but to give you a sense of how my family and I are committed to being proactive in maintaining and enhancing water quality today and for future generations. This struggle for sewers has been going out for, I thought it was nearly 25 years. Obviously, it's longer than that. Had to come to fruition then, the cost would have been much less expensive. Our conservancy district, what we did an 83, there were grants from EPA and HUD. We did a two and a half million-dollar sewer project, our local cost was 100 grand. Those of us that live in low lying areas and have our septic systems washing into our lakes during high water events which appear to be coming for more cap because of the soil types around our lakes, our septic systems eventually leach into the groundwater and ultimately into our watershed.
Mark (cont.):	01:35:36	This increased phosphorous load leads to additional maximus weight, the weeds in our lakes. I guess that's the laker lifestyle.

		Those of us who were concerned that there would be no control over any service increases by a certain... there are some that are conserved, there can be no control over service increases by our service districts. However, the board would make those decisions in a public form with public input. There's a concern regarding new developments with the advent of sewers in Valpo, we did experience some of that. However, Cass County has a lake access ordinance to prevent funneling. Lakes are like roads is they have a finite capacity. In some states, notably, Arizona must leave the lake before another can be launched. Finally, sewers are likely to increase property values, especially if good lake water quality is maintained. And closing, we have an opportunity to make a positive impact on our local lakes. Currently, the state of Indiana has financial programs for projects similar to what is being proposed here. Would be shamed not to take advantage and reduce our local costs if not now, then, when? Thank you.
Lyn Crighton:	01:36:59	My name is Lyn Crighton, I'm the executive director of The Watershed Foundation or a nonprofit organization that's existed for 21 years with the purpose of protecting and improving water quality in our communities. We have in that 21 years, worked every day, to take action to protect and improve water quality and we do that by preventing and stopping pollution by working with land owners. Land owners such as a lake residents, town residents, city residents, and primarily farmers and we have worked in close cooperation with those land owners to do everything that they can to conserve their land and our water quality. We've done over 200 projects in that time and this project is a very large one, but I consider it just to be another effort to maintain and protect the health of the water in our community for today and the future. That's all I have.
Lyn Crighton (cont.):	01:38:04	Thank you.
Barb:	01:38:09	Hi, my name is Barb Fabian and we just recently moved into the lake side area, T-6 Lane. My question is if these studies have been going on for 40 some years, there are many developments on all the lakes around here that have, you know, come into existence within that timeframe, from the 40 years before to now. Yet, somebody in Kosciusko County has continued to allow developers to continue to build these developments and put in septic systems when you, yourself said the ground is not suitable for septic systems. So where does that leave us now? We didn't build the house. We bought a house because we... and our septic was totally inspected. They pumped it out, looked at everything. It didn't even need pumped, but you

know, and we had it thoroughly inspected and it's great, but it's not within the 10 years. So, somewhere along the line, county officials have allowed development to continue and to continue and to continue putting septic systems in and said, hey, that's fine, but now when, you know you're saying you can't do it anymore. So, I think a lot of this has to do with development and I'm not sure I want to see any more development on my lake.

Barb (cont.): 01:39:44 Thank you.

Barb (cont.): 01:39:49 The only other question I'm going to ask the big elephant in the room here, I'm going to address it. Is this even up for a vote by, by the residents or is this a done deal? Has it been decided? I want an answer.

Barb (cont.): 01:40:05 Thanks.

Speaker 14: 01:40:09 From a legal standpoint, that's being conducted, today is a mandatory public meeting for exactly this purpose and subsequent to the public meeting, an eligible entity which includes Kosciusko County would have to provide the authorization to file the petition with IDEM. So, that step would come subsequent to this meeting and be up to Kosciusko County officials.

Barb (cont.): 01:40:41 So basically you're saying, no, this is not up for a public vote.

Speaker 14: 01:40:46 There are opportunities in the statute. That this particular type of process is subject to, that give folks that do not want it, an ability to stop it. There is that ability to circulate a petition to prevent the district from ever being formed. And that's a petition that has to be signed by people and then obviously verified that, yep, you're in, you're in the boundaries, etc. The other step that still comes is after the petition is filed itself, it goes to IDEM, the Indiana Department of Environmental Management and that entity is charged with basically looking at everything that's been filed and checking it from an engineering standpoint, etc. etc. And then that entity, IDEM has another public hearing for them to hear folks again and then IDEM decides whether or not it would move forward. A petition that I talked about earlier would stop it though.

Speaker 14: 01:41:57 Okay.

Shelby Speaker 8: 01:42:01 I'm going on as Shelby. Thank you for this opportunity. I'll stick to my two minutes. Our home is on Forest Glen Avenue on Lake

		Tippecanoe and I'd like to ask a question and perhaps it would be more appropriate for one of the people from IDEM that I believe you said were here. But we all know that there are reasons why there is a 50-foot differential between one's water source, a well and their septic fields or their neighbor's septic fields. But I'd like a little more detail in that regard about, I mean we know generally what it means, but if that person could provide that information. And then my secondary part of the question is who is responsible for ensuring that that distance is capped for the protection of public health?
Ken Jones:	01:42:48	Alice Quinn from ISDH
Alice:	01:42:53	I'm going to turn this around so I can face the audience more. My name is Alice Quinn and I'm with the Indiana State Department of Health, not with IDEM. The Indiana State Department of Health regulates both residential and commercial onsite septic systems. And I'd like to address your question. The 50 foot minimum separation distance between a well in any component of an onsite sewage system is maintained by state statute. And the local health departments are the ones who have both the responsibility and the authority to regulate that. But I do want to point out that 50 foot he is an absolute minimum. And that's for a residential well. If we have very, very poor soils that allow wastewater to be filtered through those soils without adequate treatment, we have to increase that separation distance in it. It actually doubles. And then also with commercial wells, which seemed more of a usage and more population, we increased that separation distance to 100 feet across the board.
Alice Quinn:	01:43:54	And again, if we have very poor soils that separation distance is doubled. And with public drinking water supplies and I don't believe that either of these lakes are probably drinking water supplies, but if we do have a municipal well in the area, we've increased that separation distance to 200 or 400 feet for poor soil. So, 50 foot is a bare minimum. I really appreciated Ken's advice to you folks to pull up the aerial of your property, locate your well, find that 50 foot well separation distance and see how much property you have left for your onsite sewage system. But I want to encourage you that that's a 50 foot separation to your neighbors well and to the lakefront, the high watermark. And remember some of those wells may be commercial wells or public wells and the soil may be such that we have to increase those separation distances.
Alice Quinn:	01:44:49	So, it's not just to the, to this well on your private property, it's all of the wells in the area and also it's not just to your septic

		tank that separation distance, but it's also to your soil absorption field and a lot of your piping, your sewer line coming from the house to the septic tank and your piping leading out to the oil absorption field all have separation distances and it's not 50 foot, 100 foot, 200 feet it's not a magic number. It is the number that we assess at an acceptable level of risk. There's always a risk when we're putting pathogen laden water into the soil and expecting that soil to do its job of cleaning up those pathogens to decomposing the organic matter. And you know, we've talked about the density of population in the area and you have to understand the more wastewater we put into that soil, the more we're asking that soil to do and to filter out and kill off those pathogenic organisms. So, it's a level of risk, excessive acceptability, not a magic number.
Shelby:	01:45:59	Thank you.
Ken:		Thank you...Sir
Mike McDowell:	01:46:06	Hello, my name is Mike McDowell, I live on the north side of Chapman Lake. Our area is affected and we've lived there for a while. I know all my neighbors have a good septic system. We don't really want the new sewer coming in, but my main concern now, just from today is we're finding that most households use between 150 to 300 gallons of water a day. Now that water that goes through our system is filtered through in our soil is doing a pretty good job. We have no problem with E Coli. Like the other couple of lakes in Warsaw, have problem with E Coli all the time. Now, when the sewer comes and our water is completely sucked away, what is going to fill our watershed? How are we going to replace that water that we're taking out? If it's 300 gallons, 10 houses is 3000 gallons and that adds up pretty quickly. So, my question is how is that water...is the water going to be gone? And then now we'll have to have a fresh water system come in 20 years down the road. I just want to know the impact of where...what our water that has disappeared from the water table is going to go?
Ken Jones:	01:47:26	This question is asked in every community. And so, you're at Chapman Lake, right? So, what's the total acreage of
Ken Jones (cont.):	01:47:38	Chapman Lake?
Ken Jones (cont.):	01:47:41	450. I can't do the math sitting here right now, but the wastewater volume that is expected to be generated or is probably being generated every day in the Chapman Lake Community is an absolute fraction of the total volume of the water in the lake and in the aquifer. You would not want to,

		under any circumstances, believe or want to rely upon your wastewater to recharge that system. I would say...and I'm just guessing
Mike McDowell:		But hasn't everybody been doing it for years though?
Ken Jones (cont.)		No.
Mike McDowell (cont.)		Our soil has been recharging the water. It is leaking now...
Ken Jones (cont.)		It is absolutely...
Mike McDowell (cont.)		we drink it later. I mean.
Ken Jones (cont.)		Yea, it's absolutely your water table volume, the level of it, is what you're concerned about. Right?
Mike McDowell (cont.)		Yes.
Ken Jones (cont.)		Is not affected by your wastewater.
Mike McDowell (cont.)		Okay.
Ken Jones (cont.)		It is not.
Mike McDowell (cont.):	01:48:46	Alright. Thank you. Thank you.
David Swanson:	01:48:51	Thank you. David Swanson. Just have two quick questions. One is, my house sits a little lower than the street level. I'm concerned if I would need a lift station or if that's a possibility of some sort to pump the sewage. Is that a possible?
Ken Jones (cont.):	01:49:06	Probably be better to get one of those guys after the meeting.
David Swanson (cont.)		Okay. So, it is
David Swanson (cont.):	01:49:10	possible.
Ken Jones (cont.)		Yeah.
David Swanson (cont.)		And then I came here, I live on Big Chapman and I haven't talked to anyone. I haven't gone to any meetings. I came here truly just to be informed with... really undecided. What I heard today is the $25 per foot that would have to connect to my home. For me, it'd be $2,000 to $3,000 just to connect, to build it to where I would need to go. I checked my septic last year, it's fine. I have many years left. We did a water test last year, it's fine. And kind

		of what I hear is...I was hoping to hear, some reason, why we're doing this? I'm a numbers guy. I really hear that maybe some people are having soil issues. They really, nothing at the lake. The septic systems I'm concerned about are not really in the boundaries that I see you've drawn. That's all people, some of our neighbors and stuff where we're keeping up with our septics, we're paying the fees. Doing what we need to do. It's really the septics I'm concerned about are outside of the boundaries, that are away from the lake. Most people on the lake have the money to keep them up at least on Big Chairman. And so, I guess I'm... my second question is, are there council people, are their congress that vote on this that we can help pull it accountable because I'm more on the side of not wanting the septic system or sewage system.
Chad Miner:	01:50:38	Yeah.
Chad Miner (cont.):	01:50:39	I mean it will be voted on by both the County Commissioners and the County Council. And then, at that point you know that it gets, it gets forwarded on and then it would be an IDEM issue from that point forward. So, it will be decided here and then moved on.
David Swanson (cont.):	01:50:57	Alright. That's noted. Thank you.
Ken Jones:	01:50:59	Ma'am.
Karen:	01:51:03	Hello. I'm Karen xxxx. Well, the resident over at Tippe Lake. I've been a laker for about 30 years and I know that life is all about change and we have been talking about sewers now for a very long time. I was on several committees in the past. Now you're telling us that it's been 40 years and we still haven't gotten anything accomplished and now we're curious that everything after we finally decide what it is that we're going to do, has to go back to IDEM before anything can happen. I have been told by many commissioners and many people of authority that anytime IDEM makes a change in the roads or anything, it's a process of at least five years before they will make a change and you're talking about a very short period of time. I would really like to see that happen with IDEM, but that's not what I hear historically has gone on.
Karen:	01:52:07	And then second of all, I've got a question. Those of us that were involved in signing the petitions for the conservancy, we're pretty satisfied and felt that that was going to move forward and then all of the sudden there were meetings that all of a sudden makes it go to the regional and the conservancy all went away. We you don't know why. All of a sudden, we were

		just told it's going to be regional. I don't care which way it goes. I think that for the environmental safety of our lakes and for future years, that we definitely need to have a sewer system. Then I'm sitting here and I'm listing about costs and it goes all over the board. We don't have any concrete answers and I was always of the understanding that any of the charges, once this all does get installed, will be by usage and usage alone. There are many of us that only have one or two people living in the home and there are others that have 15 to 20 people every single solitary weekend. Are we going to have a flat $80-dollar rate? And those of us that only use a minimal amount get charged the same amount that somebody that's using all kinds of water. I don't understand.
Chad Miner:	01:53:32	Right? So, unlike a municipal system, for example, let's just say the City of Columbia City, down the road, they have a municipal water system. They had a sewage works system. A city of that nature or system of that nature has the ability to bill their wastewater based upon their meter water usage. In cases like this, where we're dealing with a rural system where there is not an existing water system, we don't have the ability and there isn't the ability to base each individual customer's bill based on flow. So, the typical rate structure that's established is a flat rate structure so that for every equivalent single-family dwelling unit or our home or residential unit, every residential unit would pay the same flat rate. So, that would be the case whether, you know, there's five individuals in the home or one individual in the home. So that would be the typical type of rate structure, flat rate structure, based on the equivalent single family dwelling units.
Speaker 15:	01:54:57	Well, it's been said nothing in life is fair. I guess you just have to accept it then.
Speaker 7:	01:55:04	Thank you sir.
Gary Adams:	01:55:07	Yeah, I'm Gary Adams. I live on. I'm on a Little Tippy, the park. I have amount of system of flat mount system that was put in 2004. I've got an article here from the paper, and maybe this is INDOT leading, but it says here that we will have to pay to have our septics decommissioned would you addressed, but what about the mount itself in the soil in that mountain system? Can you address that? And if so, does that also pertained to leach fields? It does not.

Speaker 6:	01:55:44	The requirement is relative to the tank and only the tank. So, if you're okay with that mountain, you're going to leave her right where it's at, sir.
John Brooke:	01:55:58	Yes. My name is John Brooke. I live on EMS and I have just a few questions. Wastewater treatment houses. We're just going to go into our treatment as part of that $40 million dollars is going to go to Warsaw or you to create a plan or how is it going to be treated?
Speaker 6:	01:56:16	We're still working on that part of it. We are in discussions with both the Lakeland Regional so each district they have a new treatment facility. It was built upon as a part of their project so we've approached that a board and we're also in discussions with the city of Warsaw and really what it boils down to as it is in all of these projects is cost effectiveness and we want to project that keeps the rate at the lowest possible level but still provides a system that's completely sustainable.
Speaker 13:	01:56:56	So is that $40 to $42 million dollars include the costs for treatment in Lakeland and slash or Warsaw?
		Correct.
		Okay. And have you got, you know, what the capacity levels are for Lakeland's premium plan and horizontal
Speaker 6:	01:57:11	late Warsaw, they're in the process of expanding their facility and they would have plenty of room for this volume of waste butter. However, in Lakeland, that's not true. The Lakeland Wastewater Facility was built to serve that group of customers. They did include what we call in the business and equalization vessel that helps us, but my guess is we would have to a substantially improved the capacity of their wastewater facility to be able to handle this new volume.
Speaker 13:	01:57:46	And also is the, as I see the map here, is the typical new around Little Tippy little tibian Oswego that's going to be forced being sent down to Chapman,
Speaker 6:	01:58:00	correct. Um, the, uh, the lakeland, a wastewater system, although it comes really close to tippy, like, um, is not at that end there at the very upstream level or the very upstream end of their system. So that pipe is rather small. So we will have to build a, what we would call an interceptor or direct connection to their wastewater plant or directly to the city of moore song. And so in both cases we're running right past or you know, right

past the, uh, community of gentlemanly sarah. Hello, my name steve murray on like typical new on Colorado road. And I have one partial property by a three homes, one right directly lakefront on, right directly behind that one and another apartment and a garage behind that which is closest to the road. Do I pay one hookup fee or three? Uh, you know, that's probably a, we can't, we can't necessarily answer that yet until the board is giving you an answer.

Speaker 6: 01:59:11 My guess is if they all have facilities and they can all be occupied by three families, three families. My brother, my younger brother and my son. And then my older brother. Yeah. So there will probably be three residential equivalence of therefore three bills. Okay. Three bills. What about the hookup? The hookup is really going to be planned at the time. And one of these guys over here could probably give you more detail on that. It really depends on the, uh, the ordinances that are adopted by the board, whether they'll allow you to connect to homes through one pipe. Okay. But that's what you're kind of asking. Maybe. Josh, can you and your can answer that for you after the meeting, they can tell you what's typically done. Okay. Thank you. Yes sir.

Speaker 9: 02:00:02 My name is Ron Moser. I live off the end of a channel on 10 slash 26 b. There aren't enough sleep. I do want to thank you for your presentation. I thought it was, uh, I do want to make it known that I am not support of this. One of the things that really scares me most is that we have not heard figures and I think we deserve to know what the worst case scenario is. Now after all this planning and everything that goes on, we hear about the ifs with the bond issues and the grants and things like that. Those are if then we hear about the support of the people in the area or the trustees or whatever. So my question to you is what is the worst case scenario here for a homeowner that's going to be held hook up?

Speaker 7: 02:01:11 It's a good question we have is one of the questions earlier that was asked was about the financial model and I'm concerned as far as being able to afford to support a 40 or $42 million project. We don't have those numbers today and I can understand why you want to have those today for the creation of the hearing on the creation of the sewer district. Um, but part of the process will be, which we're working on is to calculate what those propose, what the proposed funding package might be and what those proposed rates might be, um, in that actually becomes a part of what jp are, is a preparing, which is the preliminary engineering report which is eventually submitted

to, to item. So those, those figures, those estimates will be available. We just don't have those available. Is here too

Speaker 9: 02:02:06 unfortunately. Okay. So at this point you have no clue what the worst case scenario where I can tell you I'm without, without

Speaker 7: 02:02:20 going through the numbers at this point, but I can tell you we've had the opportunity to work with other sewer districts around the state creation of new sewer systems. Um, I can tell you what we typically see, um, are, uh, well what we typically see are our bills that are wide ranging. Uh, we, we have, there are some systems that were built years ago that had, were fondant or maybe 90 percent federal grant money, and so those bills are very, very low, although they're getting ready to replace those systems now and those bills are getting ready to go up. There are other new systems that in allen county are, you may be aware of that are, are, are very high. Um, but I can tell you for an average general monthly rate what we find, and we did a study of our firm, did a study around the state looking at based on the existing operating regional sewer districts, what the average bills are and those average bills around the state or around 74, $75. So the estimate that we had been talking about today, again, just throwing out a rough estimate is somewhere between 75 and $85. That's the best we can give you today. Uh, in terms of an estimate

Speaker 9: 02:03:39 and what is the longevity of the system?

Speaker 6: 02:03:45 Uh, we, we, uh, design and build the system. Um, and a lot of cases, some components, there really is no shelf life, but there are, um, there are pieces and parts of this that will have to be periodically replaced. So we built into the rate a, uh, a sinking fund component that continuously helps to provide funding for repair and replacement. But, um, the rule of thumb is our design life is a minimum of 20 years.

Speaker 9: 02:04:22 Okay. So in other words, when a failure, for example, like of grain, that cost is already taken care of for the replacement or that. Correct. Okay. Now when the brain or certain stole, whose responsibility is it to see to it? The breakers,

Speaker 6: 02:04:48 um, typically that, uh, that um, power bill doesn't come to you. It goes to the district. There are some districts out there that read, reduce their monthly rate to the property owners and, and they hooked. They will then make a connection to the property owners a power supply. We have not proposing that here that, you know, it was quite a ways off, but typically that's

		connected to a system that we, that we build as part of the project.
Speaker 9:	02:05:23	So the project itself, it's going to take care of the electric, the inspiration, and thank you very much.
Speaker 15:	02:05:34	My name is john still live on like depicted there. I have a problem because I attended a meeting and they said that they pick a new water was better than it had been 20 years ago. South quick.
Speaker 4:	02:06:01	Uh,
Speaker 6:	02:06:02	I don't know. I don't think I'm an expert that can answer that question because we are not involved in analyzing the lake water, lake water quality. That's not my area.
Speaker 15:	02:06:15	Well, it just don't make no sense to me. And I'm like, I don't want to see an old condo was coming up. I want to. You don't like to go now on the weekend going to the store.
Speaker 9:	02:06:30	I've got those transport then.
Speaker 4:	02:06:33	Yes. Thank you.
Speaker 9:	02:06:38	So did I live on chapman lake? It's no secret that I've been opposed to this project. We're talking about accountability, the accountability of our own actions to conserve the water for generations to come. You know, all based on the future. You know when the opposition poses a theory of the future, we're told, yeah, well, you don't have a crystal ball. You can't see the future of your argument doesn't hold water. So we're talking about accountability from one generation to the other. Forty years ago, people lived on the lake. Forty years ago they shot down. This concept of the water is still here. The water still cleared compared to bike. Like chapter later went on to lay all the legs. They have their sewers yelled. The population density is equivalent to the sections of the lake to intel and worse on take a look at their legs. There's no comparison. We're talking about accountability. You're sitting up here and making statements that you've got all of the criteria behind you as you sit there and tell us what the truth is, when the fact is, what the facts are. Does your engineering firm have liability insurance for the claims that you're making? So when we get sucked into it after the fact, we can seek damages from your insurance.

Speaker 3:	02:07:49	You're asking me, you're asking me if I have liability insurance? Yeah,
Speaker 9:	02:07:55	Jamaica and the weekend make claim. If we need to cover, of course. Good to know. Thank you.
Speaker 3:	02:08:14	Think we're hearing the. She wants to be done.
Speaker 10:	02:08:23	I'm just gonna. Keep favor. Uh, my husband and I have a four year old septic system. Originally our subdivision was in the district and now today we see it's not. So I just want to know if that's going to change. Um, we live in hawthorn stains. It's on the north side of chat.
Speaker 3:	02:08:42	No, that, that was removed quite some time ago.
Speaker 10:	02:08:46	Are we going to be ever down the road? Are they get right now? I think we have 27 empty lots in stuff
Speaker 3:	02:08:54	that, that would really kind of be up to some future project plan.
Speaker 10:	02:09:00	Okay. My third question is, is it going to come down from us? We go right past us onto $50 to get to the lake. Lake earth neighbors behind us is our, it's going to come down.
Speaker 3:	02:09:13	It could. It's kind of right now it's preliminary design. So it's possible.
Speaker 10:	02:09:19	The final one, sorry for question four. When will the final design be done?
Speaker 3:	02:09:24	Probably a yd the folks here at the building, we'd be done at three. So we're a little over. Are you with these guys? I am with being an engineering company, engineering company. Who pays for the grinder running your place is the accordion.

APPENDIX D

PRELIMINARY RATE ANALYSIS

UMBAUGH

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December 4, 2018

Kosciusko County Council
100 W Center St.
Warsaw, Indiana 46580

Re: Tippecanoe and Chapman (Indiana) Regional Sewer District – Preliminary Rate Study for Proposed Sewer Project

Dear Council Members:

The attached schedules (listed below) present unaudited and limited information for the purpose of discussion and consideration in the preliminary planning stage of the rate study by the appropriate officers, officials and advisors of the County. The use of these schedules should be restricted to this purpose, for internal use only, as the information is subject to future revision and final report.

We would appreciate your questions or comments on this information and would provide additional information upon request.

Very truly yours,

UMBAUGH

Jeffrey P. Rowe

TIPPECANOE AND CHAPMAN (INDIANA) REGIONAL SEWER DISTRICT

SCHEDULE OF ESTIMATED PROJECT COSTS AND FUNDING - NEW WWTP
(Per Consulting Engineer)

	Treatment	Collection	Total
Estimated Project Costs:			
Collection System - Pressure Sewer System	$ -	$24,626,300	$24,626,300
Treatment System - Extended Aeration	6,687,600	-	6,687,600
Construction Contingency (4%)	267,513	985,087	1,252,600
Total Construction Costs	6,955,113	25,611,387	32,566,500
Non-Construction Costs (1):			
Preliminary Engineering Report	11,700	43,300	55,000
Surveying/Design/Permitting/Bidding	601,900	2,216,400	2,818,300
Construction Administration/Post Construction	391,200	1,440,700	1,831,900
Inspection	210,700	775,700	986,400
Easement Descriptions/Assistance	53,400	196,600	250,000
Land/Easement Acquisition	79,000	291,000	370,000
Rate Consultant	21,400	78,600	100,000
Local Counsel	31,100	114,300	145,400
Bond Counsel	21,400	78,600	100,000
Miscellaneous Administration Costs	21,400	78,600	100,000
Davis-Bacon Labor Standards Administrator	6,400	23,600	30,000
Outside Consulting	13,900	51,100	65,000
Total Non-Construction Costs	1,463,500	5,388,500	6,852,000
Total Estimated Project Costs	$8,418,613	$30,999,887	$39,418,500
Estimated Project Funding:			
Proposed Revenue Bonds	$8,418,613	$30,999,887	$39,418,500

(1) Allocated on a pro rata basis.

(Subject to the attached letter dated December 4, 2018)
(Preliminary – Subject to Change)
(Internal Use Only)

TIPPECANOE AND CHAPMAN (INDIANA) REGIONAL SEWER DISTRICT

SCHEDULE OF ESTIMATED PROJECT COSTS AND FUNDING - WARSAW
(Per Consulting Engineer)

	Treatment	Collection	Total
Estimated Project Costs:			
Collection System - Pressure Sewer System	$ -	$24,626,300	$24,626,300
Collection System - Force Main Interceptor	-	3,771,400	3,771,400
Treatment System - Capacity Buy-In Fee	1,874,400	-	1,874,400
Construction Contingency (4%)	75,594	1,145,276	1,220,870
Total Construction Costs	1,949,994	29,542,976	31,492,970
Non-Construction Costs (1):			
Preliminary Engineering Report	3,400	51,600	55,000
Surveying/Design/Permitting/Bidding	151,200	2,290,800	2,442,000
Construction Administration/Post Construction	98,300	1,489,000	1,587,300
Inspection	52,900	801,800	854,700
Easement Descriptions/Assistance	15,500	234,500	250,000
Land/Easement Acquisition	15,500	234,500	250,000
Rate Consultant	6,200	93,800	100,000
Local Counsel	9,000	136,400	145,400
Bond Counsel	6,200	93,800	100,000
Miscellaneous Administration Costs	6,200	93,800	100,000
Davis-Bacon Labor Standards Administrator	1,900	28,100	30,000
Outside Consulting	4,000	61,000	65,000
Total Non-Construction Costs	370,300	5,609,100	5,979,400
Total Estimated Project Costs	$2,320,294	$35,152,076	$37,472,370
Estimated Project Funding:			
Proposed Revenue Bonds	$2,320,294	$35,152,076	$37,472,370

(1) Allocated on a pro rata basis.

(Subject to the attached letter dated December 4, 2018)
(Preliminary – Subject to Change)
(Internal Use Only)

TIPPECANOE AND CHAPMAN (INDIANA) REGIONAL SEWER DISTRICT

SCHEDULE OF ESTIMATED PROJECT COSTS AND FUNDING - LAKELAND RSD
(Per Consulting Engineer)

	Treatment	Collection	Total
Estimated Project Costs (1):			
Collection System - Pressure Sewer System	$ -	$24,626,300	$24,626,300
Collection System - Force Main Interceptor	-	4,092,500	4,092,500
Treatment System - Capacity Buy-In Fee (2)	332,619	-	332,619
Construction Contingency (4%)	15,193	1,311,807	1,327,000
Total Construction Costs	347,812	30,030,607	30,378,419
Non-Construction Costs (3):			
Preliminary Engineering Report	600	54,400	55,000
Surveying/Design/Permitting/Bidding	36,600	3,163,400	3,200,000
Construction Administration/Post Construction	20,600	1,779,400	1,800,000
Inspection	16,000	1,384,000	1,400,000
Easement Descriptions/Assistance	2,900	247,100	250,000
Land/Easement Acquisition	2,900	247,100	250,000
Rate Consultant	1,100	98,900	100,000
Local Counsel	1,700	143,700	145,400
Bond Counsel	1,100	98,900	100,000
Miscellaneous Administration Costs	1,100	98,900	100,000
Davis-Bacon Labor Standards Administrator	300	29,700	30,000
Outside Consulting	700	64,300	65,000
Total Non-Construction Costs	85,600	7,409,800	7,495,400
Total Estimated Project Costs	$433,412	$37,440,407	$37,873,819
Estimated Project Funding:			
Proposed Revenue Bonds	$433,412	$37,440,407	$37,873,819

(1) Excludes the $4.45 million WWTP expansion, as this would be financed by Lakeland RSD and rolle into the wholesale treatment rate.
(2) Per the estimated treatment system capital buy-in fee charged to Tippecanoe Lake by Lakeland RSD per the Umbaugh Preliminary Wholesale Rate Study dated November 19, 2018.
(3) Allocated on a pro rata basis.

(Subject to the attached letter dated December 4, 2018)
(Preliminary – Subject to Change)
(Internal Use Only)

TIPPECANOE AND CHAPMAN (INDIANA) REGIONAL SEWER DISTRICT

SCHEDULE OF ESTIMATED ANNUAL OPERATION, MAINTENANCE AND REPLACEMENT COSTS
(Amounts rounded to the nearest $100)

	New Treatment Plant	Warsaw	Lakeland RSD
Estimated Annual Operation, Maintenance and Replacement Costs:			
Collection and Admin - Pressure System (1)	$400,700	$400,700	$400,700
Collection - Force Main (1)	-	42,800	42,800
Treatment System	383,300 (1)	420,200 (2)	722,700 (3)
Total Estimated Annual Operation, Maintenance and Replacement Costs	$784,000	$863,700	$1,166,200

(1) Per consulting engineer.
(2) Based on an estimated collection system fee of $1,327 per month plus a treatment rate of $3.29 per 1,000 gallons assuming estimated flows of 354,784 gallons per day.
(3) Based on the estimated total wholesale rate of $25.53 per EDU charged to Tippecanoe Lake by Lakeland RSD per the Umbaugh Preliminary Wholesale Rate Study dated November 19, 2018. This includes a debt service surcharge paid to Lakeland RSD for the $4.45 million WWTP expansion.

TIPPECANOE AND CHAPMAN (INDIANA) REGIONAL SEWER DISTRICT

SUMMARY OF ESTIMATED EQUIVALENT CONNECTIONS

	Estimated Monthly ESFDU's	Estimated Annual ESFDU's
Service Area (1):		
Tippecanoe Lake	1,487	17,844
Chapman Lake	872	10,464
Total	2,359	28,308

(1) Per consulting engineer.

(Subject to the attached letter dated December 4, 2018)
(Preliminary – Subject to Change)
(Internal Use Only)

TIPPECANOE AND CHAPMAN (INDIANA) REGIONAL SEWER DISTRICT

No Grant

CALCULATION OF RATES AND CHARGES

	New Treatment Plant		Proposed Rate	Warsaw		Proposed Rate	Lakeland		Proposed Rate
User Charge:									
Operation, Maintenance & Replacements	$784,000 (1)			$863,700 (1)			$1,166,200 (1)		
Divided by equivalent annual connections	28,308 (2)	$27.695		28,308 (2)	$30.511		28,308 (2)	$41.197	
Monthly O, M & R rate			$27.70			$30.51			$41.20
Debt Service - 20 year amortization (treatment):									
Average annual debt service	$512,800 (3)			$141,300 (4)			$26,400 (5)		
Debt service reserve (20%)	102,560			28,260			5,280		
Total debt service	615,360			169,560			31,680		
Divided by equivalent annual connections	28,308 (2)	21.738		28,308 (2)	5.990		28,308 (2)	1.119	
Monthly debt service rate - 20 year amortization			21.74			5.99			1.12
Debt Service - 35 year amortization (collection):									
Average annual debt service	$1,294,400 (6)			$1,467,700 (7)			$1,563,300 (8)		
Debt service reserve (20%)	258,880			293,540			312,660		
Total debt service	1,553,280			1,761,240			1,875,960		
Divided by equivalent annual connections	28,308 (2)	54.871		28,308 (2)	62.217		28,308 (2)	66.270	
Monthly debt service rate - 35 year amortization			54.87			62.22			66.27
Proposed rate per equivalent single family dwelling unit			**$104.31**			**$98.72**			**$108.59**

(1) See page 5.
(2) See page 6.
(3) Project funding assumes a $8,418,613 SRF loan at an assumed interested rate of 2.0% amortized over 20 years payable semi-annually.
(4) Project funding assumes a $2,320,294 SRF loan at an assumed interested rate of 2.0% amortized over 20 years payable semi-annually.
(5) Project funding assumes a $433,412 SRF loan at an assumed interested rate of 2.0% amortized over 20 years payable semi-annually.
(6) Project funding assumes a $30,999,887 SRF loan at an assumed interested rate of 2.3% amortized over 35 years payable semi-annually.
(7) Project funding assumes a $35,152,076 SRF loan at an assumed interested rate of 2.3% amortized over 35 years payable semi-annually.
(8) Project funding assumes a $37,440,407 SRF loan at an assumed interested rate of 2.3% amortized over 35 years payable semi-annually.

(Subject to the attached letter dated December 4, 2018)
(Preliminary – Subject to Change)
(Internal Use Only)

TIPPECANOE AND CHAPMAN (INDIANA) REGIONAL SEWER DISTRICT

With Grant

CALCULATION OF RATES AND CHARGES

	New Treatment Plant ($13,735,000 Grant)		Proposed Rate	Warsaw ($10,575,000 Grant)		Proposed Rate	Lakeland ($16,150,000 Grant)		Proposed Rate
User Charge:									
Operation, Maintenance & Replacements	$784,000 (1)			$863,700 (1)			$1,166,200 (1)		
Divided by equivalent annual connections	28,308 (2)	$27.695		28,308 (2)	$30.511		28,308 (2)	$41.197	
Monthly O, M & R rate			$27.70			$30.51			$41.20
Debt Service - 20 year amortization (treatment):									
Average annual debt service	$512,800 (3)			$141,300 (4)			$26,400 (5)		
Debt service reserve (20%)	102,560			28,260			5,280		
Total debt service	615,360			169,560			31,680		
Divided by equivalent annual connections	28,308 (2)	21.738		28,308 (2)	5.990		28,308 (2)	1.119	
Monthly debt service rate - 20 year amortization			21.74			5.99			1.12
Debt Service - 35 year amortization (collection):									
Average annual debt service	$720,900 (6)			$1,026,200 (7)			$888,900 (8)		
Debt service reserve (20%)	144,180			205,240			177,780		
Total debt service	865,080			1,231,440			1,066,680		
Divided by equivalent annual connections	28,308 (2)	30.560		28,308 (2)	43.501		28,308 (2)	37.681	
Monthly debt service rate - 35 year amortization			30.56			43.50			37.68
Proposed rate per equivalent single family dwelling unit			**$80.00**			**$80.00**			**$80.00**

(1) See page 5.
(2) See page 6.
(3) Project funding assumes a $8,418,613 SRF loan at an assumed interested rate of 2.0% amortized over 20 years payable semi-annually.
(4) Project funding assumes a $2,320,294 SRF loan at an assumed interested rate of 2.0% amortized over 20 years payable semi-annually.
(5) Project funding assumes a $433,412 SRF loan at an assumed interested rate of 2.0% amortized over 20 years payable semi-annually.
(6) Project funding assumes a $17,264,887 SRF loan at an assumed interested rate of 2.3% amortized over 35 years payable semi-annually.
(7) Project funding assumes a $24,577,076 SRF loan at an assumed interested rate of 2.3% amortized over 35 years payable semi-annually.
(8) Project funding assumes a $21,290,407 SRF loan at an assumed interested rate of 2.3% amortized over 35 years payable semi-annually.

(Subject to the attached letter dated December 4, 2018)
(Preliminary – Subject to Change)
(Internal Use Only)

APPENDIX E

District Boundary Map and Legal Description

EXHIBIT A

Regional sewage district boundary
Chapman Lakes Sewer Project

That part of Sections 23, 24, 25, 26, 35, and 36, Township 33 North, Range 6 East, Plain Township, Kosciusko County, Indiana, being more particularly described as follows:

Commencing at the northwest corner of the Southwest Quarter of said Section 24; thence easterly along the north line of the Southwest Quarter of said Section 24 and also being along the north line of Hall's North Shore Addition to the northwest corner of Rummell's Hills subdivision, said corner being the place of beginning of this description; thence east along the north line of Rummell's Hills subdivision and said line extended to the centerline of Chapman Lake Drive; thence south along the centerline of Chapman Lake Drive to the northwest corner of parcel #43-07-24-300-444.000-016; thence south, along the west line of parcel #43-07-24-300-444.000-016 to the southwest corner of said parcel; thence east, along a south line of parcel #43-07-24-300-444.000-016 to the northeast corner of parcel #43-07-24-300-448.000-016; thence south, along the east line of parcel #43-07-24-300-448.000-016 to the southeast corner of said parcel; thence southerly to the northwest corner of parcel #43-07-25-400-997.000-016; thence southwesterly, southerly, and southeasterly along the westerly line of parcel #43-07-25-400-997.000-016 and said westerly line extended to the southwest corner of parcel #43-07-25-400-044.000-016; thence east, along the south line of parcel #43-07-25-400-044.000-016 to the southeast corner of said parcel; thence south, along the west line of parcel #43-07-25-400-005.000-016 and said line extended to the north line of parcel #43-07-25-400-045.000-016; thence east, along the north line of parcel #43-07-25-400-045.000-016 to the northeast corner of said parcel; thence south, along the east line of parcel #43-07-25-400-045.000-016 to the southeast corner of said parcel; thence south, along the east lines of parcel #43-07-25-400-077.000-016 and parcel #43-07-25-400-081.000-016 and said line extended to the northeast corner of parcel #43-07-25-400-062.000-016; thence south, along the east line of parcel #43-07-25-400-062.000-016 to the southeast corner of said parcel; thence east, along the north line of parcel #43-07-25-400-095.000-016 to the northeast corner of said parcel; thence south, along the east line of parcel #43-07-25-400-

EXHIBIT A

095.000-016 to the southeast corner of said parcel; thence east along the north line of parcel #43-07-25-400-100.000-016 to the northeast corner of said parcel; thence south, along the east line of parcel #43-07-25-400-100.000-016 to the northeast corner of parcel #43-07-25-100-017.000-016; thence south, along the east line of parcel #43-07-25-100-017.000-016 to the southeast corner of said parcel; thence east, along a northerly line of Greystone subdivision to the northeast corner of said subdivision; thence south, along the east line of Greystone subdivision to the southeast corner of said subdivision; thence west, along the south line of Greystone subdivision to the northwest corner of parcel #43-07-25-200-083.000-016; thence south, along the west line of parcel #43-07-25-200-083.000-016 to the north line of parcel #43-07-25-300-166.000-016; thence west, along the north line of parcel #43-07-25-300-166.000-016 to the northwest corner of said parcel; thence southwesterly, along the westerly line of parcel #43-07-25-300-166.000-016 to an angle point in said westerly line; thence south, along the west line of parcel #43-07-25-300-166.000-016 to the southeast corner of parcel #43-07-25-300-196.000-016; thence west, along the south line of parcel #43-07-25-300-196.000-016 and said line extended to the northeast corner of parcel #43-07-25-300-204.000-016; thence, west along the north line of parcel #43-07-25-300-204.000-016 to the northwest corner of said parcel; thence south, along the west line of parcel #43-07-25-300-204.000-016 to the southeast corner of parcel #43-07-25-300-201.000-016; thence west along the south line of parcel #43-07-25-300-201.000-016 and said line extended to the centerline of North 325 East road; thence south along the centerline of North 325 East road to the southeast corner of parcel #43-07-25-300-260.000-016; thence west along the south line of parcel #43-07-25-300-260.000-016 to the southwest corner of said parcel; thence north along the west line of parcel #43-07-25-300-260.000-016 to a point lying east of the southeast corner of parcel #43-07-25-300-203.000-016; thence west to the southeast corner of parcel #43-07-25-300-203.000-016 and being on the north line of parcel #43-07-25-300-202.000-016; thence west along the north line of parcel #43-07-25-300-202.000-016 and along the north line of parcel #43-07-26-200-417.000-016 to the northwest corner of parcel #43-07-26-200-417.000-016; thence southerly, along the west line of parcel #43-07-

EXHIBIT A

26-200-417.000-016 to the southwest corner of said parcel; thence east, along the south line of parcel #43-07-26-200-417.000-016 to an angle point in parcel #43-07-26-200-428.000-016; thence southeasterly along the easterly line of parcel #43-07-26-200-428.000-016 and said line extended to the easterly corner of parcel #43-07-35-100-857.000-016; thence southwesterly, along the southerly line of parcel #43-07-35-100-857.000-016 and said line extended to the centerline of Chapman Lake Drive; thence southeasterly, along the centerline of Chapman Lake Drive, to the westerly corner of parcel #43-07-35-100-018.000-016; thence northeasterly along the northerly line of parcel #43-07-35-100-018.000-016 to the northerly corner of said parcel; thence southerly, along the easterly line of parcel #43-07-35-100-018.000-016 and said line extended to the southeast corner of parcel #43-07-35-100-030.000-016; thence east along the north lines of parcel #43-07-35-100-076.000-016 and parcel #43-07-35-100-041.000-016 to the northeast corner of parcel #43-07-35-100-041.000-016; thence southeasterly along the easterly line of parcel #43-07-35-100-041.000-016 and said line extended to the easterly corner of parcel #43-07-35-100-087.000-016; thence west along the southerly line of parcel #43-07-35-100-087.000-016 to an angle point in said southerly line; thence southeasterly, along the easterly line of parcel #43-07-35-100-087.000-016 and said line extended to the north line of parcel #43-07-35-100-103.000-016; thence east along the north line of parcel #43-07-35-100-103.000-016 to the northeast corner of said parcel; thence southeast, along the easterly line of parcel #43-07-35-100-103.000-016 to the southeast corner of said parcel; thence east along the north line of parcel #43-07-35-100-106.000-016 to the northeast corner of said parcel; thence south, along the west line of parcel #43-07-36-400-148.000-016 to the northwest corner of parcel #43-07-35-100-141.000-016; thence east along the north line of parcel #43-07-35-100-141.000-016 to the northeast corner of said parcel; thence southerly, along the easterly lines of parcel #43-07-35-100-141.000-016 to the southeast corner of said parcel; thence southeast along the easterly line of parcel #43-07-36-400-154.000-016 to the southeast corner of said parcel; thence southeasterly, along the easterly line of parcel #43-07-35-100-149.000-016, to the southeast corner of said parcel; thence southeasterly along the easterly line of parcel #43-07-35-100-

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153.000-016 to an angle point in said east line; thence south, along the east line of parcel #43-07-35-100-153.000-016 and said line extended to the centerline of East 250 North road; thence west along the centerline of East 250 North road to the centerline of Chapman Lake Drive; thence south, along the centerline of Chapman Lake Drive to the southeast corner of Lozier's Lakeview Park subdivision; thence west along the south line of Lozier's Lakeview Park subdivision to the southwest corner of said subdivision; thence continuing west along the south line of parcel #43-07-35-200-753.000-016 to the southwest corner of said parcel; thence north, along the west line of parcel #43-07-35-200-753.000-016 to the northwest corner of said parcel; thence westerly and northerly along the northerly and easterly lines of parcel #43-07-35-200-003.000-016 to the most northerly corner of parcel #43-07-35-200-003.000-016 that lies on the westerly edge of water of Little Chapman Lake, said corner also being the southeast corner of parcel #43-07-35-400-009.000-016; thence meandering northerly along the westerly edge of water of Little Chapman Lake to the westerly edge of water marking the channel connecting Little Chapman Lake with Big Chapman Lake; thence northerly along the westerly edge of water of said channel to the northeast corner of parcel #43-07-35-400-009.000-016 and lying on the southerly edge of water of a channel leading west, said channel lying on the south side of Osborn's Bay Shore subdivision ; thence meandering westerly and northerly along the southerly edge of water of said channel leading west, to the south line of said Osborn's Bay Shore subdivision and being the south line of parcel #43-07-26-300-482.000-016; thence west along the south line of parcel #43-07-26-300-482.000-016 and said line extended to the east line of parcel #43-07-35-400-005.000-016; thence north and westerly along the east and northerly lines of parcel #43-07-35-400-005.000-016 to the southeast corner of Strickler's Place subdivision; thence west, along the south line of Strickler's Place subdivision to the southwest corner of said subdivision; thence north along the west line of Strickler's Place subdivision and the east line of parcel #43-07-26-300-247.000-016 to the southerly edge of water of Big Chapman Lake; thence meandering westerly and northerly, along the southerly and westerly edge of water of Big Chapman Lake to the southeast corner of parcel #43-07-26-300-206.000-016; thence

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west, along the south line of parcel #43-07-26-300-206.000-016 to the southwest corner of said parcel; thence north, along the west line of parcel #43-07-26-300-206.000-016 to the northwest corner of said parcel; thence east along the north line of parcel #43-07-26-300-206.000-016 to the centerline of EMS C27C lane; thence north and northeasterly along the centerline of EMS C27C lane to the southwest corner of parcel #43-07-26-400-146.000-016; thence northerly along the west lines of parcel #43-07-26-400-146.000-016 and parcel #43-07-26-400-093.000-016 to the northwest corner of parcel #43-07-26-400-093.000-016; thence easterly, along the northerly line of parcel #43-07-26-400-093.000-016 to the northeast corner of said parcel; thence southerly, along the easterly line of parcel #43-07-26-400-093.000-016 and said line extended to the centerline of EMS C27C lane; thence northeasterly, along the centerline of EMS C27C lane to the southwest corner of Island Park, First Addition subdivision; thence north along the west line of Island Park, First Addition subdivision to the northwest corner of said subdivision; thence east along the north line of Island Park, First Addition subdivision to the southeast corner of Lot 34, Island Park Annex subdivision; thence north, along the east line of Lot 34, Island Park Annex subdivision to the northeast corner of said lot; thence east along the north line of Island Park Annex subdivision and said line extended to the west line of Lot 27, Island Park Annex subdivision; thence north, along a west line of Island Park Annex subdivision to the southwest corner of parcel #43-07-26-400-134.000-016; thence east, along a southerly line of parcel #43-07-26-400-134.000-016 to an angle point in said southerly line; thence south, along a line of parcel #43-07-26-400-134.000-016 to the most southerly corner of said parcel; thence northeasterly, along the southeasterly line of parcel #43-07-26-400-134.000-016 to the west line of parcel #43-07-26-400-015.000-016; thence south on the west line of parcel #43-07-26-400-015.000-016 to the northerly edge of water of Big Chapman Lake; thence meandering northeasterly and easterly along the northerly edge of water of Big Chapman Lake to the most southerly corner of parcel #43-07-26-100-014.000-016; thence north along an easterly line of parcel #43-07-26-100-014.000-016 to the south boundary of EMS C28E lane; thence westerly along the south boundary of EMS C28E lane to an angle point in the

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east line of parcel #43-07-26-100-014.000-016; thence north along an easterly line of parcel #43-07-26-100-014.000-016 to the southeast corner of parcel #43-07-26-100-083.000-016; thence west along the southerly lines of parcel #43-07-26-100-083.000-016 and parcel #43-07-26-100-070.000-016 to the southwest corner of parcel #43-07-26-100-070.000-016; thence north along the west line of parcel #43-07-26-100-070.000-016 to the northwest corner of said parcel; thence southeasterly along the northerly lines of parcel #43-07-26-100-070.000-016, parcel #43-07-26-100-083.000-016, and the northly line of 5 K's Happy Landing Number 3 subdivision and said line extended to the centerline of EMS C28 lane; thence north long the centerline of EMS C28 lane to the northwest corner of Stouder's Addition to Chapman Lake; thence east, along the north line of Stouder's Addition to Chapman Lake to the southeast corner of Hawthorn Phase II subdivision; thence north, along the east line of Hawthorn Phase II subdivision and said line extended to the southeast corner of Lot 11, Lake Forest West View Phase II subdivision; thence easterly to the southwest corner of Lot 20, Lake Forest I subdivision; thence easterly and northeasterly along the southerly line of Lot 20, Lake Forest I subdivision to the southeast corner of said lot; thence northeasterly along the southerly line of Lot 21, Lake Forest I subdivision to the easterly corner of said lot; thence northeasterly and northerly along the easterly lines of Lot 22 through Lot 29, Lake Forest I subdivision to the northeast corner of said Lot 29; thence northeasterly and easterly along the southerly lines of Lot 30 through Lot 33, Lake Forest I subdivision to the southeast corner of said Lot 33; thence east along the south line of Lot 34, Lake Forest I subdivision and said line extended to a point on the westerly line of Lot 24, Lake Forest II subdivision; thence southeasterly and southerly along the westerly lines of Lot 24 through Lot 29, Lake Forest II subdivision to the southwest corner of said Lot 29; thence southerly and southeasterly along the westerly and southerly line of Lot 30, Lake Forest II subdivision to the southeast corner of said Lot 30; thence easterly along the southerly line of Lots 31 and 32, Lake Forest II subdivision to the southeast corner of said Lot 32; thence easterly and northerly along the southerly and easterly lines of Lot 33, Lake Forest II subdivision to the northeast corner of said Lot 33; thence northerly, along the

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easterly lines of Lot 34 and Lot 35 to a point lying west of the southwest corner of Lot 9, Hall's North Shore Addition Section 2; thence east to the southwest corner of said Lot 9; thence east, along the south line of said Lot 9 to the southeast corner of said Lot 9; thence north, along the east lines of said Lot 9 and Lot 8, Hall's North Shore Addition Section 2 to the northeast corner of said Lot 8; thence west, along the north line of said Lot 8 to the northwest corner of said Lot 8; thence north to the southwest corner of Lot 6, Hall's North Shore Addition Section 2; thence east, along the south line of said Lot 6 to the southeast corner of said Lot 6; thence north, along the east line of said Lot 6 to the southwest corner of Lot 4, Hall's North Shore Addition; thence east, along the south lines of said Lot 4 and Lot 5, Hall's North Shore Addition to the southeast corner of said Lot 5; thence north, along the east line of said Lot 5, also being the west line of Rummel's Hills subdivision to the place of beginning.

The district boundary described herein is meant to describe the boundary as depicted on the attached Jones Petrie Rafinski Kosciusko County Regional Sewer District, Chapman Lakes Boundary Figure 2, dated October 30, 2018.

Prepared for: Chapman Lake Planning Committee
Prepared by: Hans P. Musser, PS HPM 11-8-18

Job No: 2018-0143
Date: November 8, 2018

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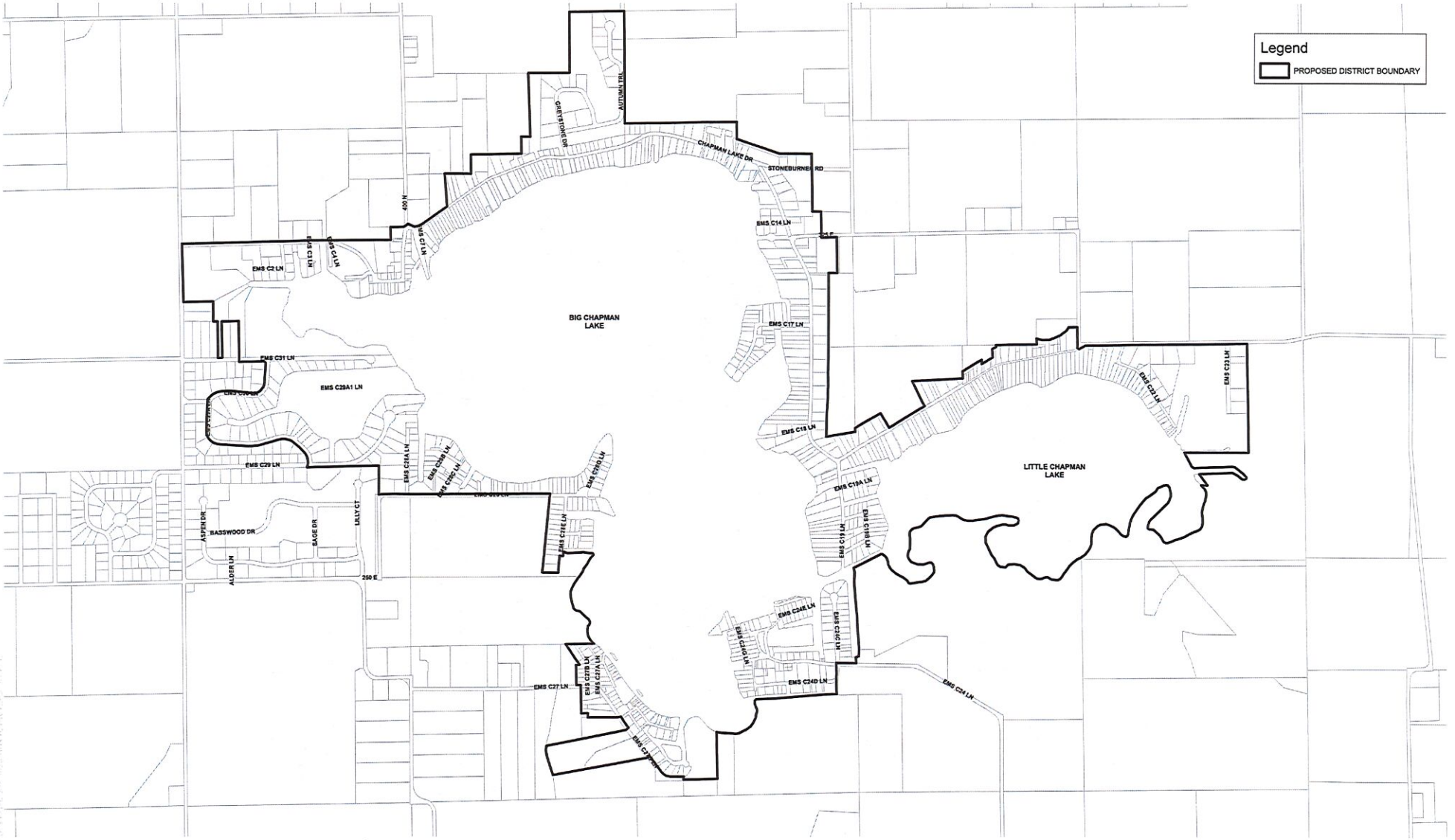

KOSCIUSKO COUNTY REGIONAL SEWER DISTRICT

OCTOBER 30, 2018 - FIGURE 2

CHAPMAN LAKES BOUNDARY

JONES PETRIE RAFINSKI
your one single source
Surveying • Engineering • Planning • Architecture • Utility Management
GIS • Environmental • Renewable Energy • Landscape Architecture

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Regional sewage district boundary
Tippecanoe Lakes Sewer Project

That part of Section 1, 11, 12, 13, and 14, Township 33 North, Range 6 East, Plain Township, Kosciusko County, Indiana and that part of Sections 6, 7, 8, 9, 16, 17, and 18, Township 33 North, Range 7 East, Tippecanoe Township, Kosciusko County, Indiana, being more particularly described as follows:

Beginning at the northwest corner of the Southwest Quarter of said Section 6; thence along the northerly boundary of parcel #43-08-06-400-073.000-023 (and being a part of the Tippecanoe Lake Country Club) the following four courses easterly, northerly, easterly, and northerly to the north line of said parcel; thence continuing east, along said north line, to the northeast corner of said parcel; thence south, along the east line of said parcel (also being the east line of the Tippecanoe Lake Country Club), to the northeast corner of Replat Number 1 of Ravina Park subdivision; thence west and southwest, along the northerly and westerly line of Replat Number 1 of Ravina Park subdivision, to the southwest corner of Lot 396, Ravina Park subdivision; thence southerly and southeasterly, along the centerline of Kalorama Road, to the south line of said Section 6; thence east, along the north line of parcel #43-08-07-400-404.000-023, to the northeast corner of said parcel; thence southwesterly, along the southeast line of said parcel and said line extended, to the easterly line of First Addition to Kalorama Park subdivision; thence southeasterly, along the easterly line of the First, Second, and Third Additions to Kalorama Park, to the centerline of Kalorama Road; thence southeasterly, along the centerline of Kalorama Road to the angle point where the road heads due east, also being the point where Kalorama Road becomes East 650 North road; thence east, along the centerline of East 650 North road, to the centerline of EMS T46 Lane; thence south, along the centerline of EMS T46 Lane, to the north line extended of parcel #43-08-07-200-934.000-023; thence easterly along the northerly lines of said parcel #43-08-07-200-934.000-023, to the northeast corner of said parcel; thence southerly along the east line of parcel #43-08-07-200-934.000-023 and said line extended to the centerline of EMS T46 Lane (the north loop); thence easterly along the centerline of EMS T46 Lane to the northwest corner of Section Number 2, Mineral Springs subdivision; thence northeasterly along the northerly line

of Section Number 2, Mineral Springs subdivision, and said line extended to the centerline of EMS T47 Lane; thence north, along the centerline of EMS T47 lane, to the centerline of East 650 North road; thence east, along the centerline of East 650 North road, to the northwest corner of parcel #43-08-08-300-016.000-023; thence south, along the west line of parcel #43-08-08-300-016.000-023, to the southwest corner of parcel #43-08-08-300-016.000-023; thence southeast, along the south line of parcel #43-08-08-300-016.000-023, to the northwest corner of parcel #43-08-08-200-116.000-023; thence east, to the northeast corner of parcel #43-08-08-200-116.000-023; thence southeasterly, along the east line of parcel #43-08-08-200-116.000-023, to the southeast corner of parcel #43-08-08-200-116.000-023; thence east, along the north line of parcel #43-08-08-200-149.000-023 and the north line of parcel #43-08-08-200-148.000-023, to the southwest corner of parcel #43-08-08-200-132.000-023; thence north, along the west line of parcel #43-08-08-200-132.000-023 and the west line of parcel #43-08-08-200-101.000-023, to the northwest corner of parcel #43-08-08-200-101.000-023; thence east, along the north line of parcel #43-08-08-200-101.000-023, to the centerline of EMS T49 Lane; thence north, along the centerline of EMS T49 Lane and said line extended, to the centerline of East 650 North road; thence east, along the centerline of East 650 North road, to the east line extended of Beavers Landing subdivision; thence south, along said east line extended and the east line of Beavers Landing subdivision, to the northerly edge of water of James Lake; thence meandering easterly and southeasterly, along the northerly edge of water of James Lake, to the southwest corner of Long's Park subdivision; thence northeasterly, along the west line of Long's Park subdivision and the west line of Long's First Addition to Long's Park subdivision, to the northwest corner of Long's First Addition to Long's Park subdivision; thence southeasterly and easterly, along the northerly line of Long's First Addition to Long's Park subdivision and said line extended, to the west line of parcel #43-08-09-300-107.000-023; thence meandering northerly, northwesterly, northerly, and northeasterly along the westerly line of parcel #43-08-09-300-107.000-023 to the northwest corner of parcel #43-08-09-300-107.000-023; thence east, along the north line of parcel #43-08-09-300-107.000-023 to a corner of

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said parcel; thence north, along a west line of parcel #43-08-09-300-107.000-023 and said west line extended to the centerline of East 650 North road; thence east, along the centerline of East 650 North road to the northeast corner of parcel #43-08-09-300-005.000-023; thence south, along the east line of parcel #43-08-09-300-005.000-023 to the southeast corner of said parcel; thence east, along the north line of parcel #43-08-09-300-145.000-023, to the northeast corner of said parcel; thence south, along the east line of parcel #43-08-09-300-145.000-023, to the centerline of EMS T1 Lane; thence east, along the centerline of EMS T1 Lane, to the centerline of North 675 East road; thence south, along the centerline of North 675 East road, to the centerline of Tippecanoe River; thence meandering westerly, along the centerline of said Tippecanoe River, to the west line of the Southeast Quarter of said Section 16; thence south, along the west line of the Southeast Quarter of said Section 16, to the north line of Sawgrass Estates, Section 2 subdivision; thence west, along the north line of Sawgrass Estates, Section 2 subdivision and the north line of Sawgrass Estates, Section 1 subdivision, to the northwest corner of Sawgrass Estates, Section 1 subdivision; thence south, along the west line of Sawgrass Estates, Section 1 subdivision and the west line of Replat of Lots 1 and 2 Sawgrass Estates, Section 1 and said line extended to the centerline of East 500 North road; thence west, along the centerline of East 500 North road, to the southwest corner of Lakeside Development subdivision; thence north, along the west line of said Lakeside Development subdivision and said line extended, to the southerly edge of water of James Lake; thence meandering northerly, along the southerly and westerly edge of water of James Lake, to the channel connecting James Lake with Tippecanoe Lake; thence westerly, along the southerly edge of water of said channel to the southerly edge of water of Tippecanoe Lake; thence southwesterly, along the southeasterly edge of water of Tippecanoe Lake to the northwest corner of parcel #43-08-17-400-020.000-023; thence south along the west line of parcel #43-08-17-400-020.000-023 to the southeast corner of parcel #43-08-17-400-024.000-023; thence west, along the south line of parcel #43-08-17-400-024.000-023 to the northeast corner of parcel #43-08-18-200-505.000-023; thence west along the north line of parcel #43-08-18-200-505.000-023

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and said line extended to the centerline of EMS T13 Lane; thence southerly, along the centerline of EMS T13 Lane, to the angle point of the road; thence westerly, along the centerline of EMS T13 Lane, to the intersection of EMS T13B Lane and EMS T13 Lane; thence southerly, along the centerline of EMS T13 Lane, to the northwest corner of parcel #43-08-18-200-501.000-023; thence northeasterly, along the northerly line of parcel #43-08-18-200-501.000-023 to the northeast corner of said parcel; thence southerly, along the east line of parcel #43-08-18-200-501.000-023 to the centerline of Armstrong Road; thence northwesterly, along the centerline of Armstrong Road, to the west line extended of parcel #43-08-18-300-445.000-023; thence northeast, along the west line extended of parcel #43-08-18-300-445.000-023 to the northwest corner of said parcel; thence east, along a north line of parcel #43-08-18-300-445.000-023 to an angle point of said parcel; thence north along the west line of parcel #43-08-18-300-445.000-023, to the southwest corner of parcel #43-08-18-100-002.000-023; thence north, along the west line of parcel #43-08-18-100-002.000-023 and the west line of parcel #43-08-18-100-086.000-023, to the southeast corner of parcel #43-08-18-400-381.000-023; thence northwest, along the southerly line of parcel #43-08-18-400-381.000-023, to the southwest corner of parcel #43-08-18-400-381.000-023; thence north, along the west lines of parcel #43-08-18-400-381.000-023, parcel #43-08-18-100-000.000-023, parcel #43-08-18-400-691.000-023, parcel #43-08-18-400-377.000-023, parcel #43-08-18-400-375.000-023, to the northwest corner of parcel #43-08-18-400-375.000-023; thence east, along the north line of parcel #43-08-18-400-375.000-023, to the northeast corner of said parcel; thence north and east along the easterly line of Cripplegate Crossing subdivision, to the southwest corner of parcel #43-08-18-400-359.000-023; thence northerly, along the west line of parcel #43-08-18-400-359.000-023 and said west line extended, to the northwest corner of parcel #43-08-18-400-355.000-023; thence northwesterly to the southwest corner of parcel #43-08-18-400-387.000-023; thence north, along the west line of parcel #43-08-18-400-387.000-023, to the northwest corner of said parcel; thence east, along the north line of parcel #43-08-18-400-387.000-023 and said line extended, to the centerline of North 450 East road; thence north, along the centerline

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of North 450 East, to the southeast corner of parcel #43-08-07-300-133.000-023; thence west, along the south line of parcel #43-08-07-300-133.000-023, to the southwest corner of said parcel; thence north, along the west lines of parcel #43-08-07-300-133.000-023, parcel #43-08-07-300-130.000-023, and parcel #43-08-07-300-125.000-023 and said west line extended to the centerline of East Forest Glen Avenue; thence westerly and northwesterly, along the centerline of East Forest Glen Avenue, to the centerline of East Stanton Road; thence west and southwest along the centerline of East Stanton Road, to the centerline of North Teeple Avenue; thence northwest, along the centerline of North Teeple Avenue, to the southeast corner of parcel #43-07-12-200-758.000-016; thence southwest, along the southerly line of parcel #43-07-12-200-758.000-016, to the southwest corner of said parcel; thence northwest, along the westerly line of parcel #43-07-12-200-758.000-016, to the centerline of East Forest Glen Avenue; thence southwesterly, along the centerline of East Forest Glen Avenue, to the northeast corner of parcel #43-07-12-200-754.000-016; thence southerly, along the east line of parcel #43-07-12-200-754.000-016, to the centerline of East Stanton Road; thence southwesterly, along the centerline of East Stanton Road, to the southwest corner of parcel #43-07-12-200-754.000-016; thence north, along a west line of parcel #43-07-12-200-754.000-016, to an angle point of said parcel; thence west, along a south line of parcel #43-07-12-200-754.000-016, to an angle point of said parcel; thence north along a west line of parcel #43-07-12-200-754.000-016 to the southeast corner of parcel #43-07-12-200-007.000-016; thence west, along the south line of parcel #43-07-12-200-007.000-016 and said line extended to the centerline of EMS T25 Lane; thence north, along the centerline of EMS T25 Lane to the northeast corner of parcel #43-07-12-300-617.000-016; thence westerly, along the northerly line of parcel #43-07-12-300-617.000-016, to the northwest corner of said parcel; thence south, along the west line of parcel #43-07-12-300-617.000-016, to the southeast corner of parcel #43-07-12-300-130.000-016; thence northwest, along the southerly line of parcel #43-07-12-300-130.000-016, to the centerline EMS T26B Lane; thence south, along the centerline of EMS T26B Lane and said line extended, to the north line of Brierose Subdivision; thence east, along the north line of Brierose

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Subdivision, to the northeast corner of said subdivision; thence south, along the east lines of Brierose Subdivision, parcel #43-07-12-300-929.000-016, and parcel #43-07-13-400-002.000-016, to the northwest corner of parcel #43-07-13-400-019.000-016; thence easterly, along the northerly line of parcel #43-07-13-400-019.000-016, to the northeast corner of said parcel; thence south, along the east line of parcel #43-07-13-400-019.000-016, to the centerline of East Armstrong Road; thence westerly, along the centerline of East Armstrong Road, to the centerline of Second Street in the Town of Oswego; thence south, along the centerline of Second Street to a point lying east of the southeast corner of parcel #43-07-14-100-054.000-016; thence west to the southeast corner of parcel #43-07-14-100-054.000-016; thence continuing west along the south line of parcel #43-07-14-100-054.000-016 to the southwest corner of said parcel; thence north, along the west line of parcel #43-07-14-100-054.000-016 and said line extended to the centerline of East Armstrong Road; thence west, along the centerline of East Armstrong Road to the centerline of First Street in the Town of Oswego; thence south, along the centerline of First Street to a point lying east of the southeast corner of parcel #43-07-14-100-004.000-016; thence west, to the southeast corner of parcel #43-07-14-100-004.000-016; thence west along the south line of parcel #43-07-14-100-004.000-016 to the southwest corner of said parcel; thence north, along the west line of parcel #43-07-14-100-004.000-016 to the northwest corner of said parcel; thence westerly, along the south line of parcel #43-07-14-100-046.000-016 and said line extended to the northeast corner of parcel #43-07-14-100-586.000-016; thence southerly, along the easterly line of parcel #43-07-14-100-586.000-016 to the southeast corner of said parcel; thence west, along the south line of parcel #43-07-14-100-586.000-016 to the southwest corner of said parcel; thence northerly, along the westerly line of parcel #43-07-14-100-586.000-016 and said line extended to the centerline of East Armstrong Road; thence northwesterly, along the centerline of East Armstrong Road, to the centerline of North 300 East road; thence northerly, northeasterly, and northerly, along the centerline of North 300 East road, to the northwest corner of parcel #43-07-01-300-643.000-016; thence east, along the north line of parcel #43-07-01-300-643.000-016, to the centerline of EMS T34 Lane;

EXHIBIT A

Regional sewage district boundary
Tippecanoe Lakes Sewer Project

thence north, along the centerline of EMS T34 Lane, to the northwest corner of Old Mill Place subdivision; thence east, along the north line of Old Mill Place subdivision, to the northeast corner of said subdivision; thence south, along the east line of Old Mill Place subdivision, to the northwest corner of parcel #43-07-01-200-838.000-016; thence east, along the north line of parcel #43-07-01-200-838.000-016, to the centerline of EMS T35 Lane; thence northerly, along the centerline of EMS T35 Lane, to the centerline of East 750 North road; thence east, along the centerline of East 750 North road, and said road extended, to the place of beginning.

The district boundary described herein is meant to describe the boundary as depicted on the attached Jones Petrie Rafinski Kosciusko County Regional Sewer District, Tippecanoe Lake Boundary Figure 1, dated October 30, 2018.

Prepared for: Tippecanoe Lake Planning Committee
Prepared by: Hans P. Musser, PS HPM 11.6.18

Job No: 2018-0143
Date: November 6, 2018

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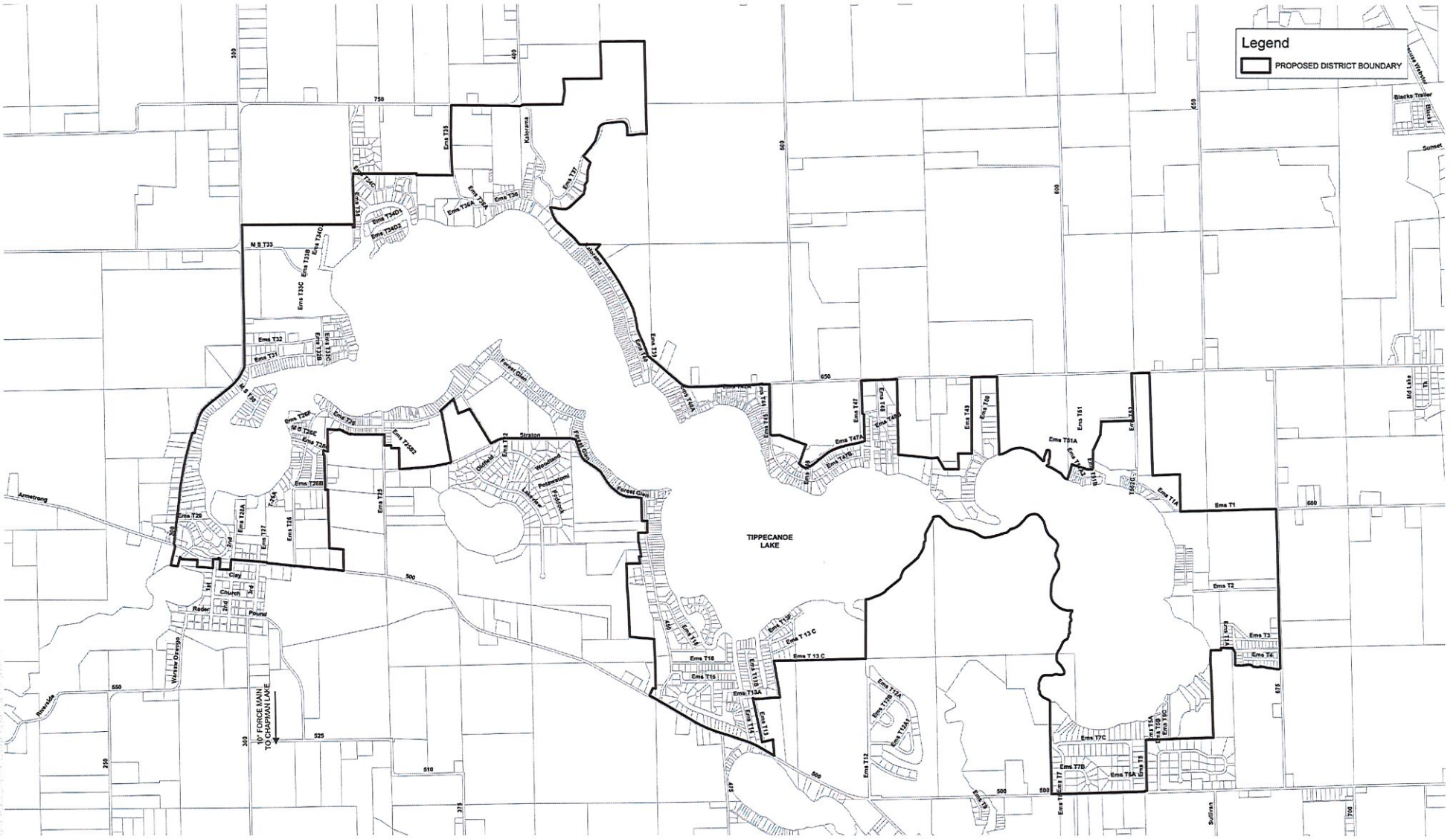

KOSCIUSKO COUNTY REGIONAL SEWER DISTRICT

OCTOBER 30, 2018 - FIGURE 1

TIPPECANOE LAKE BOUNDARY

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