

**Village of Empire  
Economic Impact Analysis  
of Proposed Sanitary Sewer System**

**Draft 1 – Preliminary Village Review Copy**

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## 1.0 Analysis of Potential Funding Alternatives

This memo summarizes funding sources for a potential sewer collection system for the Village of Empire. Our grant review focuses on identifying federal and state grant funding, as well as financing options available to the Village to implement this project. It is important to note that several of the opportunities listed in this report reflect the status of funding agencies at a point in time and are subject to change in the future.

Based on our review, we recommend the Village consider pursuing a mix of USDA Water and Waste Disposal Loan/Grant program funding, combined with Federal and State earmarked funding. These options would provide the highest likelihood of receiving grant funding for the project while enabling the longest available financing terms to keep payments affordable.

### 1.1. USDA Water and Waste Disposal Loan and Grant Program

#### 1.1.1 Agency

U.S. Department of Agriculture Rural Development

#### 1.1.2 Program Summary

This program provides funding to support the development and enhancement of clean and reliable drinking water systems, sanitary sewage disposal, sanitary waste disposal, and stormwater drainage for households and businesses in eligible rural areas. It is specifically designed to assist very small, financially distressed rural communities, in extending and improving water and waste treatment facilities that serve local communities. Through these initiatives, the program aims to save tax dollars, enhance the natural environment, and facilitate the expansion or relocation of manufacturers and businesses, thereby promoting local economic growth.

To be eligible, borrowers must have the legal authority to construct, operate, and maintain the proposed services or facilities, and all federally financed facilities must be used for a public purpose. The program encourages partnerships with other federal, state, local, private, and nonprofit entities that offer financial assistance.

Applications for this program are accepted year-round and can be submitted electronically or through the local Rural Development (RD) office.

#### 1.1.3 Annual Funding Available

Total funding through USDA water and waste programs in Michigan has ranged from \$70 million to \$135 million annually, with approximately \$25 million in grant funds awarded annually.

### 1.1.4 Typical Funding Range

The program provides funding with a repayment period of up to 40 years, determined by the useful life of the financed facilities. Interest rates are fixed and based on the project's necessity and the median household income of the area being served.

### 1.1.5 Eligible Projects/Uses

Funds may be used to finance the acquisition, construction, or improvement of:

- Drinking water sourcing, treatment, storage, and distribution
- Sewer collection, transmission, treatment, and disposal
- Solid waste collection, disposal, and closure
- Storm water collection, transmission, and disposal

**Table 1-1 USDA Water and Waste Disposal Loan and Grant Program**

<b>Grant/Loan?</b>	Grant and Loans available. Up to 45% of grant funding may be available depending on the availability of funds.
<b>Maximum Funding</b>	There is no maximum on the size of the project.
<b>Match Requirements</b>	N/A, although other sources of funds can be utilized along with USDA funding.
<b>Funding Cycle Frequency</b>	Applications are accepted on a rolling basis.
<b>Application Effort</b>	High
<b>Administrative Burden</b>	Moderate to High
<b>Terms (if loan)</b>	40 years @ 3.25% (current Intermediate Rate).

### 1.1.6 Compliance Considerations

#### **Environmental Compliance**

- **National Environmental Policy Act (NEPA):** Projects must comply with NEPA, requiring an environmental assessment or environmental impact statement.
- **Endangered Species Act (ESA):** Applicants must ensure that projects do not adversely affect endangered or threatened species or their habitats.
- **Cultural Resource Protection:** Compliance with the National Historic Preservation Act (NHPA) is necessary to protect cultural and historical sites.
- **Clean Water Act:** Projects must comply with regulations under the Clean Water Act, particularly concerning water quality and discharge permits.

#### **Financial Management and Reporting**

- **Financial Feasibility:** Applicants must demonstrate financial feasibility, including the ability to repay loans. This typically involves a detailed financial plan and projections.

#### **Procurement Standards**

- **Contracting Requirements:** Contracts solely funded by USDA-RD funds are not necessarily subject to Davis-Bacon Act prevailing wage requirements. However,

the inclusion of other federal or state funds may trigger labor standards such as the Davis-Bacon Act, where applicable.

#### **Loan and Grant Specific Conditions**

- **Loan Security:** Loans must be secured, typically through a pledge of revenue or collateral, such as the utility system being financed.
- **Grant Conditions:** Grants may have specific conditions, including maximum amounts and restrictions on how funds can be used.

#### **1.1.7 Analysis**

The USDA Water and Waste Disposal program is a primary source of funding for rural, small communities developing large water and wastewater infrastructure projects. With the ability to offer financing terms up to 40 years, it presents a good option to achieve affordable rates for customers of new utility systems.

This program does provide grants based on median household incomes (MHI) and the availability of funding. Based on 2022 Census Data, the Village of Empire's MHI is \$66,563. This is below the Michigan nonmetropolitan MHI of \$71,500, which makes the village eligible for grant funding. Since the village's MHI exceeds 80% of the State MHI, it is only eligible for a 45% grant. Again, grants are also subject to the availability of funds, which are usually oversubscribed in Michigan.

Based on the MHI of the Village, it would qualify for the USDA Intermediate loan rate of 3.25% for the 3<sup>rd</sup> quarter of 2024.

### **1.2 Michigan Clean Water State Revolving Fund**

#### **1.2.1 Agency**

Michigan Department of Environment, Great Lakes, and Energy (EGLE)

#### **1.2.2 Program Summary**

Michigan's Clean Water State Revolving Fund (CWSRF) program provides low-interest loan financing to qualified local municipalities for the construction of essential wastewater, stormwater, and water pollution control infrastructure projects. These programs aim to improve water quality, protect the environment, and safeguard public health.

Eligible municipalities must submit an Intent to Apply (ITA) form by November 1, 2024, to be considered for fiscal year 2026 funding and financing opportunities. Full project plans are typically due in May or June, with the funding priority list issued in late fall.

#### **1.2.3 Annual Funding Available**

The program offers 30-year loans at a 2.75% interest rate, with reduced rates of 2.00% for overburdened applicants and 1.00% for significantly overburdened

applicants. For 20-year loans, the standard interest rate is 2.5% with the same reductions for overburdened and significantly overburdened applicants.

The Village of Empire does not qualify as an overburdened community due to taxable values that exceed the state criteria. While technically eligible for grant funding or principal forgiveness (PF), the limited amount and preference given to overburdened communities make the likelihood of the Village obtaining a grant or PF through SRF unlikely.

#### 1.2.4 Typical Funding Range

There is no limit on the size of the project submitted. The availability of grant funding varies with each year.

#### 1.2.5 Eligible Projects/Uses

- Wastewater treatment facilities
- Sewer rehabilitation
- Collection systems
- Stormwater conveyance and treatment facilities
- Inflow/infiltration correction
- Combined sewer separation
- Sewer overflow correction
- Nonpoint source pollution control

**Table 1.-2 Michigan Clean Water State Revolving Fund**

<b>Grant/Loan?</b>	Grant and Loans are available, although grant funding is unlikely for the Village.
<b>Maximum Funding</b>	There is no maximum on the size of the project.
<b>Match Requirements</b>	N/A. Funding can be utilized alongside other sources of funding.
<b>Funding Cycle Frequency</b>	Applications are accepted annually in the form of a project planning document for inclusion on the project priority list for the following fiscal year.
<b>Application Effort</b>	High
<b>Administrative Burden</b>	High
<b>Terms (if loan)</b>	20 yrs @ 2.5%

#### 1.2.6 Compliance Considerations

##### Environmental Compliance

- **National Environmental Policy Act (NEPA):** Projects must comply with NEPA, requiring an environmental assessment or environmental impact statement.
- **Endangered Species Act (ESA):** Applicants must ensure that projects do not adversely affect endangered or threatened species or their habitats.

- **Cultural Resource Protection:** Compliance with the National Historic Preservation Act (NHPA) is necessary to protect cultural and historical sites.
- **Clean Water Act:** Projects must comply with regulations under the Clean Water Act, particularly concerning water quality and discharge permits.

#### **Financial Management and Reporting**

- **Financial Feasibility:** Applicants must demonstrate financial feasibility, including the ability to repay loans. This typically involves a detailed financial plan and projections.

#### **Procurement Standards**

- **Contracting Requirements:** Contracts are subject to Davis-Bacon Act prevailing wage requirements.
- **Build America, Buy America Act Compliance:** State Revolving Fund are subject to compliance with domestic content preferences enumerated in the Build America, Buy America Act.

#### **Loan and Grant Specific Conditions**

- **Loan Security:** Loans must be secured, typically through a pledge of revenue or collateral, such as the utility system being financed.
- **Grant Conditions:** Grants may have specific conditions, including maximum amounts and restrictions on how funds can be used.

### **1.2.7 Analysis**

Due to a large influx of funding in FY 2024, demand for CWSRF funding has dramatically increased in recent years, making the program more competitive. Currently, the amount of funding in the program is not meeting the demand.

Since the Village is not an overburdened community and the proposed project does not address a regulatory directive, the project is less likely to score in the fundable range for projects in the current environment.

## **1.3 EPA State and Tribal Assistance Grants (STAG) Community Project Funding Requests**

### **1.3.1 Agency**

US Congress via the US Environmental Protection Agency

### **1.3.2 Program Summary**

EPA-STAG grants are congressionally directed spending items directed to local communities and utilities through the State Revolving Funds. Also known as earmarks, these spending items are included in the Federal budget by members of the US House of Representatives and the US Senate. Congressionally directed spending items are submitted to each chamber's Committee on Appropriations for inclusion in each year's federal budget.

A key difference between EPA-STAG grants and SRF funding is that these grants require a direct agreement with the EPA, not the State SRF agency. Projects utilizing EPA-STAG grants are subject to all requirements and restrictions associated with the federal SRF program.

### 1.3.3 Annual Funding Available

Annual funding varies based on funding allocated by Congress. Of the \$1.638 billion included in the FY 2023 federal budget for the CWSRF, \$787 million was included as earmarked STAG funds.

### 1.3.4 Typical Funding Range

STAG grants are typically less than \$5 million, with most grants in the \$1-3 million range.

### 1.3.5 Eligible Projects/Uses

EPA STAG grants may be used for any eligible use under the CWSRF program.

**Table 1-3 EPA State and Tribal Assistance Grants (STAG) Community Project Funding Requests**

Grant/Loan?	Grant
Maximum Funding	Although there is no specified maximum amount, grants are typically less than \$5 million.
Match Requirements	Projects funded by STAG require a 20% non-federal match.
Funding Cycle Frequency	Annual funding cycle as part of the federal budget.
Application Effort	Moderate
Administrative Burden	High
Terms (if loan)	N/A

### 1.3.6 Compliance Considerations

Although the application process for earmarks is very simple, recipients must complete a full technical application once funding is included in the Federal Budget.

Compliance considerations are equal to those of the State Revolving Fund program listed in Section 1.2.6. It is important to note that EPA-STAG grants require a direct grant agreement with the EPA, which creates a separate layer of reporting. Also, all requirements associated with the SRF program and Infrastructure Investment and Jobs Act, including Build America, Buy America, and Davis-Bacon compliance are triggered.

### 1.3.7 Analysis

The reinstatement of Federal earmarks in 2021 brought back EPA-State and Tribal Assistance Grants. Congressional rules now require submission of formal information to legislative offices to request community project funding. These applications are typically solicited in late Winter or early Spring, depending on the timing of the federal budget process. Recent Federal budgets have directed a high percentage of CWSRF funding into Congressionally Directed Spending.

The Village's US Representative is Jack Bergman, who has consistently submitted earmark requests on behalf of communities in the 1<sup>st</sup> District and has secured funding through the EPA -STAG program. Since community funding requests have been reinstated in 2021, Michigan's two US Senators have submitted many EPA-STAG community funding requests.

It is important to note that funding for earmarks can take up to 2 years or more from the submission of an earmark request to the actual execution of a funding agreement with the EPA. Award of funds occurs on a reimbursement basis, decisions are also subject to political dynamics both locally and in Washington, as earmarks are a means to achieve political consensus or deals on unrelated issues.

The use of EPA-STAG grants also triggers EPA requirements for the State Revolving Funds and other requirements associated with the source appropriation, such as the Infrastructure Investment and Jobs Act.

## 1.4 USDA Water and Waste Community Project Funding

### 1.4.1 Agency

US Department of Agriculture – Rural Development

### 1.3.2 Program Summary

The FY 2024 Federal budget reinstated Community Project Funding through authority vested in the USDA Rural Development Water and Waste Disposal program, which is described in Section 1.1. The same eligibilities apply, although recipients must also provide a 25% non-federal cost share as part of Community Project Funding agreements.

### 1.4.3 Annual Funding Available

For fiscal year 2024, \$117 million in CPF grants were awarded in the Federal budget.

### 1.4.4 Typical Funding Range

For fiscal year 2024, the average Water and Waste CPF award was nearly \$1.5 million.

### 1.4.5 Eligible Projects/Uses

- Construction or improvement of drinking water sourcing



- Treatment
- Storage and disposal
- Sewer collection
- Transmission
- Treatment and disposal
- Solid waste collection
- Disposal and closure
- Storm water collection

**Table 1-4 USDA Water and Waste Community Project Funding**

<b>Grant/Loan?</b>	Grant
<b>Maximum Funding</b>	Varies, the average award in FY 2024 was \$1.5 million.
<b>Match Requirements</b>	25% match, although projects that cost more than available grant funds must obtain other funding for the remainder.
<b>Funding Cycle Frequency</b>	Earmark requests are submitted in spring for consideration in the following fiscal year budget.
<b>Application Effort</b>	Moderate
<b>Administrative Burden</b>	Moderate to High
<b>Terms (if loan)</b>	N/A

#### 1.4.6 Compliance Considerations

Compliance considerations are equal to those of the USDA Water and Waste Disposal programs listed in Section 1.1.6.

#### 1.4.7 Analysis

The reinstatement of CPF grants under the USDA Water and Waste Disposal program authority in FY 2024 creates another potential source of funding for the Village’s project. The Village’s US Representative is Jack Bergman, who has consistently submitted earmark requests on behalf of communities in the 1<sup>st</sup> District. US Senators may also submit earmark requests.

It is important to note that funding for earmarks can take up to 2 years or more from the submission of an earmark request to the actual execution of a funding agreement with USDA. Award of funds occurs on a reimbursement basis, decisions are also subject to political dynamics both locally and in Washington, as earmarks are a means to achieve political consensus or deals on unrelated issues.

## 1.5 US Army Corps of Engineers Section 219 Environmental Infrastructure Program

### 1.5.1 Agency

US Army Corps of Engineers

### 1.5.2 Program Summary

Section 219 of the 1992 Water Resources Development Act was amended, authorizing the Corps to assist non-Federal interests in conducting water-related environmental infrastructure and resource protection and development projects. The program was developed to assist communities with limited technical capacity to complete water-related environmental infrastructure projects.

This program has been directed by recent legislation to focus on prioritizing assistance to underserved, economically distressed, and economically disadvantaged minority communities.

### 1.5.3 Annual Funding Available

Program funding varies year-to-year based on congressional appropriations. Projects must be specifically named by Congress in the authorizing language for this program within the Water Resources Development Act and subsequent federal budgets. In FY 2024, \$110 million was appropriated for Section 219 projects.

### 1.5.4 Typical Funding Range

Project sizes and allocated funding are defined by the Water Resources Development Act and subsequent federal budgets.

### 1.5.5 Eligible Projects/Uses

- Technical Assistance
- Planning
- Design assistance for water supply and storage
- Treatment and distribution systems
- Wastewater treatment systems including treatment plants

**Table 1-5 US Army Corps of Engineers Section 219  
Environmental Infrastructure Program**

<b>Grant/Loan?</b>	Grant
<b>Maximum Funding</b>	The maximum amount for unprogrammed awards is \$5 million, although higher amounts are available if project funding is appropriated by Congress.
<b>Match Requirements</b>	25% non-federal share.
<b>Funding Cycle Frequency</b>	Annual funding cycle as part of the federal budget. Larger projects receive authorizations in the Water Resources Development Act.
<b>Application Effort</b>	Moderate
<b>Administrative Burden</b>	Moderate
<b>Terms (if loan)</b>	N/A

### 1.5.6 Compliance Considerations

#### Environmental Compliance

- **National Environmental Policy Act (NEPA):** All Section 219 projects must comply with NEPA, which requires an environmental review process to assess potential impacts on the environment. This may involve preparing an Environmental Assessment (EA) or Environmental Impact Statement (EIS).
- **Endangered Species Act (ESA):** Projects must comply with the ESA, ensuring that they do not adversely affect endangered or threatened species or their habitats.
- **Cultural Resource Protection:** Compliance with the National Historic Preservation Act (NHPA) is required to protect cultural and historical sites.
- **Clean Water Act (CWA):** Projects must meet CWA requirements, including obtaining necessary permits for discharges into navigable waters and complying with water quality standards.

#### Design and Engineering Review

- Project designs are subject to USACE review and approval to ensure they meet federal engineering standards.
- Ongoing coordination between local entities and the Corps is required throughout the planning and construction phases.

#### Audits and Inspections

- The program is subject to audits by the Department of Defense Inspector General or the Government Accountability Office (GAO).
- USACE may conduct site inspections to verify that work meets the approved scope and standards.

### **1.5.7 Analysis**

The Section 219 Environmental Infrastructure Program provides local governments an option to design and construct infrastructure projects with the financial assistance of the US Army Corps of Engineers (USACE). One potential advantage of the Section 219 program is that funding can be obtained for design and construction, or construction only. This allows the design to proceed without involvement from the Corps, which requires a feasibility study and Congressional authority.

However, projects designed and designated for construction must be reviewed by USACE prior to authorization. Further, the process of adding projects to the Water Resources Development Act and appropriating funding is a very lengthy process.

## **1.6 Michigan Enhancement/Critical Infrastructure Grants (Earmarks)**

These grants, which are budget earmarks, are subject to appropriation in the Michigan state budget as submitted by State Representatives and Senators annually. These grants are typically awarded to projects that promote economic development, infrastructure improvements, public safety, community revitalization, and other public interest initiatives. Once awarded, grants are administered by the Michigan Strategic Fund and/or Michigan Economic Development Corporation.

### **1.6.1 Agency**

Appropriated by the Michigan Legislature, administered by the Michigan Economic Development Corporation

### **1.6.2 Program Summary**

Existing in one form or another since the FY 2018 State budget, these grants are typically highly dependent on the amount of excess revenue available for appropriation by the State Legislature. Although it is anticipated that state revenues will be much lower than in past future budget years, these grant opportunities are likely to continue.

### **1.6.3 Annual Funding Available**

Funding varies by year.

### **1.6.4 Typical Funding Range**

Average \$3.4 Million, grants range from \$100,000 up to \$20 million

### **1.6.5 Eligible Projects/Uses**

A wide variety of local initiatives are funded through these appropriations, including water and wastewater projects.

**Table 1-6 Michigan Enhancement Grants**

<b>Grant/Loan?</b>	Grant
<b>Maximum Funding</b>	No maximum.
<b>Match Requirements</b>	Matching is not required, but most grants do not fund the entirety of project costs.
<b>Funding Cycle Frequency</b>	Funding requests are typically accepted throughout the year before the State Budget cycle
<b>Application Effort</b>	Low
<b>Administrative Burden</b>	Low
<b>Terms (if loan)</b>	N/A

### 1.6.6 Compliance Considerations

Compliance requirements are relatively low in comparison to federal funding. Grantees must enter a grant agreement with the Michigan Strategic Fund, which is administered by the Michigan Economic Development Corporation.

### 1.6.7 Analysis

Michigan Enhancement Grants can be very useful for local governments as they are awarded outside of competitive grant processes. These grants are directly allocated by legislators, often bypassing the more generalized funding programs. To position for a grant, extensive communication with legislators needs to take place providing information on the proposed project and how it will positively impact residents and constituents of the legislature.

It is also important to acknowledge that these grants can be impacted by politics in Lansing and locally, regardless of the merits of the project. If a community or local leaders do not have a good relationship with state legislators, earmark funding is less likely to come to fruition. Further, the ability to secure this funding often depends on a legislator's position on key committees or a position on other issues.

## 1.7 Michigan Section 319 Nonpoint Source Funds

### 1.7.1 Agency

Michigan Department of Environment, Great Lakes, and Energy (EGLE)

### 1.7.2 Program Summary

Michigan's Nonpoint Source (NPS) Program assists local stakeholders in reducing NPS pollution and excessive runoff by supporting the development and implementation of watershed management plans. These plans aim to protect high-quality waters from NPS threats and restore waters impaired by NPS pollution.

This program provides funding for the implementation of nonpoint source activities identified in EGLE-approved watershed management plans. Funded activities must address specific sources of NPS pollution as outlined in Michigan's Nonpoint Source Program Plan. The program's goal is to restore impaired waters and protect high-quality waters from further degradation.

Funding supports physical improvements, information and education strategies, land use planning, easement installations, and related activities. Requests for Proposals (RFPs) are announced with application deadlines. Prior to applying, locally developed watershed management plans should be submitted to EGLE for review and approval.

### **1.7.3 Annual Funding Available**

Michigan's NPS Program is primarily funded through an annual \$4.6 million award from the USEPA under the CWA, Section 319. This funding supports NPS staff across the state, providing technical and administrative assistance to the program and its grantees.

Approximately 50% of these grants are competitively awarded to non-federal government units, educational institutions, regional planning agencies, and nonprofit organizations to develop and implement watershed management plans.

### **1.7.4 Typical Funding Range**

Approximately \$2 million is available per funding round, with proposals requiring a minimum of \$25,000 and no maximum limit. Watershed implementation projects also require a minimum 25% match.

### **1.7.5 Eligible Projects/Uses**

- Physical Improvements
- Information and education strategies
- Land use planning
- Easement installations

**Table 1-7 Michigan Section 319 Nonpoint Source Funds**

Grant/Loan?	Grant
Maximum Funding	Although there is no specified maximum amount, grants are typically less than \$1 million.
Match Requirements	Watershed implementation projects require a 25% match.
Funding Cycle Frequency	Bi-annual funding cycles. It typically takes one year for grants to be awarded.
Application Effort	Moderate to High
Administrative Burden	High
Terms (if loan)	N/A

### 1.7.6 Compliance Considerations

#### Environmental Compliance

- **Watershed Management Plans:** Projects must be based on an approved watershed management plan that meets U.S. Environmental Protection Agency (EPA) guidelines. The plan should identify sources of nonpoint source pollution and outline strategies for reducing pollution.
- **NEPA Compliance:** While Section 319 projects are not always subject to NEPA, they may still need to comply with environmental review requirements depending on the nature of the project and its potential impacts.
- **Water Quality Standards:** Projects must align with state water quality standards and contribute to the improvement or protection of designated uses of water bodies.

#### Performance Monitoring and Reporting

- **Monitoring and Evaluation:** Projects must include plans for monitoring and evaluating the effectiveness of the pollution control measures implemented. This often includes water quality monitoring before and after implementation.
- **Progress Reporting:** Regular reporting on the progress of the project, including financial status, milestones achieved, and any challenges encountered, is required.
- **Final Report:** A final report must be submitted upon project completion, summarizing the project's outcomes, effectiveness in reducing nonpoint source pollution, and lessons learned.

#### Public Involvement and Education

- **Public Participation:** Projects should involve public participation, particularly in the development and implementation of watershed management plans. This can include public meetings, workshops, and outreach activities.

- **Educational Outreach:** Many Section 319 projects include components aimed at educating the public and stakeholders about nonpoint source pollution and the steps they can take to reduce it. This may include creating educational materials, hosting events, or implementing school programs.

### 1.7.7 Analysis

The Section 319 program may not be the best candidate to support the subject project, due to the smaller grant size, higher reporting requirements, and challenges mixing with other funding sources.

The Village is not located within a Watershed Management Plan, although it is near the boundaries of the Platte River Watershed Management Plan. Due to the limited amount of funding available on an annual basis, this program is best served for projects that strongly fit with program priorities and do not have a revenue source. Another challenge of this program is the extended period from submitting project applications to awards, which can be more than 12 months in some cases.

## 1.8 Funding Programs Not Considered a Match

Funding sources that include the construction of sewer systems as an eligible use but are not considered viable matches with the proposed sewer project in the Village of Empire are listed below along with a brief justification.

### 1.8.1 US Economic Development Administration Public Works Grant

EDA Public Works grants are designed to support economic development activities. The agency does not support infrastructure projects serving primarily residential facilities.

### 1.8.2 Michigan Community Development Block Grant (CDBG) Infrastructure Funds

CDBG Funding previously available through the Michigan Economic Development Corporation was realigned in 2023 to focus exclusively on housing activities through the Michigan State Housing Development Authority.

### 1.8.3 EPA Water Infrastructure Finance and Innovation Act Loans

This secondary loan program available through the EPA is not a good match, as the Village's project is unlikely to meet the minimum project size.



## 2.0 Evaluation of Proposed Sanitary Sewer Systems

### 2.1 Summary of Proposed Sanitary Sewer Systems

Wade Trim evaluated four of the potential sanitary sewer system scenarios that were detailed in previous Sanitary Sewer System Feasibility Studies that were provided to the Village. The proposed systems included methods for both collection and treatment and are summarized as follows:

#### A. Gosling Czubak Scenario 2: Village Commercial Zone, Gravity Collection

- a. Collection Area: Village commercial residential district, National Park Station Headquarters, and St. Phillip Neri.
- b. Collection Method: Gravity
- c. Treatment Method: Decentralized treatment
- d. Average Daily Flow (gallons per day): 10,500

#### B. Gosling Czubak Scenario 2: Village Commercial Zone, STEP Collection

- a. Collection Area: Village commercial residential district, National Park Station Headquarters, and St. Phillip Neri.
- b. Collection Method: Septic Tank Effluent Pump (STEP)
- c. Treatment Method: Decentralized
- d. Average Daily Flow (gallons per day): 10,500

#### C. H. Luzius Engineering: Scenario C

- a. Collection Area: Downtown businesses, Empire Associates, and Schoolhouse
- b. Collection Method: (STEP)
- c. Treatment Method: Centralized Drain Field
- d. Average Daily Flow (gallons per day): 11,000

#### D. H. Luzius Engineering: Scenario D

- a. Collection Area: Whole Commercial Area, Empire Associates, and Initial Residential
- b. Collection Method: STEP
- c. Treatment Method: Centralized Drain Field
- d. Average Daily Flow (gallons per day): 21,750

### 2.2 Cost Estimates of the Proposed Sanitary Sewer Systems

As part of Wade Trim's review of the sanitary sewer systems identified above, the original cost estimates for the design and construction of the systems were reviewed and brought up to estimated 2025 construction costs. It is important to note that both the original estimates provided by the original firms and the updated total capital cost estimates provided by Wade Trim are high-level estimates that have not been fully vetted for functionality or constructability. Given the high-level nature of the original estimates, it is difficult to confirm what design and constructability assumptions may have been made during the development of the original reports.

To update the previous cost estimates, sanitary sewer projects of similar size and scope that have been bid within the last several years were reviewed and compared to the original estimates. In doing so, each item could be scaled on an individual basis, since not all items have been impacted by inflationary pressures equally. The result of Wade Trim’s analysis is outlined in the Table, below.

Sanitary Sewer System Scenario	Estimated Capital Cost	
	2017	2025
A. Gosling Czubak Scenario #2 - Gravity	\$1,971,000.00	\$4,000,000.00
B. Gosling Czubak Scenario #2 – STEP	\$1,919,000.00	\$3,450,000.00
C. H. Luzius Scenario C	\$529,925.00	\$1,050,000.00
D. H. Luzius Scenario D	\$1,225,525.00	\$2,300,000.00

### 2.3 Operation and Maintenance Costs of the Proposed Systems

Annual operation and maintenance costs for the proposed systems are an important contributing factor when assessing the total annual cost of funding a proposed sanitary sewer system. Wade Trim worked with a local contract water and sanitary sewer operator to determine estimated annual costs for each of the system alternatives, which are outlined in the Table, below. The cost of electricity required to power each STEP station is assumed to be paid for by the respective property owner.

Sanitary Sewer System Scenario	Estimated O&M Cost
A. Gosling Czubak Scenario #2 - Gravity	\$166,000.00
B. Gosling Czubak Scenario #2 – STEP	\$166,000.00
C. H. Luzius Scenario C	\$120,000.00
D. H. Luzius Scenario D	\$150,000.00

## 2.4 Annual Bond Cost

As outlined in previous sections of this report, there are a variety of funding sources that the Village may utilize to finance the construction of a new wastewater collection and treatment facility. Wade Trim selected three of the most commonly utilized funding options to provide estimates of annual costs. Though the Village may be eligible for different forms of grant funding, no grant funds were included in the costs shown since grant funds vary in availability and eligibility from year to year.

The Table below summarizes estimated amortized payments for each of the proposed systems funded in full through three different loan alternatives – a 40-year USDA Rural Development Water and Waste Disposal (USDA RD) loan, a 30-year Michigan Clean Water State Revolving Fund (CWSRF) loan, and a 20-year Michigan CWSRF loan.

Sanitary Sewer System Scenario	Annual Payment		
	USDA RD 40-YR Loan @ 3.25%	MI CWSRF 30-YR Loan @ 2.75%	MI CWSRF 20-YR Loan @ 2.5%
A. Gosling Czubak Scenario #2 - Gravity	\$180,112.00	\$197,538.00	\$256,589.00
B. Gosling Czubak Scenario #2 – STEP	\$155,346.00	\$170,376.00	\$221,308.00
C. H. Luzius Scenario C	\$42,279.00	\$51,854.00	\$67,354.00
D. H. Luzius Scenario D	\$103,564.00	\$113,584.00	\$147,538.00

## 2.5 Average Annual Cost per Residential Equivalent User

Average annual cost can be calculated by totaling the annual expenditures that a system requires each year. In the Village’s case, the three primary factors that comprise the total annual cost to own and maintain the system are bond payments, operating and maintenance costs. The total annual cost of the system is then distributed across its Residential Equivalent Units (REUs) in the form of monthly billings. A single REU represents the volume of water or wastewater that is anticipated to be used by a single-family residence on a given day. REUs are commonly utilized by municipalities when developing billing structures so that each customer is billed an amount that is proportional to their usage of the system. In the case of the Village of Empire, 150 gallons per day was selected to represent one REU. A variety of factors helped determine this selection, including seasonal demand and flows tracked by surrounding municipalities.

To provide an annual cost comparison between each of the proposed sanitary sewer systems outlined in previous sections, the Average Daily Flow provided for each system was divided by 150 gallons per day to determine the number of REUs comprising each system. It should be noted that the Average Daily Flows that were

provided in previous engineering reports were not verified by Wade Trim as part of this analysis. If the number of REUs that were calculated for a given scenario resulted in a number that was less than the total number of connections, the number of REUs was rounded up, equal to the total number of connections.

Based on the estimated annual O&M costs, annual loan payment costs, and the number of REUs calculated for each system, the Table, below, was developed.

Sanitary Sewer System Scenario	No. of REUs	Annual Cost per REU		
		USDA RD 40-YR Loan	MI CWSRF 30-YR Loan	MI CWSRF 20-YR Loan
A. Gosling Czubak Scenario #2 - Gravity	71	\$4,874.81	\$5,120.25	\$5,951.95
B. Gosling Czubak Scenario #2 – STEP	71	\$4,526.01	\$4,737.69	\$5,455.04
C. H. Luzius Scenario C	74	\$2,260.53	\$2,322.35	\$2,531.82
D. H. Luzius Scenario D	145	\$1,748.72	\$1,817.82	\$2,051.99

## 2.5 Affordability Index for Residential Customers

Given the costs outlined above, the affordability of the system for its customers must be given careful consideration. As outlined in the 2018-2022 American Community Survey, the annual Median Household Income (MHI) for the Village of Empire is \$66,563. Based on Wade Trim’s findings, a water or sanitary sewer system is deemed affordable if the annual cost per REU is less than or equal to 2% of the MHI, per year. In monetary figures, the affordability threshold for the Village of Empire was calculated to be \$1,331.26 per year.

Having defined the affordability threshold, each of the annual costs per REU that were presented in the previous section were divided by the affordability threshold to determine the affordability index of each alternative. A figure greater than 1.0 indicates that the annual cost per REU exceeds the threshold.

Sanitary Sewer System Scenario	No. of REUs	Affordability Index		
		USDA RD 40-YR Loan	MI CWSRF 30-YR Loan	MI CWSRF 20-YR Loan
A. Gosling Czubak Scenario #2 - Gravity	71	3.7	3.8	4.5
B. Gosling Czubak Scenario #2 – STEP	71	3.4	3.6	4.1
C. H. Luzius Scenario C	74	1.7	1.7	1.9
D. H. Luzius Scenario D	145	1.3	1.4	1.5

As indicated in the Table above, none of the project alternatives were found to be within the affordability index for the given financing options. Securing grants, earmarks, or principal forgiveness alongside one of the proposed loan options would likely improve affordability.

Increasing the number of customers that are initially connected to the system may also increase affordability of a given project since the annual costs would be distributed over a larger number of users. However, adding users may only be economically advantageous if they are already near collection infrastructure and the complexity and/or size of the treatment facility could remain the same.

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### 3.0 Potential Impacts of Redevelopment/Development Sites:

Wade Trim has prepared an analysis of three potential redevelopment/development sites that were identified by the Village and evaluated the potential impact of the installation of sanitary sewer at those locations. These three locations are:

- Site 1 10017 W. Front Street (former Empire School)
- Site 2 11712-11738 S. Lake Street (former lumber mill/hardware store)
- Site 3 Parcel 041-824-015-30 (mixed housing site).

We analyzed each site to determine the impact of having the Village develop a centralized wastewater collection system. Presently, development at each site is constrained due to the lack of a municipal sewage system. Development would have to set aside areas of undeveloped land on site for the necessary septic fields.

At each site, a baseline level of development that would be permitted without a centralized wastewater system is compared to the intensity of development that would be possible if more intensive development is made possible through the construction of a centralized system.

For Site 1, a single development scenario was based upon the adaptive reuse of the former Empire School. Two separate development scenarios were prepared for the Site 2, the former lumber mill/hardware site. One envisioned reuse of both historic structures on the site with a larger commercial component and residential while the second scenario is mostly comprised of new residential with a smaller commercial component. The third site is the location of a proposed moderate density residential development that would include both workforce and market rate for sale and rental housing.

Redevelopment of the three sites has been hampered by the lack of sewer service that would permit more intensive residential and commercial development. To provide on-site septic, the Benzie-Leelanau District Health Department was contacted. They stated that future development of all three sites would be limited to half acre parcels or joint commercially-sized septic systems would be required. This is based upon the current standards requiring space for both a septic field and a back-up septic field on each site in addition to the need for well and separation requirements for both the septic fields and the water well. Use of septic systems would limit the intensity of development because the drainage fields for the septic system and back-up septic field would have to remain completely undeveloped.

Potential number of permanent jobs, tax revenue, and overall economic impact of each of the four scenarios upon the Village were created.

#### 3.1 Redevelopment/Development Scenarios

For the three different sites that were identified for analysis by the Village, site specific development scenarios were created for each. These potential redevelopment options

were based upon the site location, existing structures on the site, and development concepts that have been previously discussed for the locations. Due to the nature of the site and existing structures on the site, Site 2 had two different redevelopment scenarios crafted.

Section 3.1 provides general information about each development option including number of and size of residential units and number and size of commercial units that would be included.

To identify potential economic impacts of the development on the Village, the estimated Taxable Value of each of the components of each option was developed. A general sales price of \$350 dollars per square foot was used to estimate the value of each residential unit. For this simple evaluation, the sales price and the taxable value are assumed to be the same. The State Equalized Value (SEV) is estimated at  $\frac{1}{2}$  of the estimated sales price/taxable value of the residential properties at time of sale. Simple dollar amounts were included for the valuations of the commercial components. The Village share of the all new taxes generated by the new development was estimate at .63487% of the SEV.

Each of the development scenarios was developed to maximize the development potential of each of the sites from a physical land use perspective while conforming with the Village's Zoning Ordinance. The sites include onsite parking, and development options were chosen that would fit within the general character of the community

The second factor was the mixture of residential to commercial. The predominance of residential over commercial was made to account for the seasonal nature of the Village's tourism-based economy. Scenarios with large portions of commercial were excluded from the analysis due to the year-round population of the Village and its inability to support large amounts of commercial development. Too much vacant commercial property would have a negative impact to the character and vitality of the community. Modest amounts of retail/restaurant uses were included in Sites 1 and 2, and ground floor commercial could be increased at Site 2 if demand would support it.

The following pages include each of the three sites and the assumptions used to generate the values.

## **SITE 1 - Empire School**

**Mixed Use Development**

**Twelve residential units**

**Two commercial units**

**Kindergarten house**

**Address – 10017 W. Front St**

***Rehabbed historic school – six 1,000 square feet two-bedroom units, 1,500 square feet of lower level commercial, and kindergarten house***

### **Estimated Taxable Value**

Six residential units - \$350,000 ea.

Two commercial units - \$125,000 ea.

Kindergarten house - \$55,000

Total – all units \$2,405,000

### **Estimated SEV**

SEV – All units combined –

\$1,202,500

### **Estimated Village Tax**

All units combined –

\$7,634



## **Parcel 2 – Parcel ID Number 41-300-049-00**

***Two new 3000 square foot duplex homes (each unit is three bedroom 1,500 sq ft) with two 625 sq. foot garage apartments***

### **Estimated Taxable Value**

Four residential units - \$525,000 ea.

Two garage ADUs - \$171,875 ea.

Total – all units - \$2,443,750

### **Estimated SEV**

SEV - All units combined –

\$1,221,875

### **Estimated Village Tax**

All units combined –

\$7,757





**SITE 2 – OPTION 1 Lumber Yard/Hardware Store Development– Rehab  
Existing Mixed Use Development in three buildings**

26 residential units

180 seat fine-dining restaurant

80 parking spaces provided on-site

16 street parking spaces

**10301-10341 Niagara**

*Six residential rowhouses – 2,000 sq feet each in new building*

**Estimated Taxable Value**

Six residential units - \$700,000 ea.

**Estimated SEV**

SEV - all units combined  
\$2,100,000

**Estimated Village Tax**

All units combined  
\$13,332



**11712 S. Lake Street**

*4,320 sq. foot renovated commercial restaurant with bar – capacity 180 and new 1,400 sq. foot kitchen addition*

**Estimated Taxable Value**

\$2,478,000 – Built-out

**Estimated SEV**

\$1,239,000

**Estimated Village Tax**

\$7,866



**11738 S. Lake Street**

**28,200 square foot mixed use building – three-story new construction to north of existing two-story building and two-story new construction to wrap existing building**

**2088 sq. feet of ground floor retail space**

**Ten 1,350 square foot three-bedroom apartments**

**Ten 850 square foot two-bedroom apartments**



**Estimated Taxable Value**

Ten residential units at 1,350 square feet ea. - \$472,500 ea.

Ten residential units at 850 square feet ea. - \$297,500 ea.

Two 1,050 square foot commercial units - \$200,000 ea.

**Estimated SEV**

SEV – All units combined

\$4,050,000

**Estimated Village Tax**

All units combined

\$25,712

**SITE 2 - OPTION 2 Lumber Yard/Hardware Store Development – New Construction with Retaining Stables**

Mixed Use Development in three buildings

39 residential units

3,000 square feet of commercial

70 parking spaces provided onsite

16 street parking spaces

**10301-10341 Niagara**

*Seven 1,200 square foot three-bedroom cottages in a cottage court*

**Estimated Taxable Value**

Seven residential units - \$330,000 ea.

**Estimated SEV**

SEV – All units combined

\$1,155,000

**Estimated Village Tax**

All units combined

\$7,333



**11712 S. Lake Street**

*4,320 sq. foot renovated former stables into six-unit two and three bedroom two-story*

*1,250 square foot residential units*

**Estimated Taxable Value**

Six residential units - \$437,500

**Estimated SEV**

SEV – All units combined

\$1,312,500

**Estimated Village Tax**

All units combined

\$8,333



**11738 S. Lake Street**

**44,800 square foot mixed use building with 3,000 square feet of ground-floor commercial, sixteen 1,100 sq. ft two-bedroom, eight 1,500 square foot three-bedroom condos and two 3,200 square foot courtyard row houses**



**Estimated Taxable Value**

Sixteen residential units - \$385,000 ea.  
Eight residential units - \$525,000 ea.  
Two courtyard residential units - \$1,280,000 ea.  
Two 1,000 square foot commercial units  
\$200,000 ea.

**Estimated SEV**

SEV – All units combined  
\$6,460,00

**Estimated Village Tax**

All units combined  
\$41,013

### **SITE 3**

**Mixed Income Housing Development – Parcel ID Number 041-824-015-30**

**65 residential units (14 market rate single-family, 16 single-family affordable, and 36 affordable rental units)**

#### **Single family Market Rate Component**

**Fourteen 2,250 square foot market rate single-family homes**

##### **Estimated Taxable Value –**

Fourteen residential units - \$787,500 ea.

##### **Estimated SEV**

SEV – All market-rate single family units combined  
\$4,331,250

##### **Estimated Village Tax**

All market rate units combined  
\$27,498



#### **Single family -Permanently Affordable Component**

**Sixteen 1,400 square foot permanently affordable single-family homes**

##### **Estimated Taxable Value –**

Sixteen residential units - \$207,000 ea.

##### **Estimated SEV**

SEV – All permanently affordable single-family homes  
\$1,656,000

##### **Estimated Village Tax**

All permanently affordable single-family homes  
\$10,513



#### **Multifamily – Payment in Lieu of Taxes (PILOT) Parcels**

**Thirty-six units of workforce housing -12 units at 30% AMI (\$29,450 – family of four), 12 units at 50% AMI (\$41,600 – family of four), and 12 units at 80% AMI (\$63,700 – family of four) in two multiple family developments**

##### **Estimated Taxable Value –**

Thirty-six units at \$225,000 ea.

##### **Estimated SEV**

SEV – one half of Taxable Value  
\$4,050,00

##### **Estimated PILOT**

\$16,980



**Assumptions:**

Estimated residential property values - \$350.00/sq. ft

Accessory Dwelling Unit property values - \$275.00/sq. ft

Courtyard residential property values - \$400.00/sq. ft

Restaurant - \$400/sq ft. build-out of existing building plus new \$750,000 kitchen addition

Village effective tax rate – 0.0063487% of SEV/Taxable Value

Taxable Value equals State Equalized Value (SEV) at point of sale

Permanently affordable – Based upon 2018-2022 ACS Annual Median Income for the Village of \$66,563 with \$15,000 down payment and \$300 in monthly debt expenses - \$207,000 where less than 30 percent of a household income is spent on housing

PILOT – Ten percent of net shelter rent of the workforce housing units

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### 3.2 Comparison of Development Scenarios

This section includes a comparison between the existing conditions, build-out without centralized sewer services, and build-out with a municipal sewer system. The development table includes: the current Village taxes generated prior to development; future taxes generated by the four development scenarios; the current and future number of jobs; and the current and future number of residential units that would be possible with and without sewer service.

Notes are included below the table to describe each site, tax calculations, and the components of the development.

Additionally, the assumptions that were used to generate the jobs and costs for each of the developments follows the notes section.

	Site 1 Former Empire School <sup>1</sup>	Site 2 - Option 1 Former lumber store/hardware store <sup>2</sup>	Site 2 - Option 2 Former lumber store/hardware store <sup>3</sup>	Site 3 Market Rate & Workforce housing site <sup>4</sup>
<b>Existing Taxes - Village</b>	\$1,147	\$2,651	\$2,651	\$511
<b>Current Taxable Value</b>	\$180,650	\$407,147	\$407,147	\$79,380
<b>Current Assessed/SEV</b>	\$246,400	\$576,500	\$576,500	\$123,100
<b>Future Taxes - Village</b>	\$7,634	\$46,911	\$58,678	\$54,991 <sup>5</sup>
<b>Future Taxable Value</b>	\$2,405,000	\$14,778,000	\$18,485,000	\$20,074,500
<b>Current Assessed/SEV</b>	\$1,202,500	\$7,389,000	\$9,242,500	\$10,037,250
<b>Current Jobs</b>	0	0	0	0
<b>Future Jobs <sup>6</sup></b>	9	80	7	0
<b>New Units without Sewer <sup>11</sup></b>	3	6	6	26
<b>New Residential Units - with sewer</b>	12 <sup>7</sup>	26 <sup>8</sup>	39 <sup>9</sup>	65 <sup>10</sup>

#### Notes

<sup>1</sup> Includes both 10017 W. Front St and PIN 41-300-049-00

<sup>2</sup> Option 1 includes 11712 S. Lake, PIN 041-824-056-10, 11738 S. Lake Street, and PIN 041-824-058-00

<sup>3</sup> Option 2 includes 11712 S. Lake, PIN 041-824-056-10, 11738 S. Lake Street, and PIN 041-824-058-00

<sup>4</sup> Parcel 041-824-015-30

<sup>5</sup> Includes Single-family market rate Village tax, Single-family affordable Village tax, and Multifamily PILOT payment

<sup>6</sup> Retail jobs are one per 400 sq. ft. of commercial space, two kindergarten teachers, and see assumptions for restaurant job calculation

<sup>7</sup> Six units in rehabbed school, lower level commercial and kindergarten, and two duplex units on southern lot with two ADUs

<sup>8</sup> Six rowhouse units and twenty units in new and rehabbed building

<sup>9</sup> Seven units in cottage court building, six units in rehabbed stables, and twenty-six in new building

<sup>10</sup> Fifty two units on 1/4 acre lots (as permitted per General Residential zoning of 1/4 acre lots)

<sup>11</sup> 1/2 acre lots as required for septic systems by Benzie-Leelanau District Health Dept

**Assumptions:**

**Restaurant -**

Size of Restaurant 4,320 sq ft gross - 3,240 net (25% service, bathrooms, bar)

Dining Capacity - 180 persons for fine dining - 18 sq. ft per customer

Tables - 40 @ table average of 4.5 persons/table

Staffing - 29 staff per shift - 10 servers (1 server per 4 tables), 1 maître d', 18 kitchen staff (6 per each 60 covers)

75 restaurant employees - peak season

**Retail**

One employee per 400 sq. ft

**Single-family - Permanently Affordable**

Sales Price/affordability cap based upon 2018-2022 Annual Median Income for family of four in the Village - \$66,563

Based upon \$15,000 down payment and \$300 per month in debt expenses

Permanently affordable limits housing to 30% of household income for housing

House price - \$207,000

**Workforce Housing - Rental**

	Income Level	Income Family of 4	Annual Rent 30% of family income	Total Rent Collected
12 units	30 % AMI	\$29,450	\$8,835	\$106,020
12 units	50% AMI	\$41,600	\$12,480	\$149,760
12 units	80% AMI	\$63,700	\$19,110	\$229,320
Total Gross Rent				\$485,100
Less Utilities, Depreciation, Operating Expenses (65%)				\$315,315
Net Shelter Rent				\$169,785
PILOT Payment - Ten % of Net Shelter Rent				\$16,979

**3.3 Analysis of Development Impacts**

The development potential of the three sites may be discerned from the information contained in the development comparison table located above in Section 3.2. All three sites have sat underdeveloped for at least the last fifteen years while the Village has undergone intensive single-family residential development.

Several issues may be contributing to their undeveloped condition including the commercial nature of Sites 1 and 2; changes occurring in retailing; and the lack of utilities.

**Municipal Revenue**

Currently, all three sites only generate \$6,960 dollars in combined taxes for the Village. If developed in a manner similar to the proposed scenarios, the Village taxes would see an increase to between \$109,536 and \$113,223 annually.



The actual amount of Village collected taxes would be impacted by the number of properties that would qualify for the homestead tax exemption, which would reduce the overall Village collection.

In Michigan, primary residences are entitled to this homestead tax exemption, but this exemption does not apply to investment properties or second homes. There would be an approximately 30% reduction in the tax collection on all homesteaded properties. All of the permanently affordable for sale homes and a small percentage of the condos and market rate for sale homes may be assumed to become homesteaded. Currently, the single-family permanent affordable homes would generate approximately \$10,500 in Village taxes if none of the properties applied for the homestead tax exemption while a 30% reduction would amount to \$3,150 in reduced tax revenue to the Village.

## Jobs

There are no permanent jobs that are currently associated with Sites 1-3. Sites 1 & 2 would have year-round permanent jobs while Site 3 will not have any permanent jobs associated with its development.

As proposed, development of Site 1 would generate nine jobs connected to its development. This would include seven retail jobs associated with the two lower level 1,500 square foot retail spaces and two jobs in the small kindergarten structure.

Option 1 for Site 2 includes both the development of a 180-seat fine dining establishment and two retail businesses. During the summer months, the restaurant is expected to have 75 staff members for lunch and dinner service. Due to the unique location in Empire, there is a clear opportunity to develop a destination dining business in the beautifully restored former stables, which would enable the business to operate at a lesser scale year-round. Farm Club, located northwest of Traverse City, is an example of this type of destination restaurant development that could operate at this location. Two thousand square feet of retail space are proposed for the South Lake Street frontage. This would support five jobs. In total, Option 1 would generate 80 net new jobs for the Village.

Option 2 for Site 2 would include 3,000 square feet of retail on the South Lake Street frontage. This amount of retail space would support seven new jobs.

There would be numerous construction jobs created during the building activities associated with the development of Sites 1-3. These temporary jobs would stretch out over five to seven years. The construction would take that long for these developments to come to fruition and time for the market to absorb that much new housing. Even if there is overwhelming demand and support to implement all three of these scenarios as quickly as possible, the construction labor market is quite confined in Northern Michigan so it would be difficult for Empire to expect construction to occur all at once on all three sites. This would mean that the impacts of the developments on the jobs market would be spread out over several years.

## Residential Units

To further understand the impact of new utilities on the sites, an assessment of the number of housing units that could be constructed based upon no utilities was undertaken. According to the Benzie-Leelanau District Health Department, the smallest single residential site that they

would permit would be ½ acre in size. It is their policy that a lot of this size is about the absolute minimum that can accommodate the building envelope, driveway and other paving areas, the septic and back-up septic fields, the required septic fields setbacks, and the well and the wellhead setback areas.

With those physical site constraints, a maximum of thirty-five total residential units would be able to be constructed on all three sites.

With the availability of sewer service, the development options proposed in this report are to be developed towards the maximum allowable densities under the Village Zoning Ordinance. Depending upon the site design and mix of commercial and residential, this analysis identifies that between 77 and 116 new residential units could be developed. If the municipal sewage facility's leachate fields were located elsewhere, additional residential units could be developed on Site 3.

All three of the sites could be developed with on-site septic fields that could accommodate commercial and multi-family uses, but portions of each of the sites would have to remain undeveloped where the commercial septic systems would be located. This approach would reduce the number of units that could be developed on each site. This approach would have visual impacts on each of the sites as nothing can be developed over septic leachate fields while increasing both the costs associated with site development and site operation.

### **Additional Economic Considerations**

Several additional economic impacts would result from the development of Sites 1-3.

First, there would be additional workforce housing available within the Village, which would support local economic development. The housing market is significantly constricted within the Village and the surrounding communities, especially housing for all medium income earners and lower. This lack of affordable workforce housing significantly impacts the Village as most of its jobs are related to the seasonal tourist economy. Many Village workers have to travel long distances to find affordable housing in Leelanau and Benzie Counties.

Each new connection to the Village sewer system would have to pay a connection fee to the Village, which would assist with the capitalization of the sewer system.

Third, additional residents within the Village would support both the local businesses and the local school system. These residents would shop in local businesses and most would send their children to the Glen Lake Community Schools district. The added residents will also improve the year-round vitality of the community. With a portion of the Village housing devoted to only seasonal use, the cohesion of the community is impacted by the lack of enough year-round residents.