MARSHALL COUNTY

REGIONAL SEWER DISTRICT

IF YOU HAVE QUESTIONS PLEASE REACH OUT TO
questions@marshallcountyrsd.com
or 574-200-0049
or visit www.jpr1source.com/marshall-county-rsd/

MARSHALL COUNTY

REGIONAL SEWER DISTRICT

PREPARED BY:

JONES PETRIE RAFINSKI

MARSHALL COUNTY MCHD HEALTH DEPARTMENT

MARSHALL COUNTY INDIANA

MARSHALL COUNTY REGIONAL SEWAGE DISTRICT
WHAT IS THIS ALL ABOUT?

Beginning in 2019 the Marshall County Environmental Health Department, the Marshall County Clean Water Task Force, the Marshall County Board of Health, the Marshall County Commissioners, and the County Council initiated consideration for the development and establishment of a Regional Sewer District.

This initiative and the analyses needed to understand the purpose and need for the District have shed light on current conditions and the challenges our communities face going forward.

Overall, the effort has identified over 2,700 equivalent dwelling units that are in need of a sustainable plan for the protection of the health of the residents, as well as the drinking water and surface water resources in 13 unincorporated areas.

In all of these areas, we find the following similar environmental characteristics.

- Historically sub-standard building lots.
- Poor soil compatibility with on-site septic systems.
- Un-documented on-site systems (many of which pre-date local records)
- Shallow water wells within isolation zones of nearby septic systems
- No viable solution for repair or replacement of individual systems

The establishment of a "Marshall County Regional Sewage District" will allow us to carefully address these concerns as a community, which in most cases will be the only viable answer for our residents.

Other benefits will include:

- Stability and growth for businesses that exist within the Priority Service Areas (PSA's).
- Elimination of the risk for preferential pathways between water wells and septic systems that may allow bacteria, viruses and pharmaceuticals to migrate from a septic system to nearby water wells.
- Improved home site flexibility for re-development (home additions, etc).
- Improved space allowance for new and updated water wells.
- More options for reinvestment in homes and real property improvements
- Increase in property resale values
- The potential for new development where sanitary sewer service can be provided.

The following presentation provides some additional information these topics. A map of the service areas can be found on the following page.

RURAL WASTEWATER CONCERNS AND MATTERS TO BE CONSIDERED

1 The average American home generates 150 - 310 gallonns of wastewater per day.

- All rural communities need to consider options when on-site treatment becomes unfeasible
- Risks to health are real
- Risks to the environment are possible and risks to the drinking water supply are common
- Preservation of housing stock and home values are key

2 What about the lakes, rivers and streams?

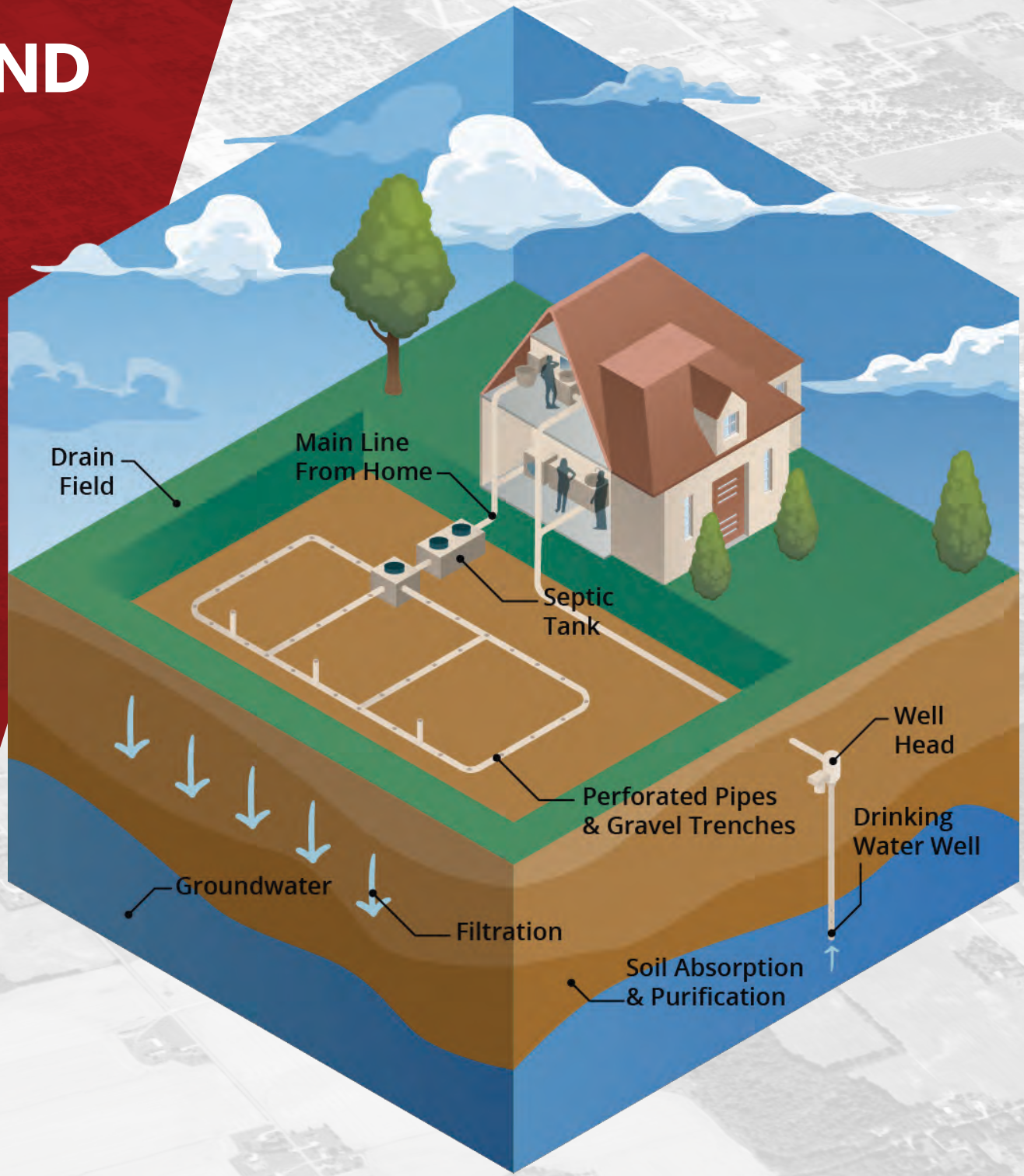
Human encroachment can affect surface water quality over time. We are not aware of such an issue with Marshall County waters (that's good news for now). However, many prior studies have included warnings and concerns for this.

3 What can be done?

There are very few precautions that homeowners can take on their own to protect and preserve the drinking and surface water resources. Working together can have a positive impact. Considering a sanitary sewer is one way residents can do their part.

COMMUNITY AND PRIORITY SERVICE AREA CONCERNS AND FACTS

Many (if not most) of home sites within the Health Department's areas of concern are under the minimum size as stipulated in the County zoning ordinance for use of on-site septic systems (minimum 1-acre by ordinance).



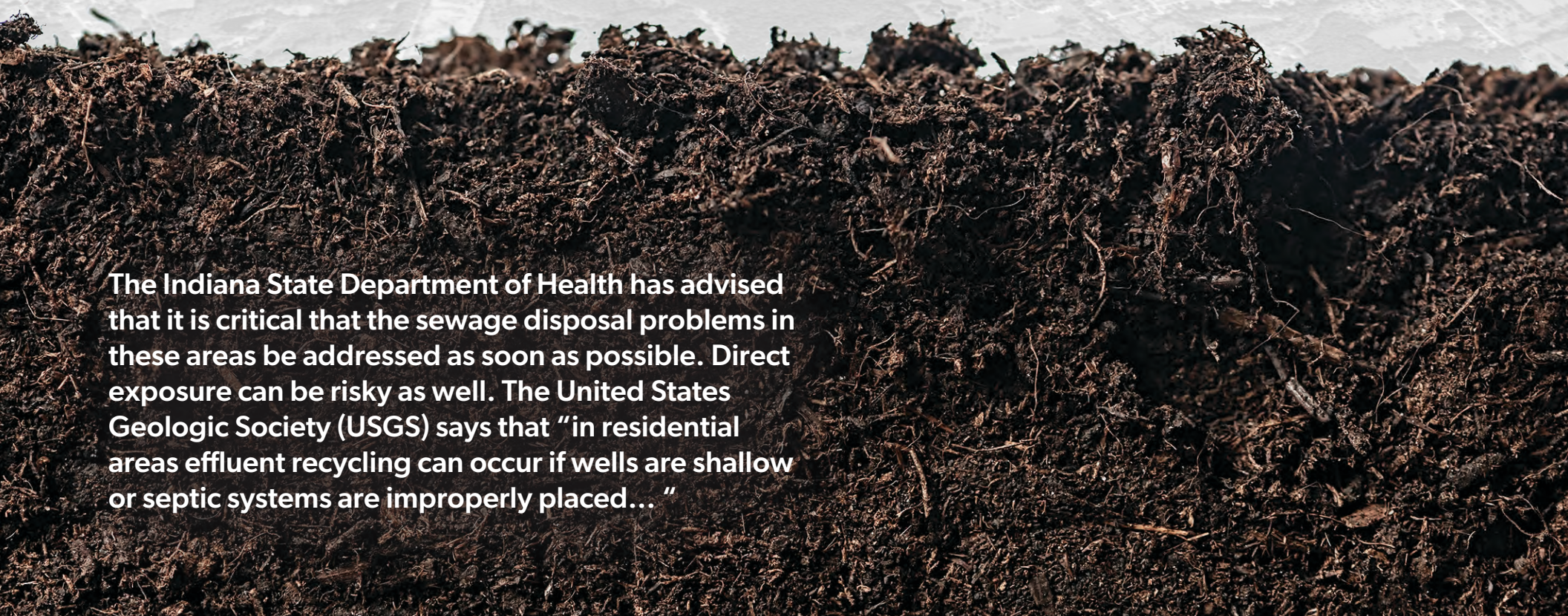
COMMUNITY AND PRIORITY SERVICE AREA CONCERNS AND FACTS CONTINUED

The County Health Department advises that it faces serious challenges in achieving minimum installation standards when permits for septic system repair or replacements are requested. The reality is that for many home sites, repair is not possible.

COMMUNITY AND PRIORITY SERVICE AREA CONCERNS AND FACTS CONTINUED

A majority of the soils within the priority areas are rated "very limited" for construction and operation of septic systems (USDA, NRCS Soils Inventory). This translates to:

- Reduced abilty to filter and treat wastewater
- Risk of early failure
- The need for costly "engineered systems"



The Indiana State Department of Health has advised that it is critical that the sewage disposal problems in these areas be addressed as soon as possible. Direct exposure can be risky as well. The United States Geologic Society (USGS) says that "in residential areas effluent recycling can occur if wells are shallow or septic systems are improperly placed… "

COMMUNITY AND PRIORITY SERVICE AREA CONCERNS AND FACTS CONTINUED

The majority of the homes in the service areas are between 30-50 years old, many are even older. This means;

- Systems are reaching their expected lifespans
- If repairs have occurred then no available area remains

Septic system life expectancy is 20-25 years

- In most cases the original septic system has been repaired and no available room for a second code compliant repair is available

Many home sites are less than 1/3 of an acre

Less than 20% of the septic systems in the identified areas are documented which means; septic systems that exist predate county record keeping therefore have already reached the threshold for longevity

COMMUNITY AND PRIORITY SERVICE AREA CONCERNS AND FACTS CONTINUED

MARSHALL COUNTY PSA SOIL CONDITIONS

PSA		% of Soil Conditions Slightly Limited	% of Soil Conditions Moderatley Limited	% of Soil Conditions Very Limited	% of Soil Conditions Un-Rated	% of Soil Conditions Unusable
PSA 1	Latonka, Lawarence Lakes, Mill Pond	27%		60%		13%
PSA 2	East Bremen	2%		97%		>1%
PSA 3	North Michigan	2%		86%		12%
PSA 4	Rushmoor Addition	22%		68%		10%
PSA 5	Donaldson & Ancilla Domini Convent	>1%		99%		>1%
PSA 6	McQueens Broadview Park	6%		94%		
PSA 7	Golfview Estates	31%		69%	21%	
PSA 8	Deer Trail, Tall Oaks Carriage Hills	6%		57%	23%	16%
PSA 9	South Michigan Street Area	6%		70%		>1%
PSA 10	Inwood	8%		89%		3%
PSA 11	Burr Oak			85%	15%	
PSA 12	Hawk Lake	13%		77%		10%
PSA 13	SR 331 South Tippecanoe	2%		89%		9%
Average Rating		**12%**		**76%**	**N/A**	**12%**

MARSHALL COUNTY PSA ON-SITE SYSTEM RECORDS

PSA		No. of Sites	Documented Systems	Undocumented Systems
PSA 1	Latonka, Lawarence Lakes, Mill Pond	601	205	396
PSA 2	East Bremen	161	102	59
PSA 3	North Michigan	229	29	200
PSA 4	Rushmoor Addition	45	44	1
PSA 5	Donaldson & Ancilla Domini Convent	32	1	31
PSA 6	McQueens Broadview Park	70	48	22
PSA 7	Golfview Estates	33	33	0
PSA 8	Deer Trail, Tall Oaks Carriage Hills	178	145	33
PSA 9	South Michigan Street Area	663	127	536
PSA 10	Inwood	42	6	36
PSA 11	Burr Oak	31	5	26
PSA 12	Hawk Lake	26	5	21
PSA 13	SR 331 South Tippecanoe	201	2	196
Totals		**2,312**	**755**	**1,557**

HEALTH, SANITATION AND HUMAN WELFARE

Undocumented failures and/or poorly functioning septic systems, coupled with less than ideal soil conditions and less than the minimum isolation from water wells, can contribute to human and environmental health risks.

In addition to the obvious concerns, there are several other factors that should be considered.

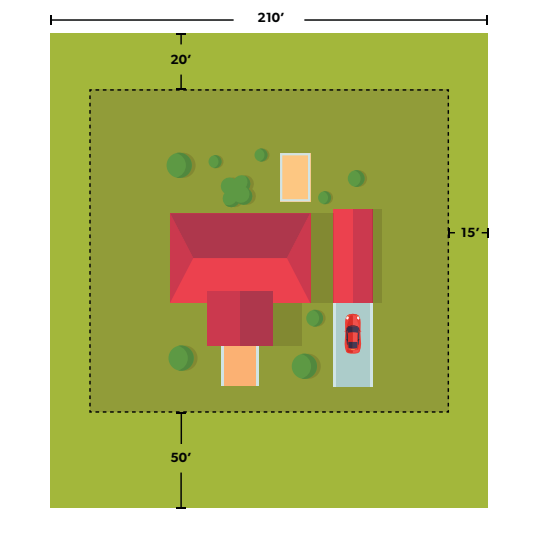
- The average home site needs to allow space for the home, garage, driveway, sidewalks, patio/deck, storage shed/building, initial septic system, replacement septic system, and a 100-foot diameter (50-foot radius) isolation area for the water well under current standards.

- The on-site septic systems in the community appear to have matured to the point that on-site treatment will either become too costly for homeowners to replace or may not possible.

- Careful installation, maintenance and routine monitoring reduces risks but does not eliminate them. This link provides information from the Indiana Department of Health as to illness associated with exposure to household waste.
  https://www.in.gov/health/eph/onsite-sewage-systems-program/diseases-involving-sewage/

MARSHALL COUNTY RESIDENTIAL STANDARDS

AGRICULTURAL RESIDENTIAL



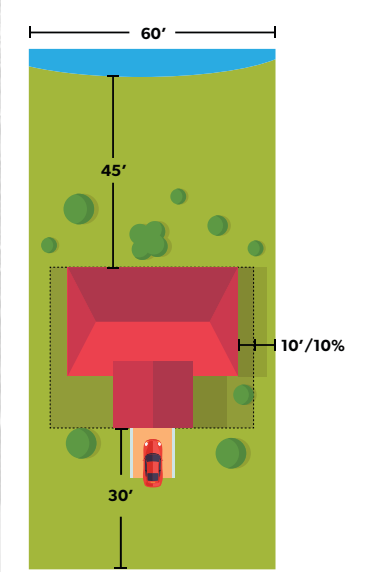
Minimum Lot Area:

- **1 Acre**

Minimum Lot Width:

- **210 Feet**

LAKE RESIDENTIAL



Minimum Lot Area:

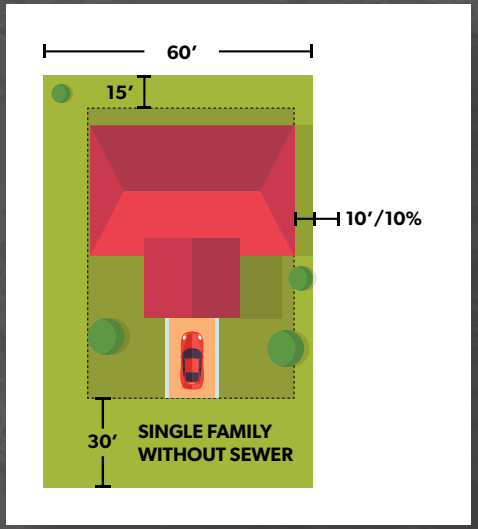
- **6,000 sq ft with public sewer**
- **1 Acre without public sewer**

Minimum Lot Width:

- **60 ft with public sewer**
- **125 ft without public sewer**

TOWN RESIDENTIAL

(I.E. DONALDSON, BURR OAK, INWOOD, TIPPECANOE)



Minimum Lot Area:

- **6,000 sq ft - Single Family with public sewer**
- **1 Acre - Single Family without public sewer**
- **8,000 sq ft - Two Family with public sewer**
- **1 Acre - Two Family without public sewer**
- **.5 Acre - Multi-Family with public sewer**

HEALTH, SANITATION AND WELFARE

INDIANA DEPARTMENT OF HEALTH SEPTIC SYSTEM LOCATION STANDARDS (ALSO COUNTY STANDARD)

TABLE 1 - SPECIFICATION DISTANCES

Min. Distance in Feet From	Septic Tank and Other Treatment Units, Dosing Tank, Lift Station	Soil Absorption System
Private water supply well [1,2]	50	50
Private geothermal well [1,2]	50	50
Commercial water supply well [1]	100	100
Commercial geothermal well [1]	100	100
Public water supply well, lake [1,3], or reservoir [1,3]	200	200
Other pond, retention pond, lake, or reservoir [3]	50	50
Storm water detention area [3,4]	25	25
River, stream, ditch, or drainage tile [3]	25	25
Buildings, foundations, slabs, garages, patios, barns, aboveground and below-ground swimming pools, retaining walls, closed loop geothermal systems, roads, driveways, parking areas, or paved sidewalks	10 [6]	10 [7]
Front, side, or rear lot lines	5	5
Water lines continually under pressure	10	10
Suction water lines	50	50

1 - The distances enumerated shall be doubled for soil absorption systems constructed where there exists horizons, layers, or strata within thirty-four (34) inches of the ground surface with a soil loading rate greater than seventy-five hundredths (0.75) gallons per day per square foot as determined from table IV of section 70(b)(8) of this rule, unless that hazard can be overcome through on-site sewage design.

2 - The separation distance to a private water supply well abandoned in accordance with 312 IAC 13-10-2(e) may be reduced to ten (10) feet.

3 - Measured from normal or ordinary high water mark.

4 - Storm water detention area: area designated for the temporary detention of storm water, with the outlet located at the lowest elevation of depression.

5 - See section 59(f) of this rule for subsurface drainage system separation.

6 - Patios without footers, aboveground swimming pools, and sidewalks may be located within ten (10) feet of septic tank, as long as no required access point is obstructed.

7 - A minimum separation of ten (10) feet is required on all sites.

410 IAC 6-8.3-57 SEPARATION DISTANCES

(b) Sewers shall not be located within fifty (50) feet of any water supply well or subsurface pump station line, except as follows:

1. Sewers constructed or waterworks grade ductile iron pipe with tyton or mechanical joints, or PVC pressure sewer pipe with an SDR rating of twenty-six (26) or less with compression gasket joints, may be located within the fifty (50) foot distance.
2. In no case shall sewers be located closer than twenty (20) feet to dug and bored water supply wells, or closer than ten (10) feet to drilled and driven water supply wells or subsurface pump suction lines.

COMPARATIVE SYSTEM BUDGETS

Information provided with the assistance from Meade Septic Design, Goshen, Indiana
(574) 533-1470
www.septicdesign.com

ON-SITE SYSTEM REPLACEMENT COST

	Gravity Trenches (SAF)	Flood Dosed Trenches (SAF)	Elevated Sand Mound (SAF)	Aerobic System (SAF)
Soil Borings	$150 - $350	$150 - $325	$150 - $325	$150 - $325
Engineer Design	$450 - $2,500	$450 - $2,500	$450 - $2,500	$450 - $1,200
Permits	$40 - $200	$40 - $200	$40 - $200	$40 - $200
Electrician	$12,000	$200 - $1,000	$200 - $1,000	$200 - $1,000
Installation	$5,000	$5,000 - $16,000	$11,700 - $25,000	$5,000 - $13,000
Total	$5,615 - $15,050	$5,840- $20,025	$12,540 - $29,025	$5,840 - $16,525
20 years @ 4% - cost per month	$34 - $91	$35 - $121	$76 - $176	$35 - $100

ANNUAL AOPERATION & MAINTENANCE FEES

	Gravity Trenches (SAF)	Flood Dosed Trenches (SAF)	Elevated Sand Mound (SAF)	Aerobic System (SAF)
Service Provider [2]	N/A	N/A	N/A	$200 - $500
Power to System [2]	N/A	$12 - $36	$12 - $36	$12 - $36
Pumping Tank [3]	$125 - $300	$125 - $300	$125 - $300	$125 - $300
Total	$42 - $100	$54 - $136	$54 - $136	$254 - $636
Monthly O&M	$3.50 - $8.30	$4.50 - $11.30	$4.50 - $11.30	$21 - $53
Total Monthly Cost	$31.50 - $84.30	$33.50 - $132.30	$80.50 - $187.30	$54 - $127

1. Aerobic treatment systems are an added component to the septic system when required by on-site conditions
2. Annually
3. Every 3 years

ESTIMATED COMMUNITY SEWER COSTS - PER HOME

Connect to Sewer	$12 - $20 per foot for 50 foot house lead	$600 - $1,000
Restoration	Yard, Landscape, etc.	$200 - $500
Abandon Septic Tank	Pump and Abandon Septic Tank	$350 - $500
Permit	Depending on Who Issues Permit	$75 - $200
Total Estimated Cost		$1,225 - $2,200
Estimated Monthly Sewer Rate		$150 - $200

WHAT CAN WE DO AS A COMMUNITY AS WE WORK TOGETHER ON THIS TOPIC?

ONE ANSWER - SUPPORT A NEW UTILITY

THE OUTCOME

With the provision of public sewers …

- Each homes septic system can be abandoned allowing homeowners more flexibility in the use of their land.
- The need for a public water supply is reduced, as the aquifer is no longer threatened by septic waste discharge.
- Historical data indicates that the property resale values normally increase proportionally to the capital cost of the sewer system for each home.
- Community-wide, home and business values will elevate bringing increased revenue to the local tax base and an improved local economy.
- Overall risk to health and human welfare is abated. Waste-borne pathogens are eliminated and wastewater is recycled to the highest degree possible and released back into the environment with no negative impact to surface or ground water resources.

COMMON QUESTIONS & ANSWERS

Q: Why should our community support a sanitary sewer project?

A: Taking a proactive approach toward protecting surface and drinking water resources is the responsibility of each and every area resident. Consideration of a common collection and treatment system for the wastewater we generate each day is a proven option.

Q: How would this project affect me?

A: If local officials decide to move forward with a project in your community, homeowners and businesses within the District will be required to connect to the new sewer.

Q: Is it mandatory that I connect to the system?

A: Yes, if you are within the approved Priority Service Area where a project has been activated.

Q: What about those of us who recently installed a new septic system or completed our new home with a septic system?

A: The law allows you to seek a temporary exemption based on the age and condition of your septic system. To qualify, your system must be no more than ten years old, and be inspected by a qualified expert as to operational condition and serviceable life. If the project proceeds, all homeowners will receive (by direct mail) details on how to prepare, file, and procure the exemption.

Q: What would be my share of the project cost?

A: Final rates will be determined by the actual costs of the project. Each property owner will pay his fair share through a monthly flat rate.

COMMON QUESTIONS & ANSWERS

Q: Why a flat rate?

A: Rural sewer utility projects require a flat rate so as to provide a predictable revenue stream. This allows rates to be set at the lowest possible level.

Q: How is the project cost determined?

A: Through the development of a detailed study and preliminary design completed by an engineer who has experience in many similar projects. Preliminary estimates are based on the study's information and include a variety of factors. These typically include final design, routing, road restoration construction market conditions and changing material costs.

Q: How will the project be funded?

A: A large portion of the project's cost can be funded through Federal or State low interest loans and possible infrastructure grants through the USDA or Indiana State Revolving Loan Program (SRF)

Q: How will the loan be repaid?

A: Through rates and charges paid by the new sewer system's customers. No landowners beyond the area served by the system will be affected.

Q: When might this project proceed?

A: Service to the identified Priority Service Areas (PSA's) could take over 30 years to complete. The Districts initial project (PSA #1) will take a least 36 months.

Q: Why should I support this?

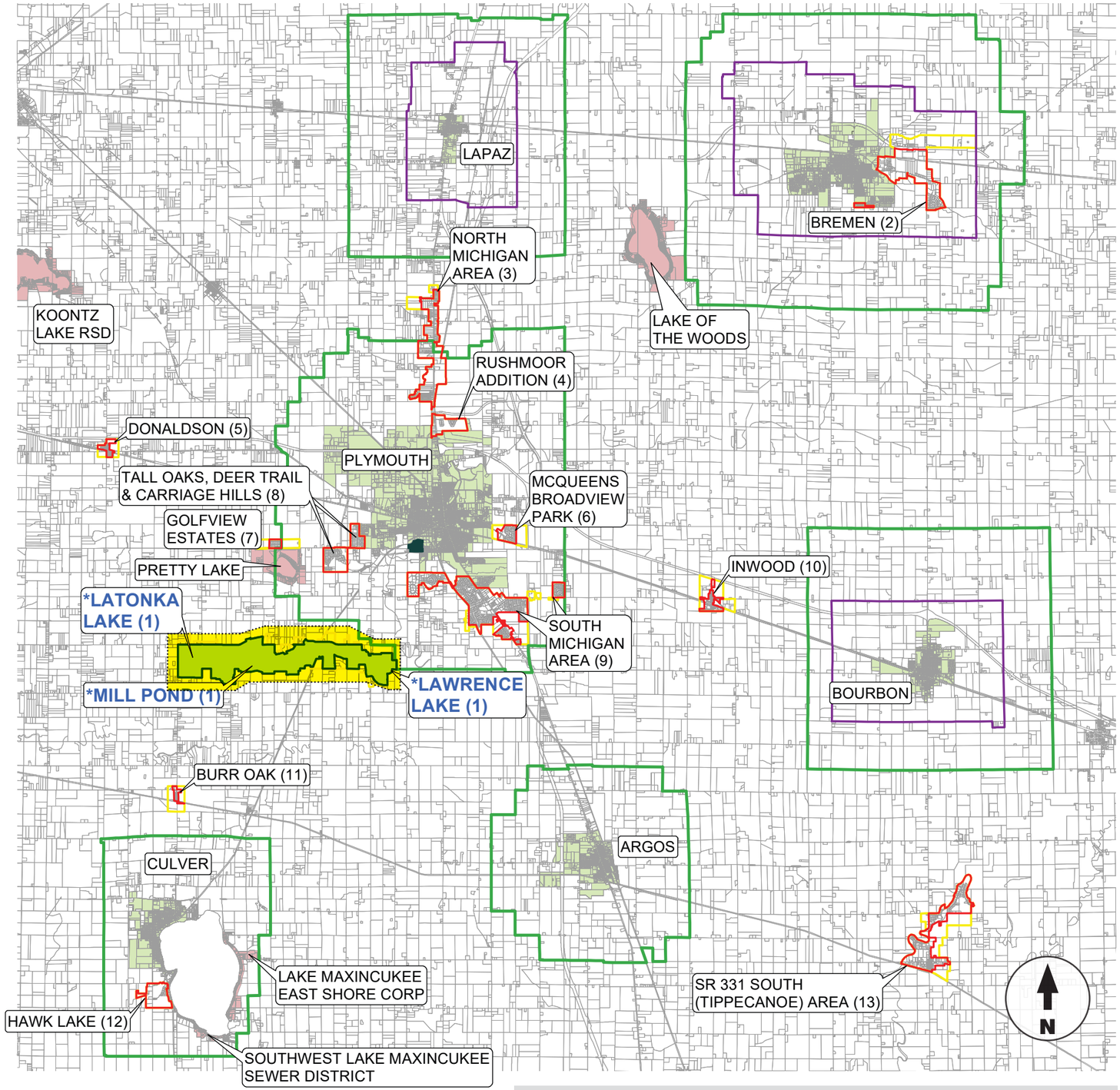
A: Introduction of a new wastewater system to a previously unserved community is a transformative and generational decision. Benefits to the homeowners and the community as a whole are proven. Health, welfare and sustainability of property values are some of the individual benefits.

COLLECTION SYSTEM CONCEPTS STUDIED

- **Low Pressure** ← Recommended
- **STEP Sewer**

TREATMENT SOLUTIONS STUDIED

- **Regionalization** ← Recommended
- **New Wastewater Treatment Facilities**



Legend

- Initial Focus Area
- Priority Service Area
- Study Area
- Municipal Boundary
- Existing Sewer District
- 2 Mile Area of Planning Influence
- Recommended/Established Urban Service Area

REGIONAL SEWAGE DISTRICT

SERVICE AREA SITUATION PLAN

MARSHALL COUNTY, INDIANA - FIGURE OVERALL

EXISTING CONDITIONS

- 13 PSA's
- 2765 EDU's (Dwelling Units)
- 68% Undocumented Septic Systems
- 415K GPD Average (In Wastewater)
- 76% of the land area in the PSA's have poor soil conditions (for septic systems)

JONES PETRIE RAFINSKI

INITIATING PROJECT RECOMMENDATION

PSA	EDU's
PSA 1 Latonka, Mill Pond, Thomas Lake, Kreighbaum Lake, Cook Lake, Holem Lake, Myers Lake, Lawrence Lake	627
Total EDU's	627
Combined Project Cost	**$20 M**
Target Rate	$150 - $200

Will depend on funding model, grant availability etc..

NEXT STEPS

- **Complete the design**
- **Complete the funding procurement**
- **Issue the project for public bid**

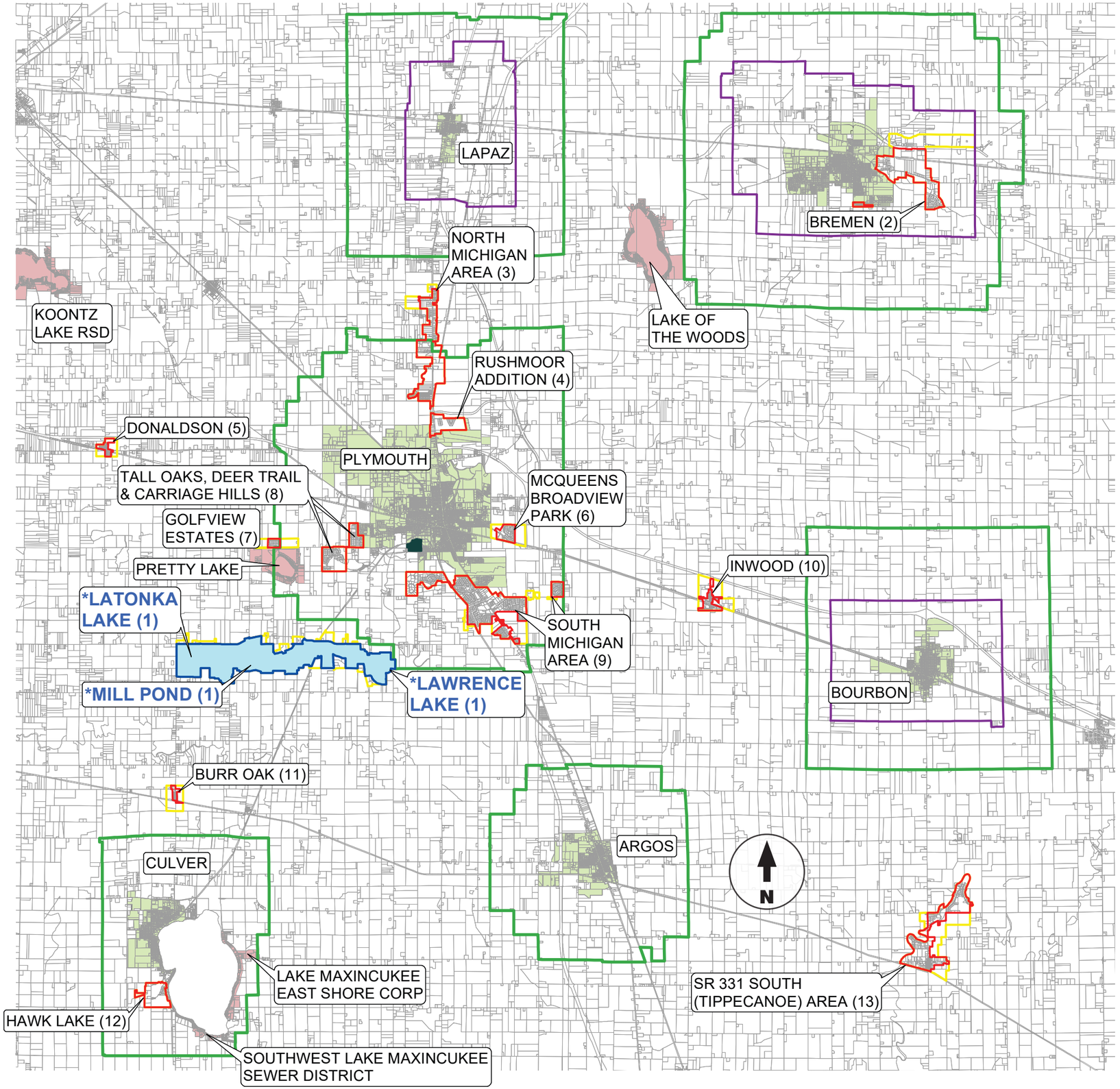
CLEAN WATER TASK FORCE

SERVICE AREA SITUATION PLAN

MARSHALL COUNTY, INDIANA - FIGURE OVERALL

EXISTING CONDITIONS

- 13 PSA's
- 2765 EDU's (Dwelling Units)
- 68% Undocumented Septic Systems
- 415K GPD Average (In Wastewater)
- 76% of the land area in the PSA's have poor soil conditions (for septic systems)



SEWER COLLECTION SYSTEMS (SELECTED)

LOW PRESSURE SEWER SYSTEM

Concept: 100% of waste is transported by pressure through a network of small diameter pipe to a central treament facility. Wastewater is treated to surface water quality standards then released back into the environment.

Includes: Grinder pump station (each home or every two homes), Small diameter collection system (11/4"-6")

Advantages:	**Disadvantages:**
Lower cost to construct installation by directional drilling. Reduced impact to roads, trees, and landscape.	More moving parts, requires power connection for every pump, slightly higher operational costs.

MARSHALL COUNTY

REGIONAL SEWER DISTRICT

FREQUENTLY ASKED QUESTIONS

PREPARED BY:

JONES PETRIE RAFINSKI

MARSHALL COUNTY MCHD HEALTH DEPARTMENT

MARSHALL COUNTY INDIANA

FREQUENTLY ASKED QUESTIONS

What is a regional district?
A regional district is a form of government that functions solely to handle drinking water, solid waste (trash), or wastewater infrastructure needs. A district may combine any of these purposes. In Marshall County the plan includes only wastewater.

Who makes the formal request to form a district?
In Marshall County the formal request is being advanced by the County Commissioners and Council.

Why formation of a regional district was considered?
In an area without public sewers, forming a regional district is a way to provide this service to citizens. In all of the areas being considered (13 in all) residents and the health department have significant issues repairing or replacing on-site systems to the extent that permitting is, many times, not possible.

Can I be involved in the process?
Yes, attend any public meetings as well as the public hearings that are held during the formation process. Request information from the project team using the contact information and links provided here.

How do I know if I am included in an area managed by a district?
A map of the boundaries of the district is available on the MCRSD website.

What if I wish to be included in the area?
If you are interested in inclusion in the district, you should contact the Regional Sewage District Board.

Can a regional district begin charging me for service before completing my connection?
Yes. A regional district may bill and collect rates and charges for the services to be provided after the contract for construction has been awarded and actual work has started.

What if my septic system works fine or if I want to keep my septic system and not hook up to the District system?
- Contact the Regional Sewer District Board (see also Indiana Code IC 13-26-5-2.5).
- Talk to your local health department. There are other alternatives in the statute if your septic system is new enough and has been recently certified.
- A regional district has the authority to require or waive sewer connection. These decisions are made locally by the regional district board and are on a case-by-case basis. However if everyone in the service area connects at the same time, it can help control the cost of the project.

How does a regional district determine sewer rates?
Regional districts are bodies of government with the direct authority to make decisions on sewer construction or repair, connection requirements, financing, user rates and fees.

Will there be a connection fee?
A regional district has the authority to determine whether or not to charge a connection fee and how much it will be.

FREQUENTLY ASKED QUESTIONS ...CONTINUED

Who is accountable for the fees and charges collected by the district?

Generally, each regional district goes through an audit by the Indiana State Board of Accounts (SBOA) every two years. The SBOA has the right to hold an audit or inspection more frequently if needed. Indiana Code 5-11-1-2 dictates a biennial audit while other circumstances prescribed through the Indiana Code may merit additional audits. These audits are available for inspection by the public pursuant to a public records request.

I have vacant land within the regional district boundary. Can I be charged for service?

The regional district board may design a water or sewage project to extend to, and benefit, every lot, parcel of land or building in the service area. In the case of Marshall County RSD only those who request this will be considered. Those who request this will be charged a user rate.

What are the advantages of a regional district?

Regional Districts cannot charge a tax. They are supported by user fees. Usually if a sewer is available your property values increase. In the case of Marshall County the system will provide solutions to the homeowners where currently none exists.

Are there any public funds available to assist with project costs?

Yes there are. State and federal loan and grant programs include:

- The Indiana State Revolving Fund low-interest loan program
- U.S. Department of Agriculture - Indiana Rural Development loan and grant programs

Who applies for the public funds?

The regional district has the authority to apply for public funds. In some cases, the county will start the funding process then turn it over to the district once formed.

Are regional districts subject to jurisdiction of the Indiana Utility Regulatory Commission (IURC)?

No, regional districts are not subject to IURC overview.

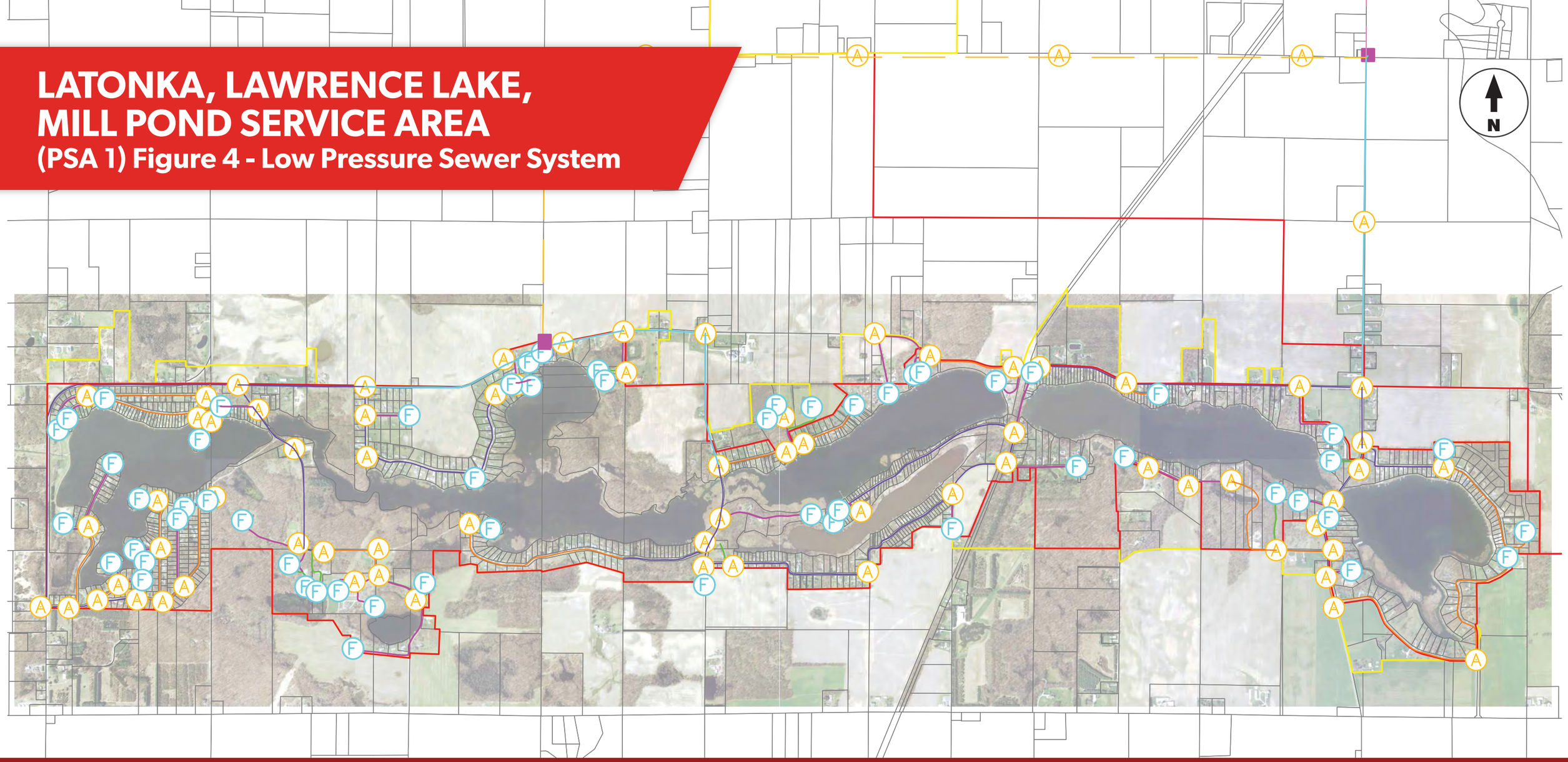
For more information:

Call the Regional District Coordinator of IDEM's Office of Water Quality about district formation at: (800) 451-6027. You can also view information by internet search for;

- Associations such as the Indiana Regional Sewer District Association, Alliance of Indiana Rural Water, Indiana Rural Water Association or Rural Community Assistance Program.
-
- The Indiana statute for regional districts can be found in Indiana Code (IC) 13-26.
- Indiana statutes for appealing the petition to form a regional district are found at Indiana Code (IC) 4-21.5-5-3, and Indiana Code (IC 4-21.5-5-7). The Indiana State Web site with the entire code is available online.
- The Indiana statute for sewer rates can be found at Indiana Code (IC) 13-26-11

LATONKA, LAWRENCE LAKE, MILL POND SERVICE AREA

(PSA 1) Figure 4 - Low Pressure Sewer System



PSA 1 BY THE NUMBERS

- 627 EDU's (Dwelling Units)
- Average of 94,000 GDP wastewater generated within PSA 1
- 70% of land area has a USDA rating of "Very Limited" for sustaining septic systems
- Less than 30% of homes have documented septic systems
- Home sites are as small as 1/5 of an acre

Legend

- PROPOSED 1.25-inch PRESSURE SEWER
- PROPOSED 2-inch PRESSURE SEWER
- PROPOSED 3-inch PRESSURE SEWER
- PROPOSED 4-inch PRESSURE SEWER
- PROPOSED 6-inch PRESSURE SEWER
- PROPOSED 6-inch FORCE MAIN
- PROPOSED 8-inch FORCE MAIN
- SERVICE AREA
- STUDY AREA
- A — P-ARV
- F — P-FS