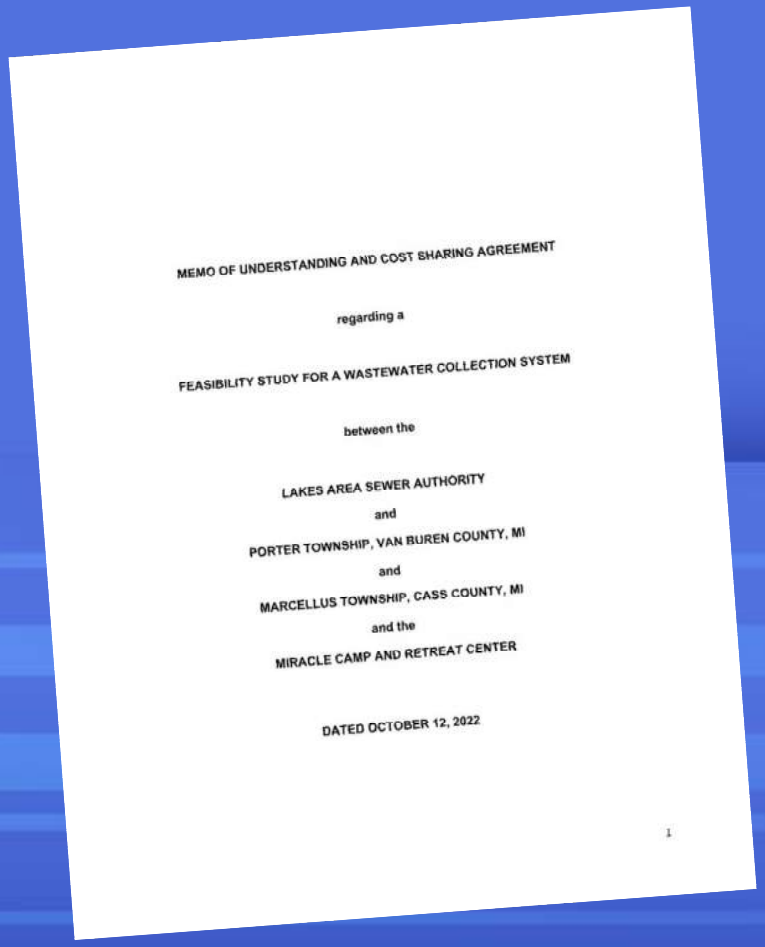
LAKES AREA SEWER AUTHORITY & PORTER/MARCELLUS TOWNSHIPS

BANKSON, HUZZY, PINE AND HEMLOCK LAKE SEWER SYSTEM PROJECT INFORMATIONAL MEETING



MEMO OF UNDERSTANDING AND COST SHARING AGREEMENT

regarding a

FEASIBILITY STUDY FOR A WASTEWATER COLLECTION SYSTEM

between the

LAKES AREA SEWER AUTHORITY
and
PORTER TOWNSHIP, VAN BUREN COUNTY, MI
and
MARCELLUS TOWNSHIP, CASS COUNTY, MI
and the
MIRACLE CAMP AND RETREAT CENTER

DATED OCTOBER 12, 2022

1

Presented by:

Alan C. Smaka, P.E.

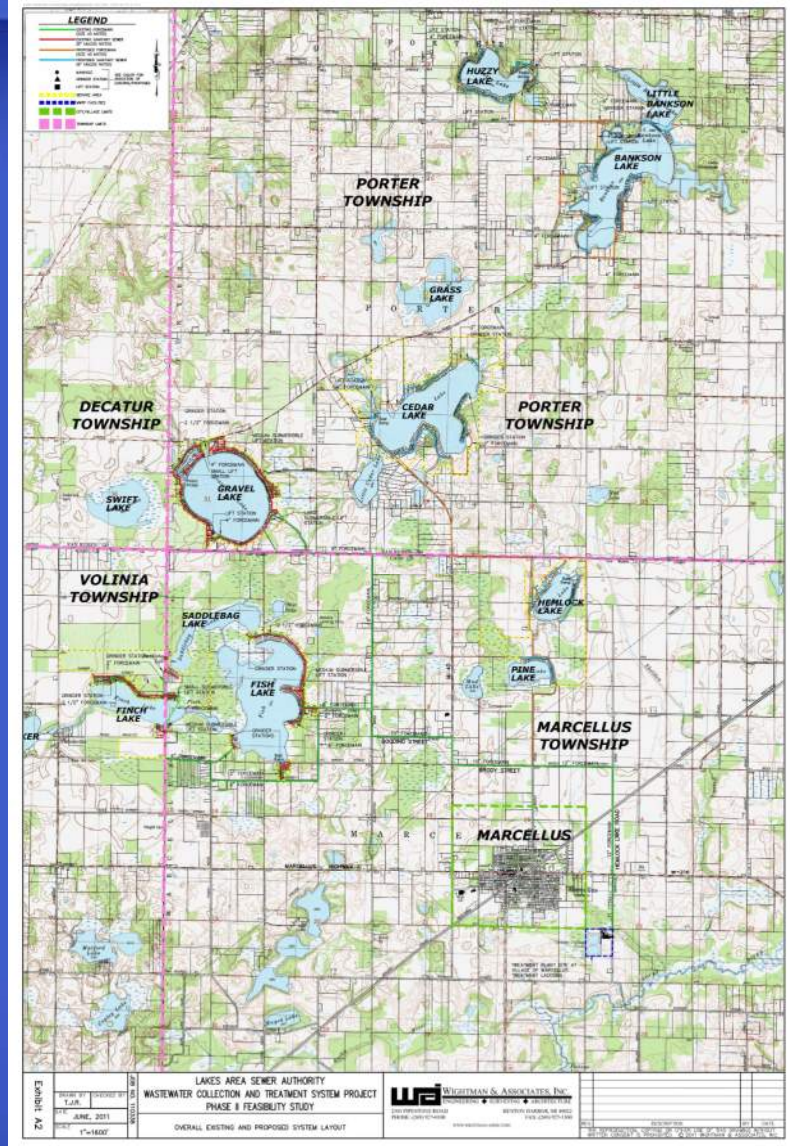
History

1995 – Porter Township Sewer Study (Gravel, Bankson, Huzzy, & Cedar Lakes)
1997 – Village of Lawton Constructs WWTP
2000 – Marcellus Township Sewer Study – Fish Lake and M-40 Corridor
2004 – Village of Marcellus completes water system improvements
2006 – Village of Marcellus begins wastewater system improvements
2006 – Updated study for Fish and Gravel Lakes completed and presented to public
2006 through 2007 – Finch and West Saddlebag Lakes request updated cost estimates to include the communities as service areas in Fish and Gravel Lake study

History

- Initial LASA project history to be discussed - $10.4M project with 20% grant – 2004 initial meetings with lake associations, constructed between 2009 and 2011
- Cedar Lake interest surfaced in 2011 – petitions circulated and submitted to Township
- Cedar Lake system constructed from late-2013 to early 2015 - $3.445M project with 45% grant. Pine and Hemlock Lakes also considered but chose not to proceed at time
- Miracle Camp interest and need surfaced in summer, 2022.
- LASA, Townships and Miracle Camp execute MOU to study feasibility of service to four remaining lakes in October, 2022.
- Preliminary findings complete – now meeting with potential stakeholders to determine potential level of interest before publishing final study

History


LEGEND
HUZZY LAKE
LITTLE BANKSON LAKE
BANKSON LAKE
PORTER TOWNSHIP
GRASS LAKE
CEDAR LAKE
DECATUR TOWNSHIP
PORTER TOWNSHIP
GRAVEL LAKE
SWIFT LAKE
VOLINIA TOWNSHIP
SADDLEBAG LAKE
HEMLOCK LAKE
PINE LAKE
FISH LAKE
FINCH LAKE
MARCELLUS TOWNSHIP
MARCELLUS
GOODING STREET
BRODY STREET
HEMLOCK LAKE ROAD
Exhibit A2
LAKES AREA SEWER AUTHORITY
WASTEWATER COLLECTION AND TREATMENT SYSTEM PROJECT
PHASE II FEASIBILITY STUDY
OVERALL EXISTING AND PROPOSED SYSTEM LAYOUT
WIGHTMAN & ASSOCIATES, INC.
T.J.R.
JUNE, 2011
1"=1600'

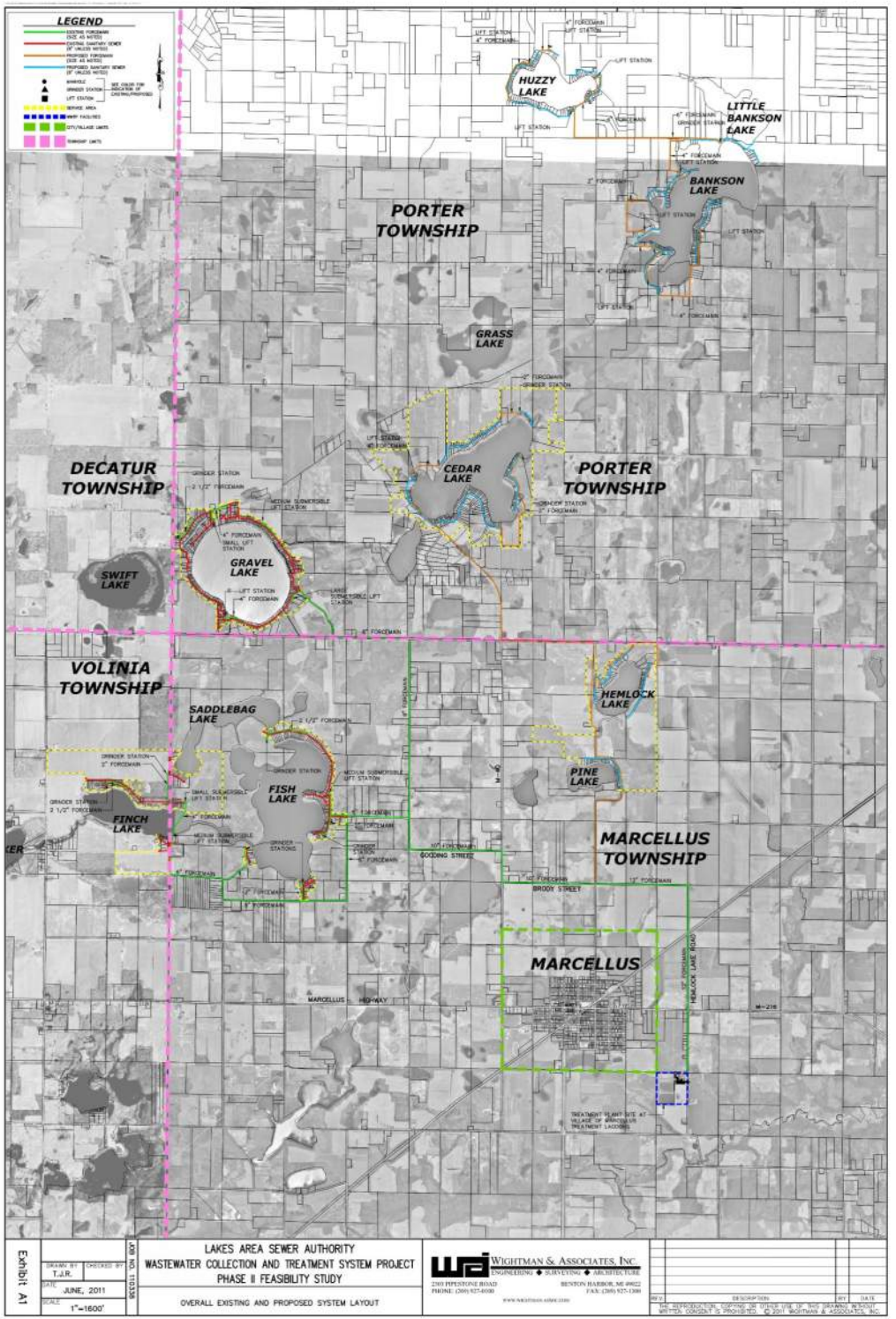

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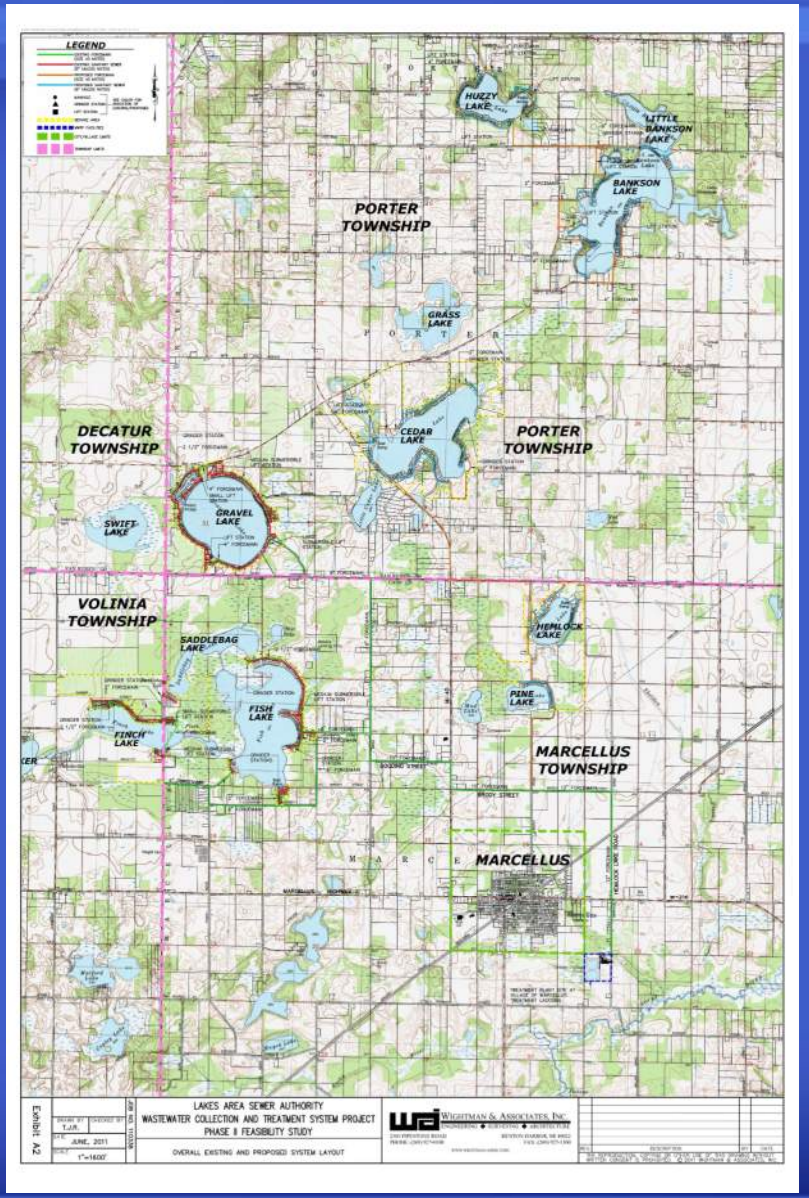
Exhibit A1
LAKES AREA SEWER AUTHORITY
WASTEWATER COLLECTION AND TREATMENT SYSTEM PROJECT
PHASE II FEASIBILITY STUDY
OVERALL EXISTING AND PROPOSED SYSTEM LAYOUT
WIGHTMAN & ASSOCIATES, INC.
T.J.R.
JUNE, 2011
1"=1600'

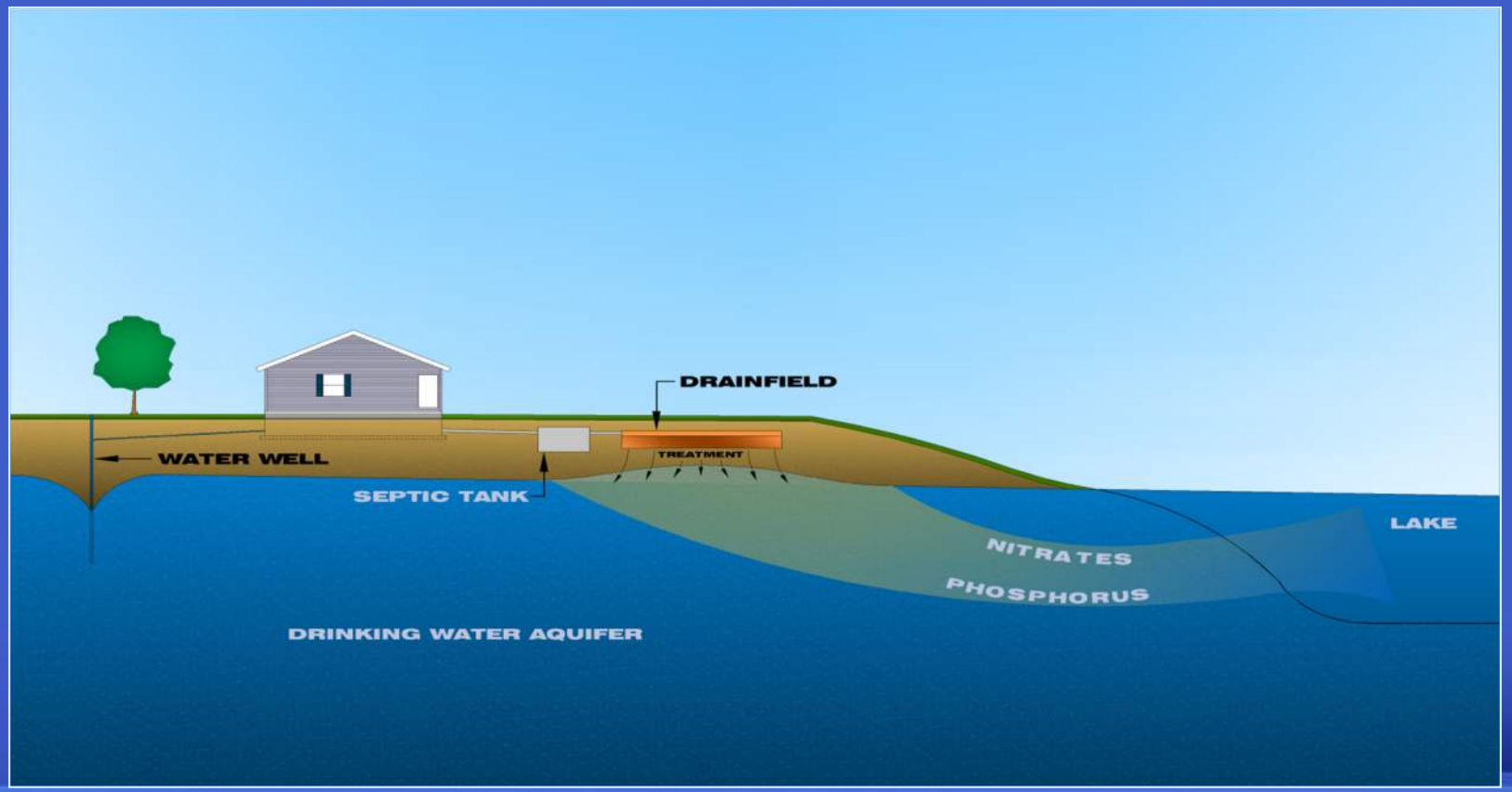
Project Description

- New sanitary sewers to serve developed areas around Bankson, Huzzy, Hemlock and Pine Lakes
- Connection to existing LASA WWTP via forcemain extension and connection at 27 ½ Street/94th Avenue and along Maple Road
- $6.5M to $12.5M project depending on scope
- 40-340 REUs depending on scope



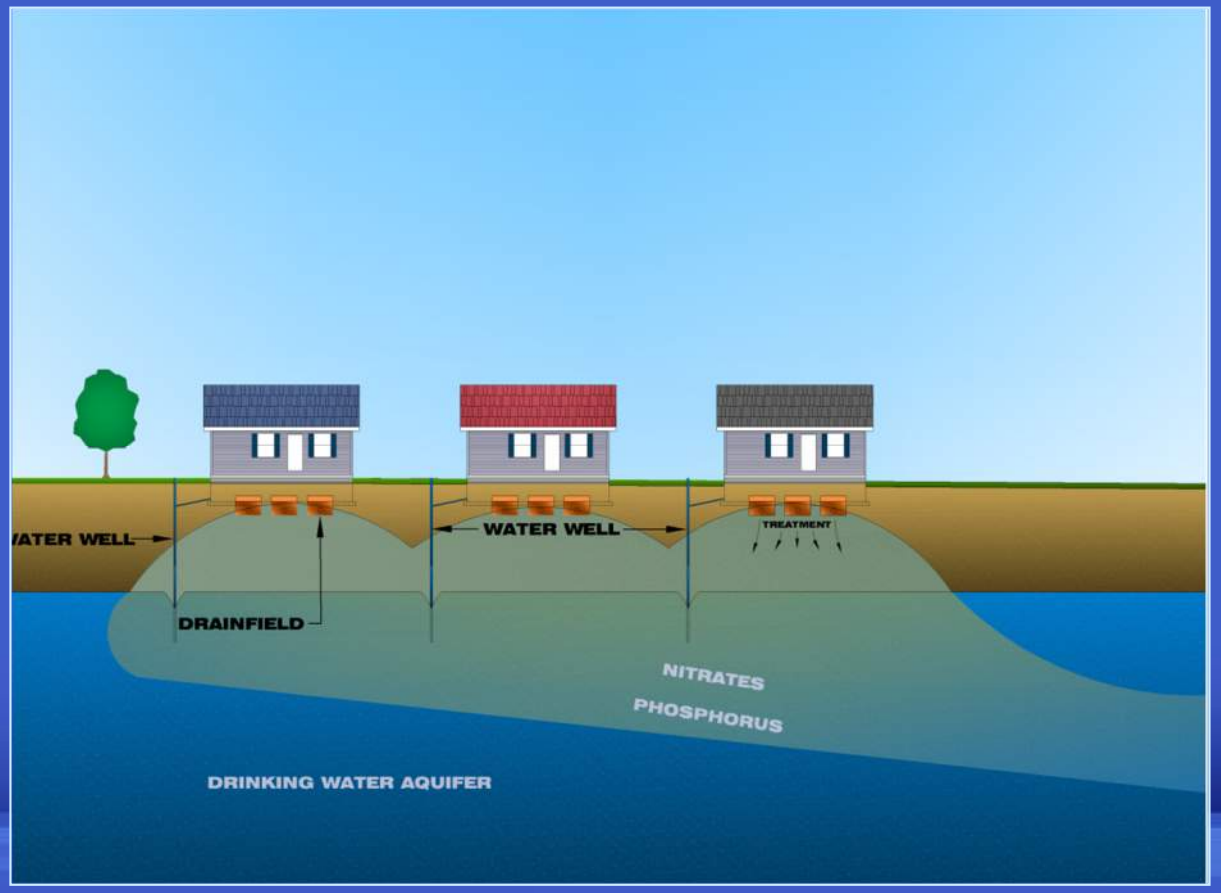
Need for Project

- Nutrient Pass-Through
  - Minimal protection for ground and surface water
  - 90% of Nitrates and 10-25% of Phosphorus pass through into ground and surface water



Need for Project

- Housing Density
  - Septic systems best in low density areas with available land
  - Increased density = decreased dilution
  - High density/overlapping drain fields = increased water pollution
  - Density is the primary reason the Village of Marcellus/Lawton and other Cities/ Villages need sewer systems – not related to a lake but to protect public health and safety



Need for Project

- Minimum Septic Setbacks

  -Current County Standards

  Lake/Stream[1] = 50’

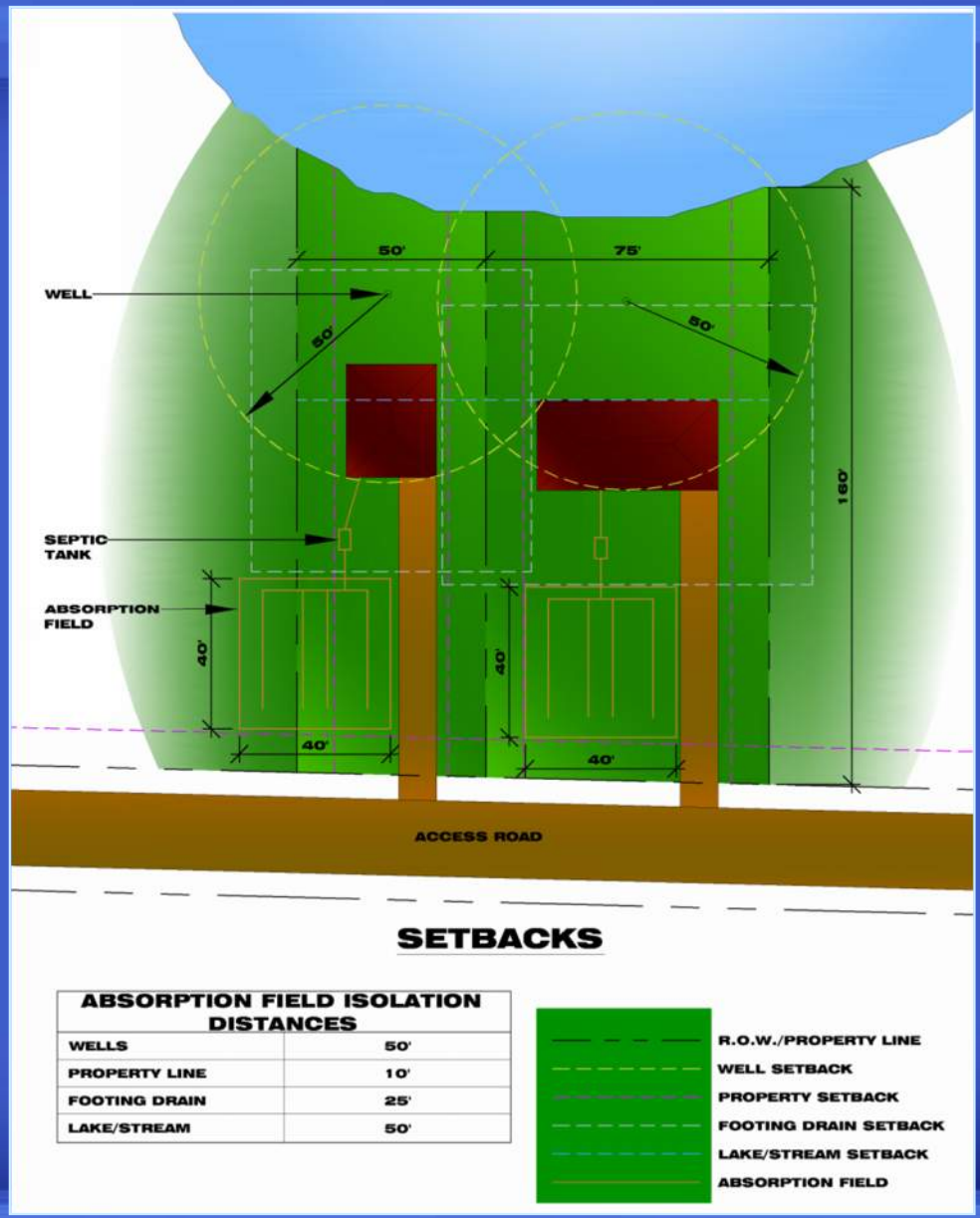
  Well = 50’

  Footing Drain = 25’

  Property Line = 5’

  Not Under Paved Areas

  Equal Replacement Area Required



Need for Project

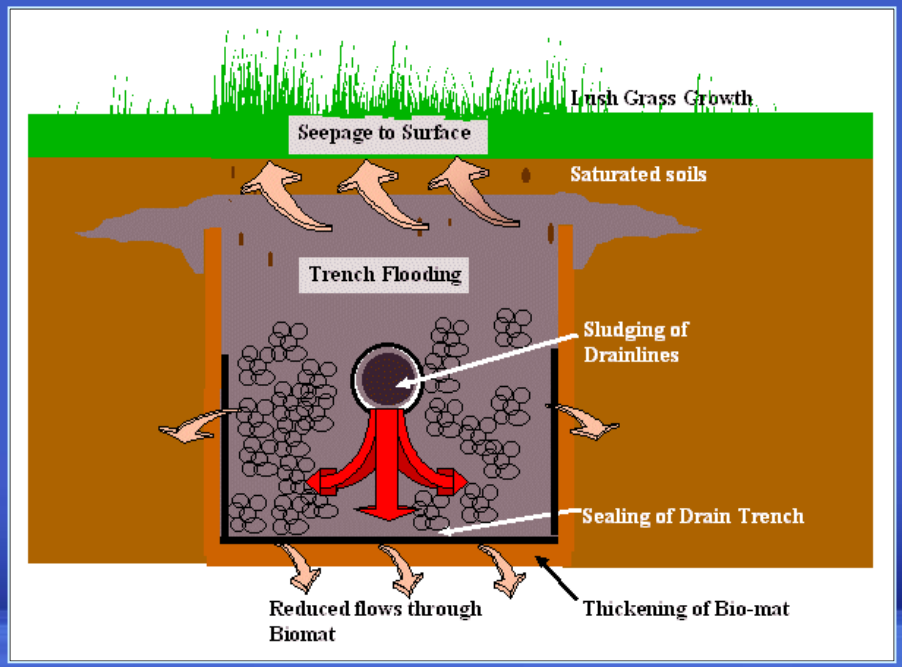
- Poor Soils
  - Dense soils have low percolation rates causing surface ponding
  - Coarse soils increase nutrient pass-through
  - USDA Soil Maps rate many area soils as “severe” or poor for septic systems

Need for Project

- High Groundwater Table
  - Distance from septic field to groundwater impacts dilution
  - 48” vertical isolation distance required per current code
  - High groundwater = decreased nutrient removal

Need for Project

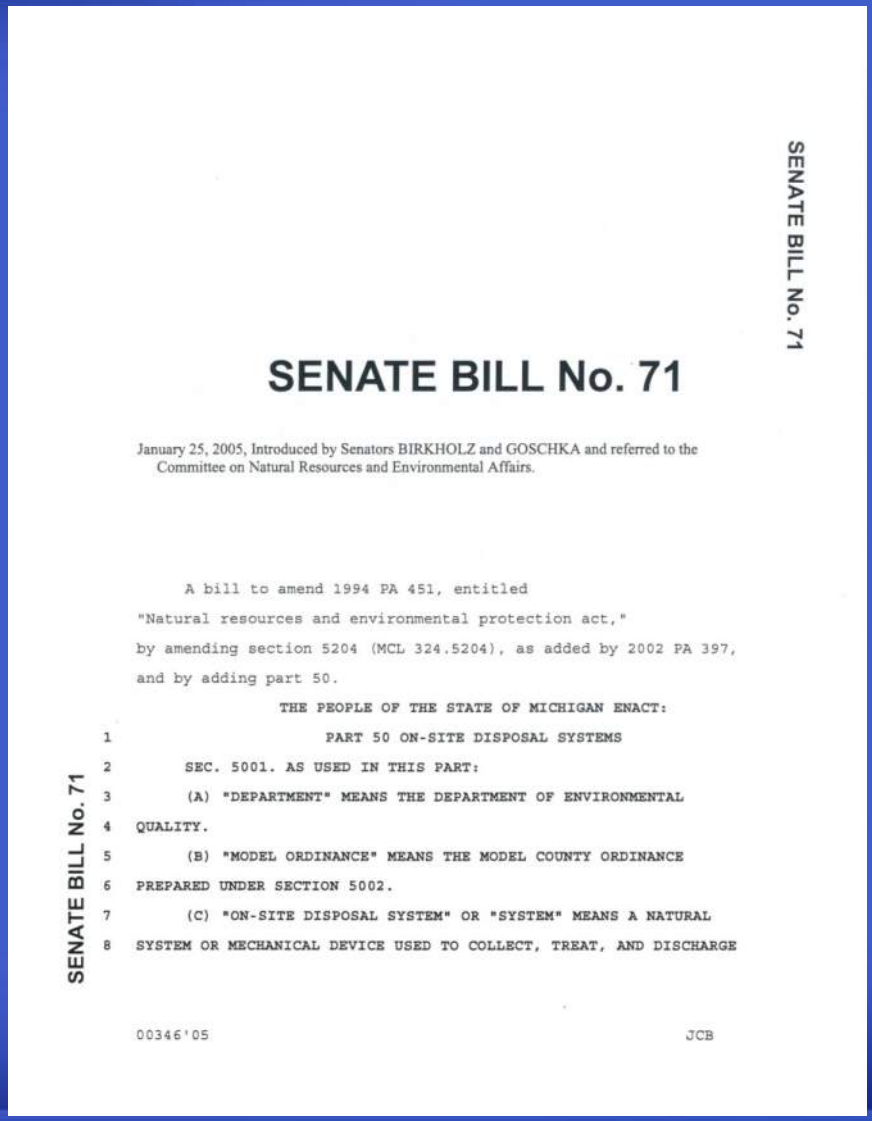
- Increased Water Usage
  - Increased use of “common” appliances
  - Water softener backwash disrupts system biology
  - Saturation causes ponding and system failure
  - Once seasonal homes now year-round
  - Greater flow = greater pass-through
  - Garbage disposals!



Need for Project

- Proposed State-Wide Septic Code

– Michigan is the only state without a Statewide Septic Code
– Governor Granholm task force developed a new Code – not implemented due to budget constraints
– New Code would set uniform requirements
– Many septic systems will not meet new requirements
– Some type of code is reasonable to expect in near future, especially given the Governor's desire to consolidate services
– Could result in significant increases in pump and haul cases



SENATE BILL No. 71

SENATE BILL No. 71

January 25, 2005, Introduced by Senators BIRKHOLZ and GOSCHKA and referred to the Committee on Natural Resources and Environmental Affairs.

A bill to amend 1994 PA 451, entitled

"Natural resources and environmental protection act,"

by amending section 5204 (MCL 324.5204), as added by 2002 PA 397, and by adding part 50.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

PART 50 ON-SITE DISPOSAL SYSTEMS

SEC. 5001. AS USED IN THIS PART:

(A) "DEPARTMENT" MEANS THE DEPARTMENT OF ENVIRONMENTAL QUALITY.

(B) "MODEL ORDINANCE" MEANS THE MODEL COUNTY ORDINANCE PREPARED UNDER SECTION 5002.

(C) "ON-SITE DISPOSAL SYSTEM" OR "SYSTEM" MEANS A NATURAL SYSTEM OR MECHANICAL DEVICE USED TO COLLECT, TREAT, AND DISCHARGE

00346'05 JCB

Need for Project

- County Health Department Endorsement
  - The Cass-Van Buren County Health Department endorsed the first LASA project and would endorse a municipal collection and treatment system for the remaining lake areas as the only sure means of protecting the lake resources.
  - The lack of horizontal and vertical isolation distances lead to a very large amount of wastewater being discharged into the lakeshore environment without benefit of proper filtration.

VAN BUREN/CASS COUNTY
DISTRICT PUBLIC HEALTH DEPARTMENT

Van Buren County Office
Office
57418 CR 681, Suite A
Hartford, MI 49057
49031
(269) 621-3143

Mike W. Laufer, R.S., Chief Sanitarian
Director Environmental Health Division

Cass County
201 M-62 North
Cassopolis, MI
(269) 445-5280

ENVIRONMENTAL HEALTH SERVICES

28 November 05

Alan Smaka
Wightman & Associates, Inc.
2303 Pipestone Rd.
Benton Harbor, MI 49022

Dear Mr. Smaka,

Please consider this correspondence as the Van Buren/Cass District Health Department's support for the proposed municipal sewage disposal system to serve Gravel, Fish and Finch Lakes.

Over the years this department has seen a continuing upsurge in the demand for lake property. Historically, lake cottages were small vacation cabins with few amenities that were used for short periods of time during the summers. These cottages were invariably built on small lots with little regard for adequate sewage disposal facilities. With the current high demand for and correspondingly high values for lake lots it is becoming more and more common to see larger, higher value homes being built to replace older cottages as well as on the diminishing number of vacant lots. All too frequently the lots are not large enough to support adequate sewage disposal facilities and still maintain mandated setbacks to wells and lakes. Additional pressure is being added to septic systems as lake homes are being converted to permanent or other than seasonal use. Pump and haul systems are being used as a last resort but cannot be considered as a permanent solution for sewage disposal.

Given the limitations of lot sizes around the lakes and increased usage of lake properties, a municipal sewage system will provide the only practical, long term solution for public health and lakes preservation.

Please feel free to contact this office for any further assistance or support.

Sincerely,

Mike Laufer, R.S.
Director of Environmental Health
Van Buren/Cass District Health Department

Given the limitations of lot sizes around the lakes and increased usage of lake properties, a municipal sewage system will provide the only practical, long term solution for public health and lakes preservation.

New Sewer System Property Owner Costs

- Rate structure includes:
  - Monthly charge ($67.50/month/REU)
  - Benefit fee ($20,000-30,000/REU) depending on number of lakes involved and implementation model
  - Parcel fee ($2,000.00)
- Above does not include grants - assumes loan only

Connection Costs

- Each Owner Pays to Connect to the System
  - A 4- or 6-inch connection from building to property line ($15-$20/foot)
  - Cost of abandoning the septic tank ($550-$950)
  - Permit fee ($50-$100)
  - A pump (if needed) with a 2-inch forcemain ($500-$1,500 each + $12-$15/foot)

Financing Options - Project

- Municipal Bonds
- USDA Rural Development Loan (Selected for first two LASA projects resulting in $1.833M and $1.404M grant funding)
- MDEQ State Revolving Fund Loan
- Grant Money (Not definite but will apply for grants anyway)

Financing Options – Property Owners

- Cash Plan - Assessments paid up front
- Installment Plan - Pay over life of project bonds (40 years) up to 1% over bond rate
- Low-income assistance available through:
  - USDA Rural Development
  - State of Michigan
  - Eligibility and application information available
  - Assistance available to complete application

Connection Costs - Example

USDA Rural Development 100% Loan 40 Years @ 2.875%	Cash Plan		or Installment Plan	
	Construction Cost Paid Up Front		Construction Cost Paid over 40 Years	
	Capital Cost	Annual Cost	Capital Cost	Annual Cost
Monthly Rate ($67.50/month)		$810.00		$810.00
Parcel Fee ($2,00.00)	$2,000.00			$99.18
Benefit Fee ($25,000.00)	$25,000.00			$1,239.69
Connection to System (75')	$2,000.00		$2,000.00	
Total Up Front Cost	***$29,000.00***		***$2,000.00***	
Total Annual Cost		***$810.00***		***$2,148.87***

Connection Costs – Initial 2009 Project Low Cost Alt

USDA Rural Development Loan 40 Years @ 4.50%	Cash Plan or Installment Plan			
	Construction Cost Paid Up Front		Construction Cost Paid over 40 Years	
	Capital Cost	Annual Cost	Capital Cost	Annual Cost
Monthly Rate ($38.00/month)		$456.00		$456.00
Parcel Fee ($500.00)	$500.00			$31.16
Benefit Fee ($7,290.00)	$7,950.00			$495.45
Connection to System (75')	$1,050.00		$1,050.00	
Total Up Front Cost	**$9,500.00**		**$1,050.00**	
Total Annual Cost		**$456.00**		**$982.61**

Connection Costs – Effects of Grants – Previous Project Ex.

The USDA-RD program also contains a grant element for eligible projects. If, after submittal of a funding application, grants are received, the benefit fee costs on the previous slide can be expected to be lowered. For comparison purposes and to provide a range of such reduction, an 80% Loan/20% Grant offer from the USDA-RD would result in the benefit fee being reduced from $25,000 to $20,000, or an annual "installment" reduction from $2,148.86 to $1,900.93. The reductions to the benefit fee for a lower grant percentage (such as a 90% Loan/10% Grant) will be proportional to the range between a 100% and 80% Loan.

Comparative Septic System Costs

- Replacement system in virgin soils – $7,500 to $12,500
- Remove and replace system in same location - $14,000 to $18,500
- Construct mound septic system – $15,000 to $22,000

Who Must Pay?

- **Only** property owners served by gravity sewers (shown in red)
- Unserved properties **cannot and will not** be assessed
- Funding comes from assessments and fees **within** service area
- **No** township general fund monies can be used

Implementation Steps

- Lake association(s) encourage and/or petition Township to implement project – Porter and Marcellus Township lakes
- Townships finalize feasibility study, disseminate information and decide whether or not to proceed with project and prepare necessary legal documents to join LASA system
- LASA and Townships determine implementation strategy
- Prepare necessary studies, rate assessments and apply for funding from the USDA-RD (if applicable)
- Request County assistance in financing project
- Select financing method
- Design sewer system, permitting and easement acquisition
- Obtain construction bids
- Final assessment rolls and hearings
- Sell bonds
- Construct project

Questions?