

SOUTH KALAMAZOO COUNTY NORTH ST. JOSEPH COUNTY

CLEAN WATER AND RESOURCE
PRESERVATION INITIATIVE

STATE-OF-THE-ART, REGIONAL
WASTEWATER TREATMENT SYSTEM

INTERIM REPORT

PREPARED FOR : SOUTH KALAMAZOO
COUNTY, NORTH ST. JOSEPH COUNTY
PROJECT STEERING COMMITTEE

THE URGENT NEED FOR ACTION

TO PROTECT HEALTH AND HUMAN WELFARE IS NOW...

ENVIRONMENTAL CONCERNS IN THE REGION:

- The St. Joseph River sole source aquifer is a protected resource from which over 500,000 residents in two states receive drinking water
- The ground water aquifer within the project area is described as “un-confined”, meaning there is no limiting layer and therefore is vulnerable from surface influences such as on-site septic systems
- The project area is within the watersheds of high value freshwater resources including the Rocky River, the Portage River, and the St. Joseph River as well as multiple fresh water lakes
- The area of concern, parts of 5 townships in 2 counties, includes approximately 3800 equivalent dwelling units
- The development density in some parts of the study area approaches 6 units per acre (specifically within the lake front areas)
- Despite 50% of the study area being served by a rural water utility the concern for exposure to human wastewater remains high throughout the community
- Home sites not served by the water system will not support the installation of a new well (due to proximity to existing septic systems)
- Most home sites within the study area will not support a replacement septic system

CONTINUED USE OF ON-SITE SYSTEMS MEANS

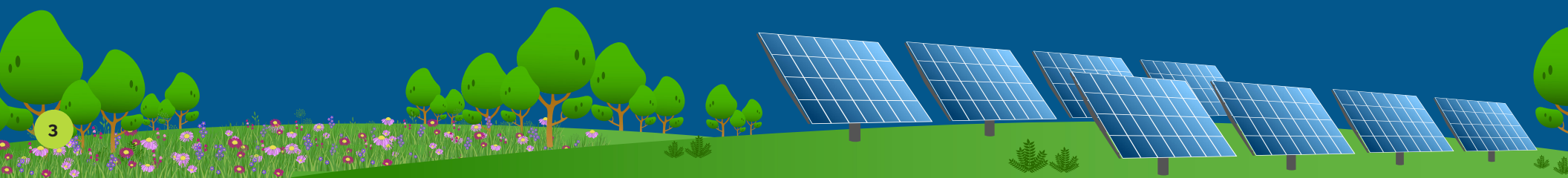
UP TO 795,000 GAL/DAY

OF UNTREATED WASTEWATER IS BEING DISCHARGED TO THE ENVIRONMENT DAILY!!

THE PROJECT

An **Environmentally Friendly**, Regional Waste Water Treatment System:

- Regional, “State of the art” clean wastewater facility (“WWTF”) servicing Northern St. Joe and Southern Kalamazoo Counties and supporting commercial, industrial and residential development
- Treatment concept results in “Near Drinking Water” quality effluent
- Carefully managed biological process will be energy efficient in all components
- Site selection will consider solar power generating facility
- Site selection will consider environmental restorations of surplus area (native species, wetlands, etc...)
- Results in elimination of untreated wastewater negatively impacting the environment



PRIVATE SEPTIC SYSTEM ANALYSIS

INITIAL STUDY AREA(S)

* The typical usable life of a septic system is 20 years

Study Area #	Study Area Name	Wastewater Generating Properties	Undocumented Private Systems		Number as Percentage Properties on 1st System			Number as Percentage Properties on 2nd System			Number as Percentage Properties on 3rd System			Weighted Average Age for Currently Active Systems
			Count	%	Count	%	Average Age (Yrs)	Count	%	Average Age (Yrs)	Count	%	Average Age (Yrs)	
1	Barton Lake	128	25	20%	64	50%	35	36	28%	22	3	2%	17	30
5	Tamarac 1	323	54	17%	136	42%	38	117	36%	27	16	5%	11	32
6	Tamarac 2	111	21	19%	74	67%	26	16	14%	16		0%		24
7	US131-M216	162	52	32%	58	36%	38	39	24%	30	13	8%	18	33
8	Buckhorn	122	43	35%	22	18%	45	48	39%	31	9	7%	15	33
9	Wilbur Road	217	41	19%	97	45%	39	65	30%	28	14	6%	14	33
10	Fisher Lake	396	106	27%	166	42%	38	105	27%	26	19	5%	18	33
11	Parkville - Industrial	36	18	50%	8	22%	39	8	22%	30	2	6%	29	34
12	Parkville - Residential	57	22	39%	17	30%	40	13	23%	23	5	9%	15	30
TOTALS		1552	382	25%	642	41%	38*	447	29%	26*	81	5%	17*	32

ON-SITE SEPTIC SYSTEM INVENTORY - PHASE ONE PROJECT AREA

- The above data comes directly from local health department archives
- The data provides a stark picture for the need to move to a regional process solution
- Based on this information this part of the region has a significant environmental issue

Health department records show that continued use of on-site systems within the study area is likely **not viable or sustainable.**

34% of waste generating properties are on or using their 2nd or 3rd replacement system

25% use a system that pre-dates records or were un-permitted installations

37.5 years is the average age of original systems within the study area

50% of the industrial sites in Parkville do not have permits on file

382 sites within all of the study areas have no permit on file

528 sites have replaced their original system

26 years is the average age of the 2nd system

17 years is the average age of the 3rd system

R4S

R5S

R5S

R6S

R6S

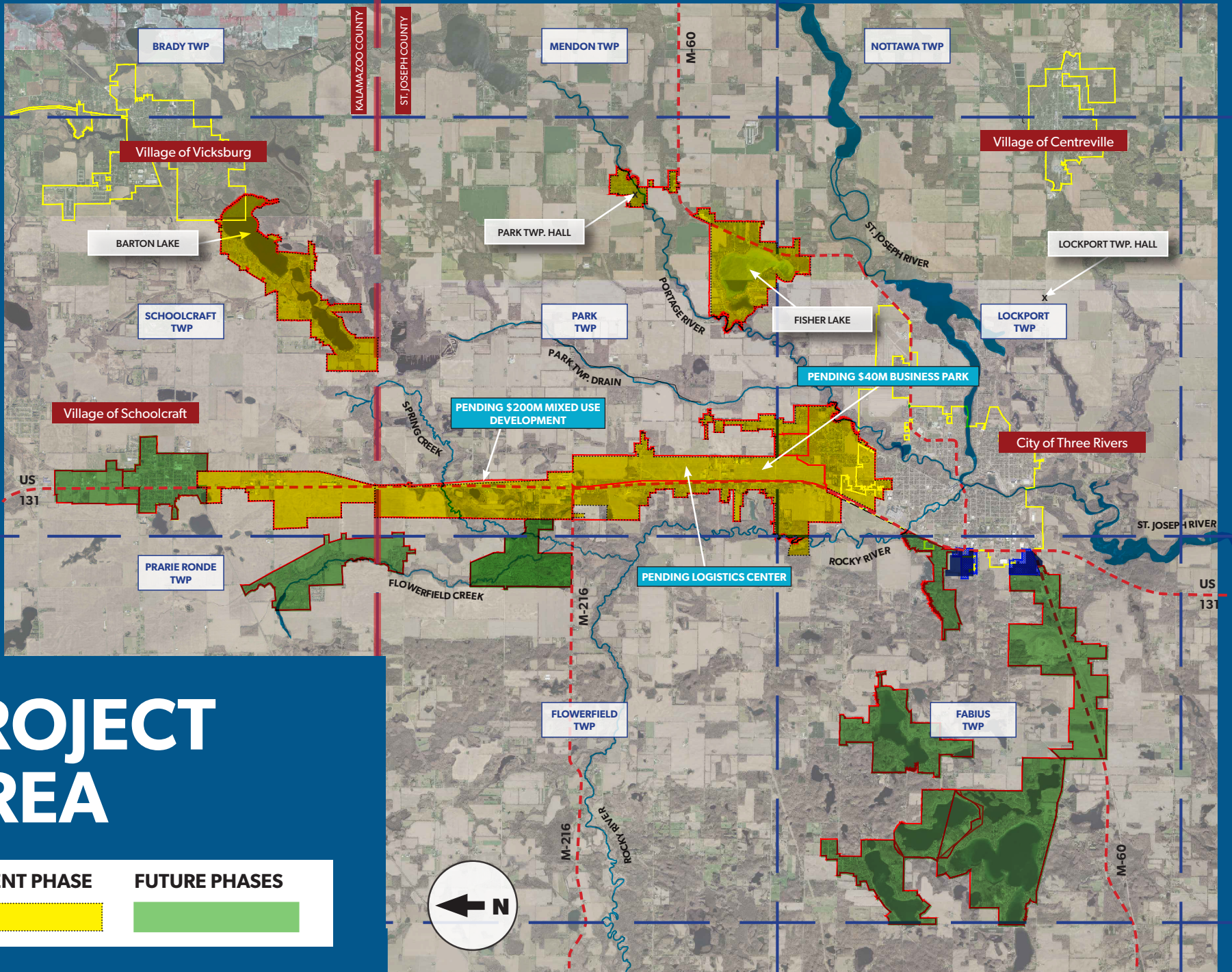
R7S

T10W

T11W

T11W

T12W



PROJECT AREA

CURRENT PHASE

FUTURE PHASES



PROJECT COST REVIEW

Project Alternate Cost Information

Estimated Capital Cost	Alternate 1 Gravity / Low Pressure
Collection	\$45,308,000
Treatment	\$16,400,000
Total	\$61,708,000
Operations	-
Collection	\$900,000
Treatment	\$522,000
Total O, M, R, A	\$1,422,000⁽¹⁾

(1) Includes Operation, Maintenance, Replacement and Administration

When complete the system will be capable of cost efficiently expanding north into Kalamazoo County and south into Fabius Township

PROJECT TIMELINE

Funding Procurement & Pre-Design Studies	12 MONTHS	This work is at 60% complete level
Design Process	18-20 MONTHS	Includes land acquisition, out reach permitting, etc...
Construction	24 MONTHS	Likely within 4 public contracts built simultaneously

ECONOMIC IMPACT AND JOB CREATION IS SUBSTANTIAL

THE HIGH IMPACT, BENEFITS OF A \$61M REGIONAL WWTF PROJECT:

1. Based on the level of investment and project scope, 335 (est.) direct jobs, 292 supplier related positions and 372 induced jobs are possible.
2. Total indirect jobs (not project related) could reach 664 positions
3. Wastewater projects spend-out 54% of their expected impact within three years, and 100% within five years (\$61M in direct stimulus)
4. Indirect impact through the “multiplier affect” is typically 1.5 times the project value. Spending by workers, vendors, suppliers, and construction companies could reach \$91.5M in that same period.
5. Permanent infrastructure could support development in Northwest St. Joseph and Southwest Kalamazoo Counties along the NS Railway and U.S. 131 providing development options for up to 1300 acres.
6. The project will trigger new residential development within the service area while also supporting residential reinvestment. As an example, 100 new single family homes (in one year) typically will result in an estimated \$28.7M in local income, \$3.6M in new revenue to local jurisdictions and 394 jobs. \$1M in remodeling/reinvestment (in one year) results in \$0.84M in local income and 11.5 new jobs.
7. Local officials report that there are pending projects represented by a \$250 M local investment including a regional entertainment/tourism venue and a rail/ industrial park