

**Casco Township Board, South Haven Charter Township Board,
South Haven City Council Joint Workshop
Wednesday, January 27, 2015
6:00 p.m., Lake Michigan College, South Haven Campus
125 Veterans Blvd., Room 141**

AGENDA

1. Call to order
2. Roll Call
3. Approval of Agenda
4. Interested citizens in the audience will be heard on items not on the agenda
5. Board and Council members will receive a presentation on the sanitary sewer and Waste Water Treatment Plant planning efforts related to proposed capital improvement projects.
6. Board and Council members will receive a presentation on the proposed regional water/sewer authority structure.
7. Staff member comments
8. Board and Council member comments
9. Adjourn

Respectfully Submitted,
Brian Dissette
South Haven City Manager



South Haven Sewer System Improvements

January 27, 2016

Presentation Topics



- ▶ Sewer System Study Background and Components of the Study/Data Collection

- ▶ Recommended System Improvements

- ▶ Project Costs
 - Sources, Uses, and Potential Rate Impacts

Sewer System Study Background and Components



S2 Project Background



▶ Project Purpose

- DEQ's S2 Grant Program intended to accelerate the progress of water pollution control efforts and facilitate system improvements through utilization of the State Revolving Fund Loan Program

▶ Project Scope

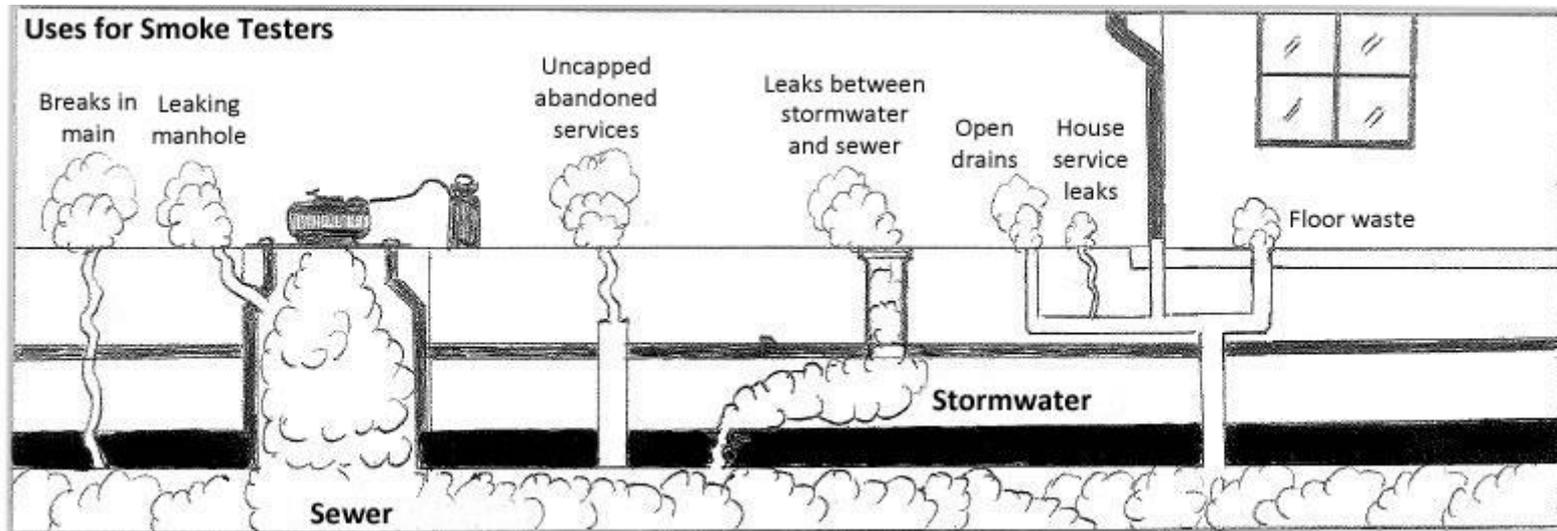
- Identify opportunities to reduce or eliminate excessive wet weather Inflow and Infiltration (I/I) from the wastewater collection system
- Identify "Critical Priority" structural defects warranting corrective action
- Develop an SRF Project Plan to address these issues.

SRF Project Plan Data Collection Components



- ▶ Sewer System Mapping
- ▶ Smoke Testing
- ▶ Flow Metering and Computer Modeling
- ▶ Sewer Televising

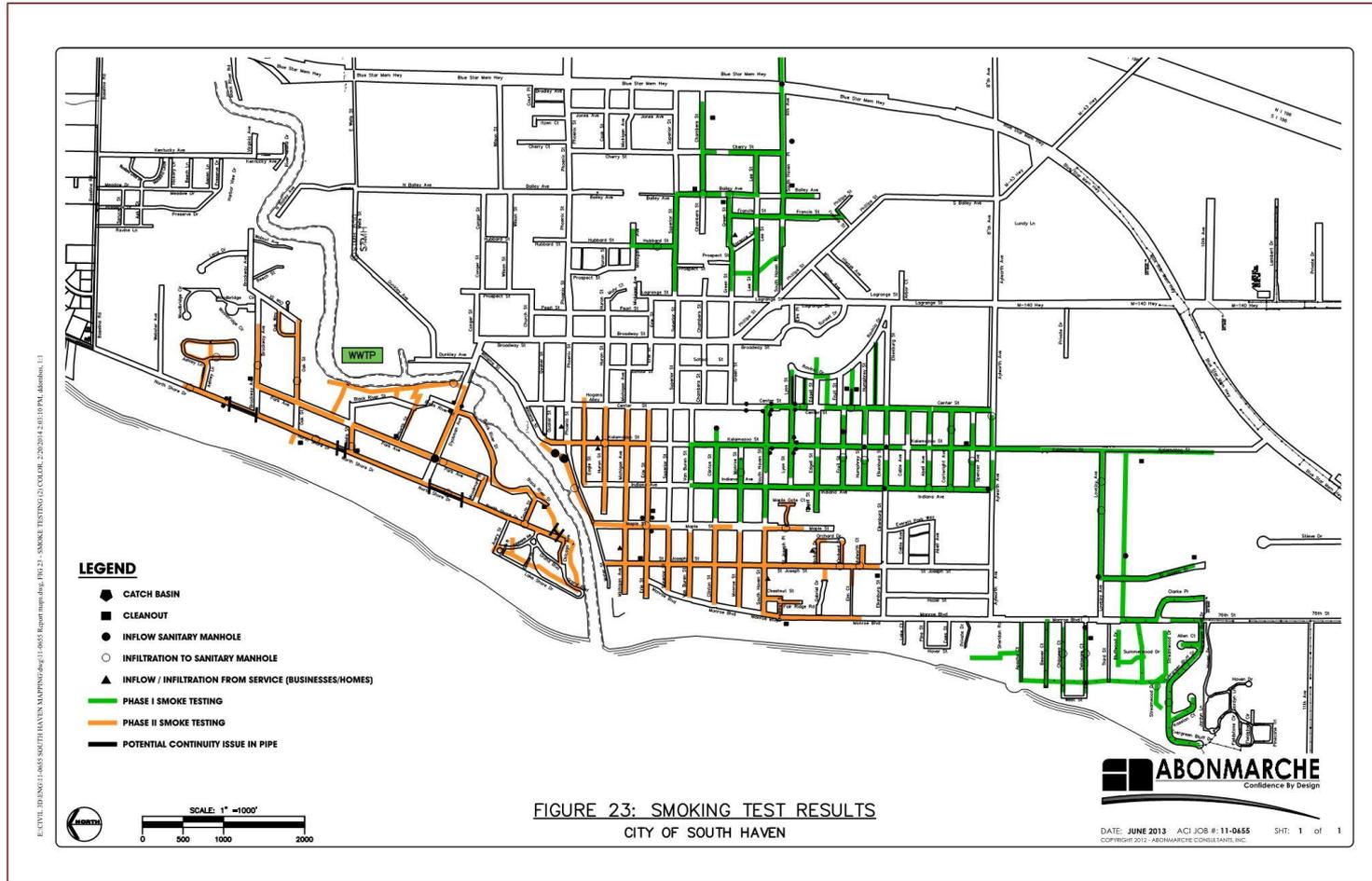
Smoke Testing



Smoke Testing



Areas Smoke Tested



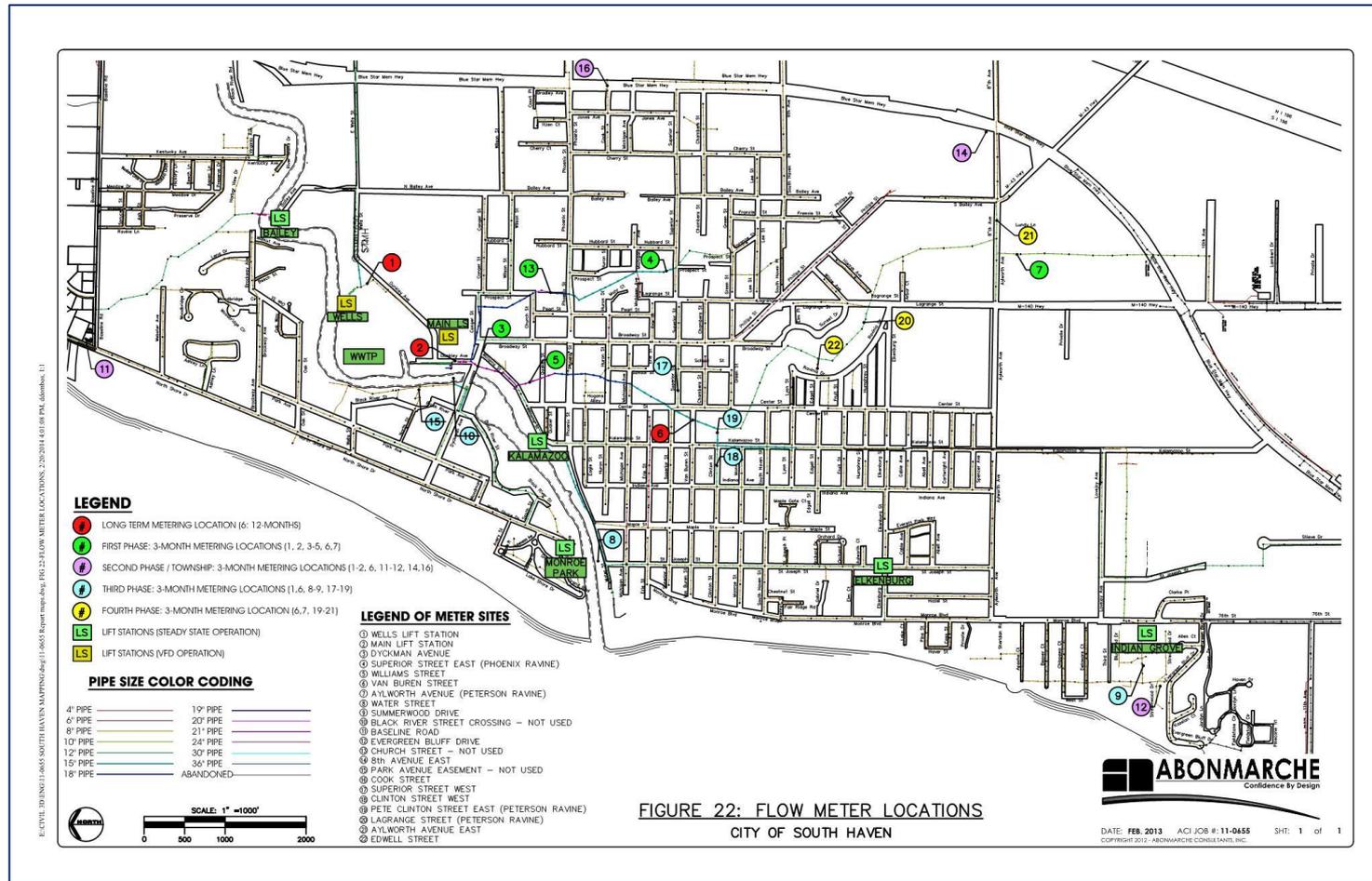
Flow Metering



- ▶ Isolate and Quantify Flows
 - Program began in Spring 2012 and ran through Fall 2013 (3 months for Township inputs)
 - Dry Weather vs. Wet Weather Flows
 - Peaking Factor: $\text{Wet Weather Flow} / \text{Dry Weather Flow}$
 - High Peaking Factor: indicates defects and/or illicit flows
 - Assess System Capacity
 - Basis for Predictive Modeling 25-Year/24-Hour Storm
 - Continued to Monitor Flows Throughout the Study

- ▶ Help to Locate Possible Defects
 - Target Areas for Further Inspection

Flow Metering Map



Peak Wet Weather Flows



- ▶ The highest peaking factors were noted at:
 - Peterson Ravine (sites 6,18-21) – out to bid
 - Dyckman Avenue (site 3) – fixed by city with bridge
 - Main Lift Station (site 2) – total flow from all to WWTP
 - Wells Lift Station (site 1) – total flow from all to WWTP
 - Aylworth Avenue (site 7) – SH Township
 - Edgell Street (site 22) – poor condition sewers

- Peak Flow days from the Authority over the past three years have exceeded the allowable amount on at least three occasions – October & November 2013 and January 2014.

Authority Flows vs. Capacity



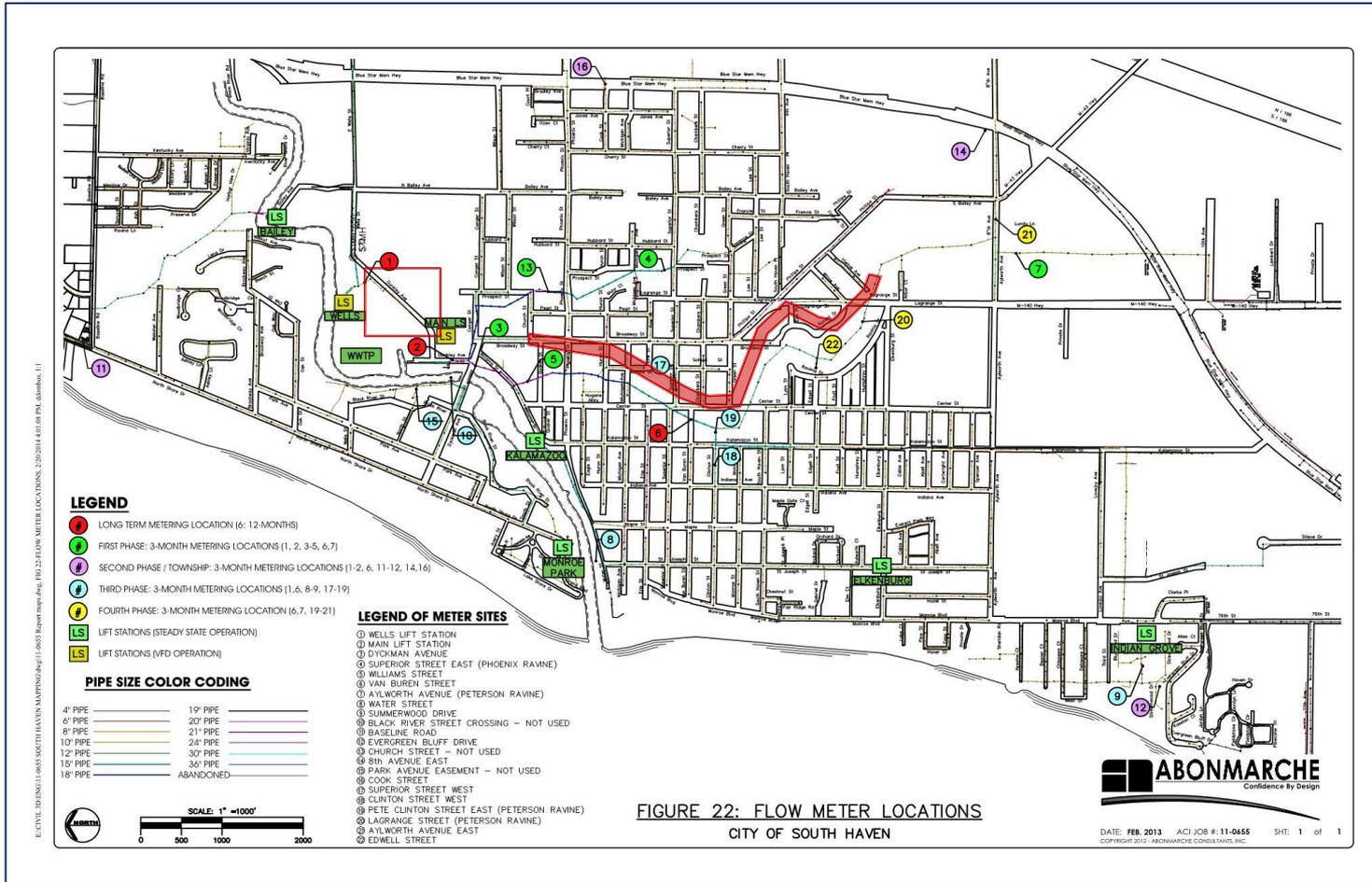
- ▶ Average Daily Flow in the Winter Months (per Agreement) is allowed up to the Purchased Capacity of 0.45mgd. A calculation using metered water consumption and REUs is used to measure capacity usage. This method of measurement is subject to interpretation and data not readily available through the billing system but LS and WWTP flow measurements are available on a daily basis. No winter months have exceeded purchased capacity.
- ▶ Peak Month can be 1.5 times the Average Daily Flow per Agreement.
- ▶ Peak Day can be 2 times the Average Daily Flow. At least three days corresponding to wet weather pushed beyond this limit.

Total Flows to WWTP



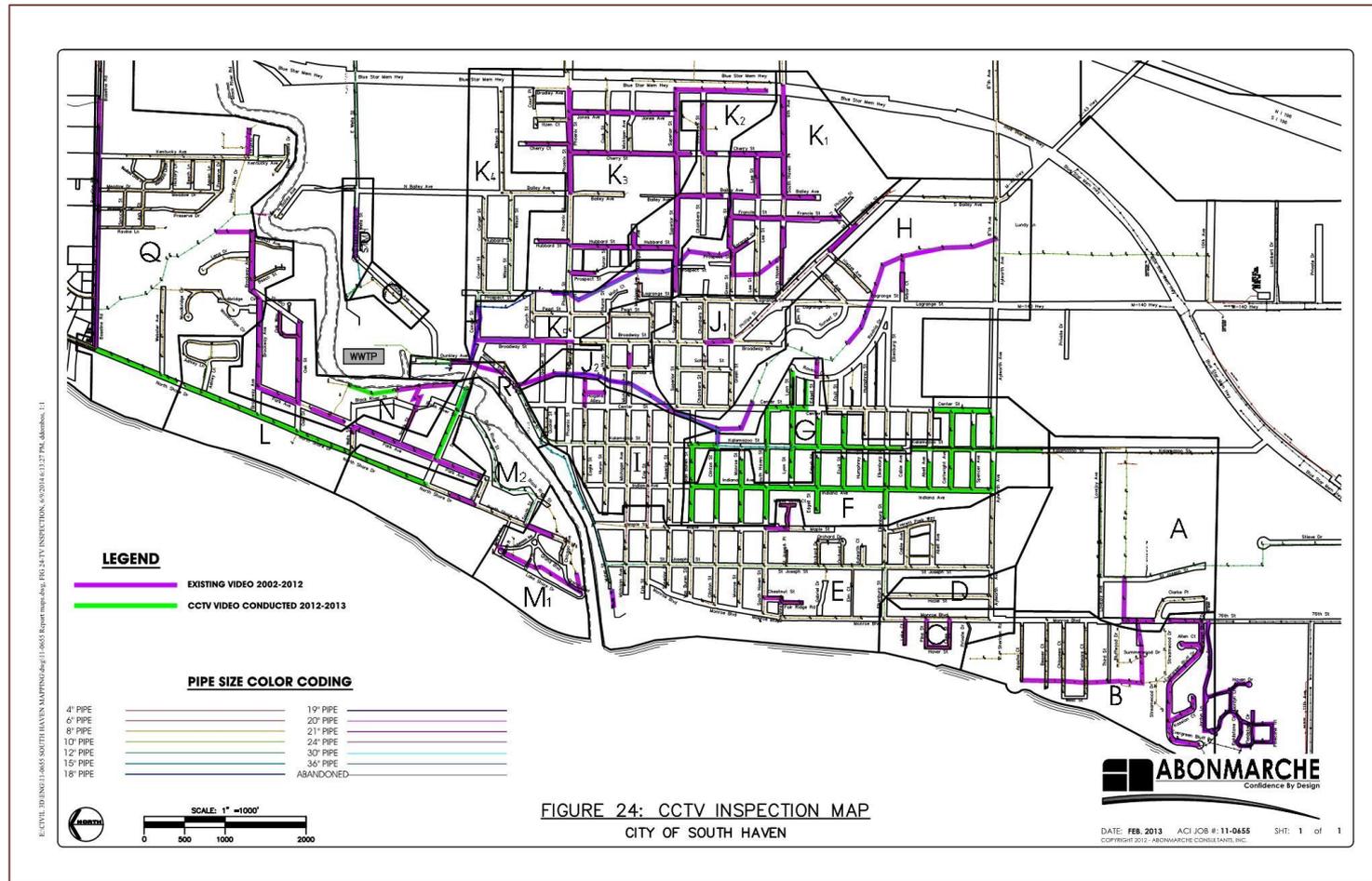
- ▶ The Average Daily Flow to the WWTP in 2015 was 1.23mgd. Plant Capacity is 2.13mgd.
- ▶ The Largest Flow Month was June at 1.63mgd
- ▶ The highest precipitation was noted in May/June
- ▶ Peak flow days exceeded Plant Capacity on rainy days between April and July

System Modeling – Capacity Issues

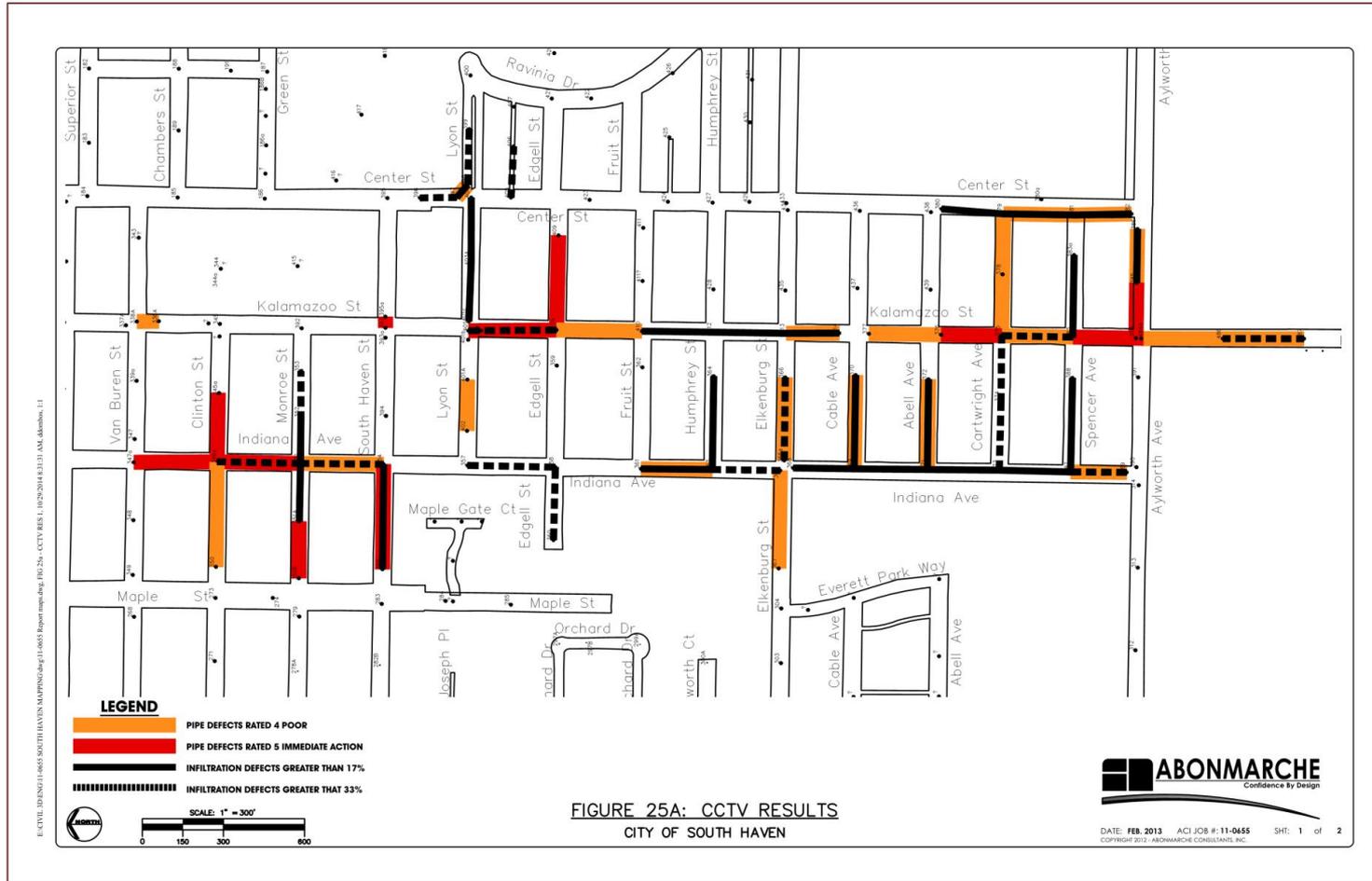


E:\CIVIL_3D\DRG\11-0655 SOUTH HAVEN MAPS\FIG 22\FLOW METER LOCATIONS_2/20/13.dwg (1:865) Paper: map.dwg, 1/4/2013 4:03:08 PM, 11

Sewer Televising Map



CCTV Results



2010 Wastewater Treatment Plant Evaluation



WWTP Evaluation – Summary



- ▶ The treatment process meets the permit under normal conditions but components and lift stations are wearing out
- ▶ Improvements can help reduce operating costs

WWTP Evaluation – Summary



- ▶ Capacity of the WWTP is 2.19mgd, average flow to the WWTP is 1.23–1.35mgd. Wet weather flows stress the capacity of the WWTP and Main LS, which has seen numerous overflows
- ▶ Wet weather flows impact plant operations and sizing of equipment – “the effects of the peak summer population in the City are less impacting than the wet weather flows”

WWTP Evaluation – Summary



- ▶ The WWTP was originally constructed in 1933
- ▶ Major renovations were constructed in 1963, 1971, and 1988, along with minor improvements every few years as needed
- ▶ Most of the facilities are 50+ years old
- ▶ The service area that was studied included the city; Casco Twp. bounded by 107th, I-196, Baseline, and Lake Michigan; SH Twp. bounded by Baseline, 70th, 20th, and City

WWTP Evaluation – I



- ▶ Influent and Primary Treatment required to address imminent operational and/or capacity issues
 - Main (80% of flow – city/south) & Wells (20% of flow – north city and Casco) Lift Stations (45–80 yrs old)/Headworks Building
 - Capacity, Structural, and Equipment Issues
 - Raw Wastewater Screening & Grit Removal(50 years old)
 - Damaged and Ineffective
 - Operational Issues result from debris getting through
 - Influent Metering
 - Inaccurate at High Flows

WWTP Evaluation – II



- ▶ Secondary Treatment to address permit compliance, operational/process efficiency savings in the 5–10 year range
 - Biological Treatment (50 years old)
 - Capacity, Aeration, and Pumping Issues – 45% of the electrical usage
 - Settling Tanks (30–50 years old)
 - Inadequate Capacity for proper sludge thickening
 - Chemical Feed (40–50+ years old)
 - Replace Equipment & Remove Retired Equipment for added safety and efficiency
 - Solids Handling (30–50 years old)
 - Inadequate Capacity and Storage
 - Non-compliant with 10 State Standards – private hauler to assist

WWTP Evaluation – III

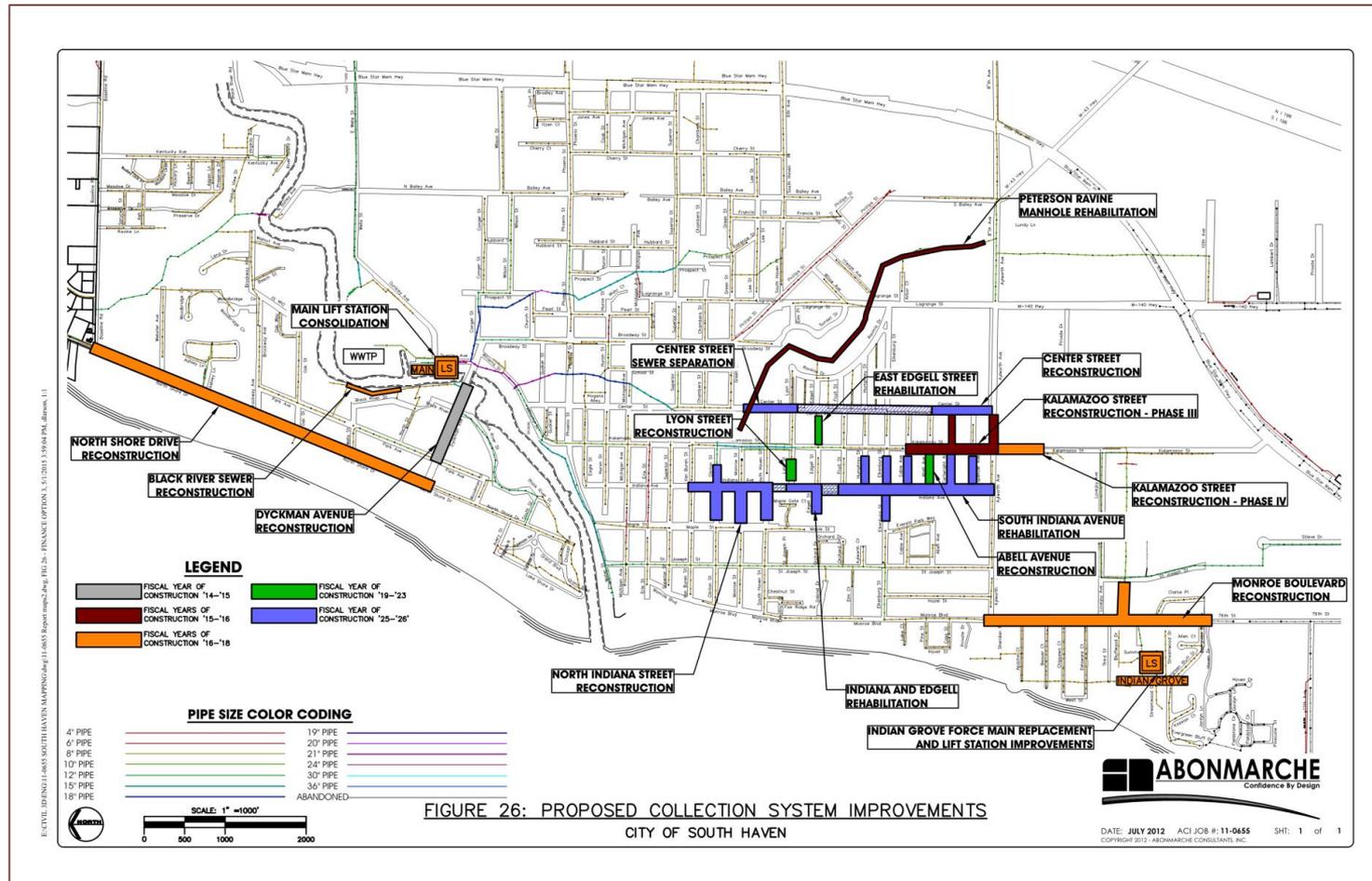


- ▶ Tertiary Treatment to address potential growth and permit issues in the 10–15 year range
- ▶ Facilities
 - Electrical
 - Replace Motor Control Center (MCC) – original still in place
 - SCADA System Replacement – limited capacity and interface
 - Structural and Building Needs
 - Laboratory – Climate Control, Roof, and Offices
 - Maintenance Building – Equipment Storage

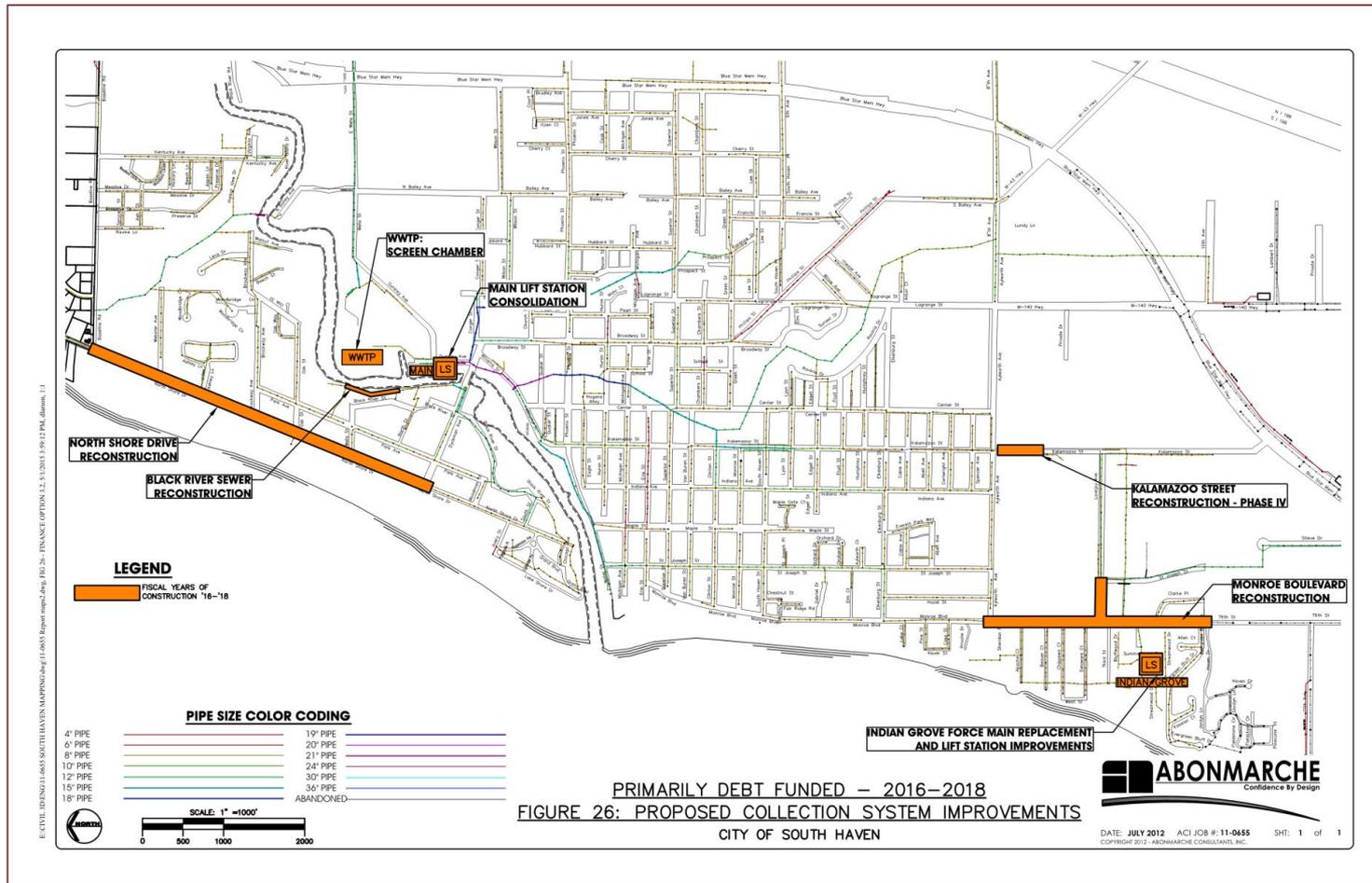
Recommended System Improvements



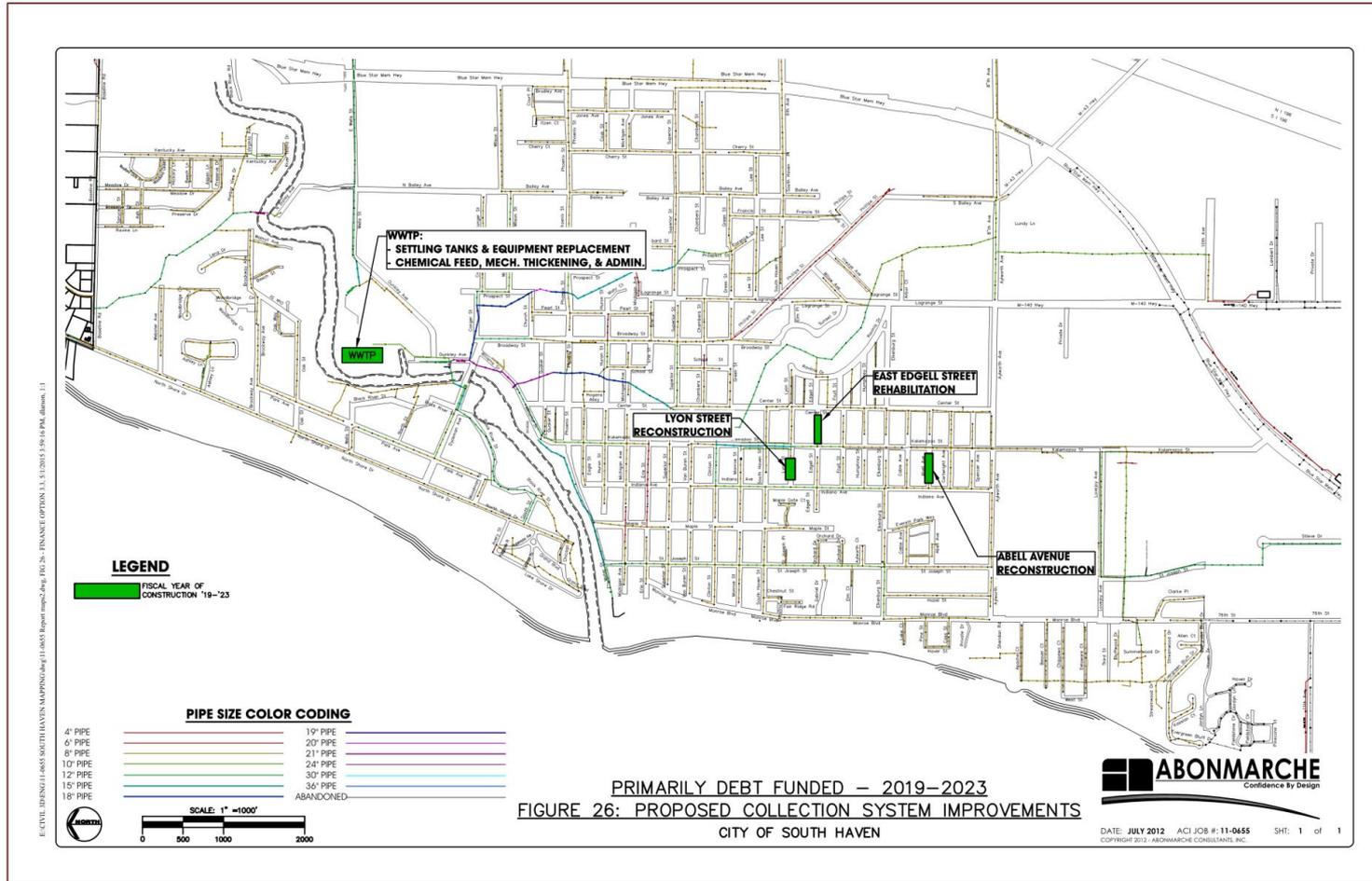
Recommended Improvements



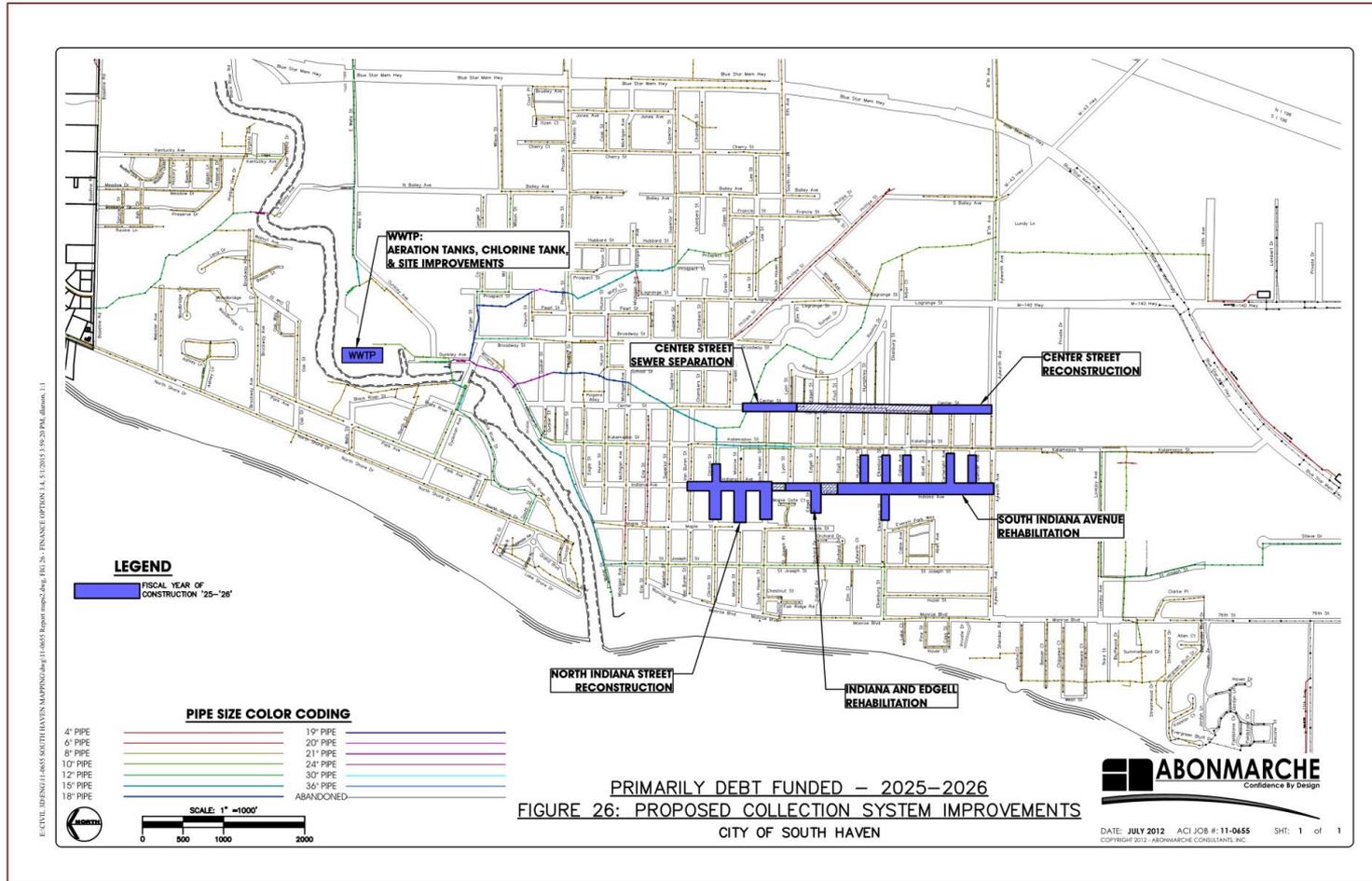
Phase 2 Projects



Phase 3 Projects



Phase 4 Projects



E:\CIVIL\DESIGN\11-0655 SOUTH HAVEN MAPS\FIG26.FIG - FINANCE OPTION 1A 5/12/2011 3:50:20 PM.dwg, L1

Sources, Uses and Potential Rate Impacts



Issues to Address Together



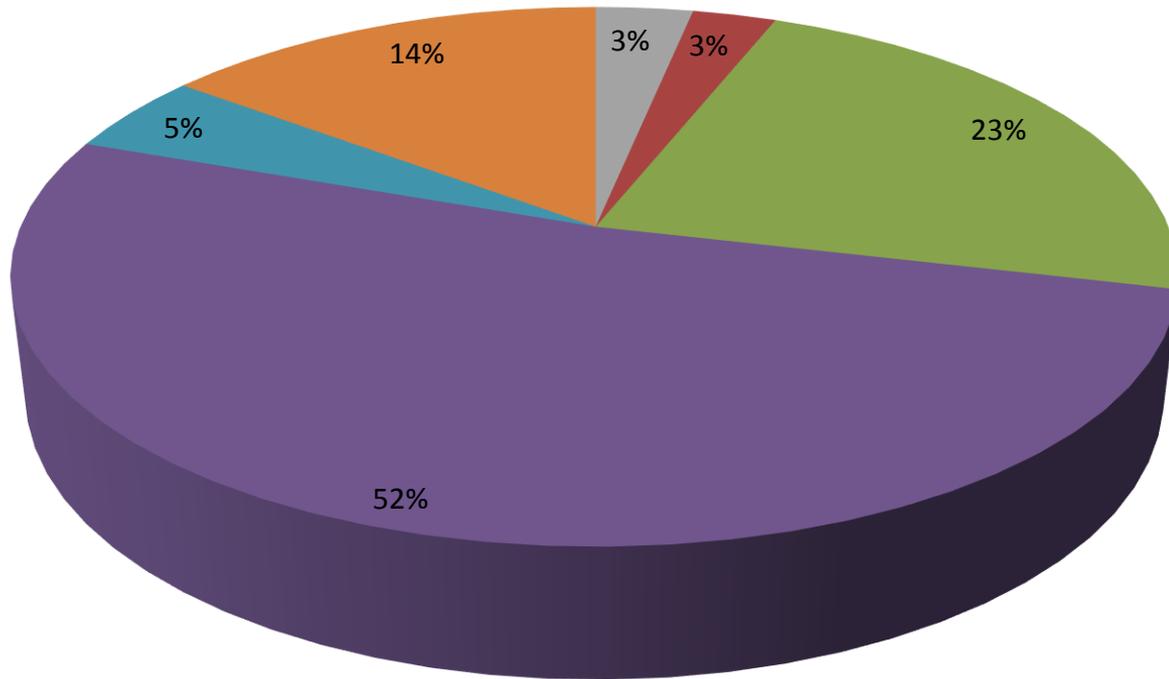
- ▶ Of the projects identified above, the following address flows from both City and Township users
- ▶ Peterson Ravine
- ▶ Kalamazoo Street
- ▶ Indian Grove Lift Station
- ▶ Main/Wells Lift Stations
- ▶ WWTP

Project Plan: Uses of Funding



| | |
|---|---------------------|
| ▶ Completed Projects (Dyckman) | \$995,028 |
| ▶ 2015/2016 Projects (Peterson Ravine/Kalamazoo St – Joint) | \$856,769 |
| ▶ Remaining Sewer | \$7,031,922 |
| ▶ WWTP (including Lift Stations – Joint) | \$16,031,567 |
| ▶ Water | \$1,492,385 |
| ▶ Road, Storm & Misc. | <u>\$ 4,551,636</u> |
| ▶ Total Project Cost | \$30,959,307 |

Project Plan: Uses



■ Completed Projects (Dyckman)

■ 2015/2016 Projects (Peterson/Kalamazoo)

■ Remaining Sewer

■ WWTP (including Lift Station)

■ Water

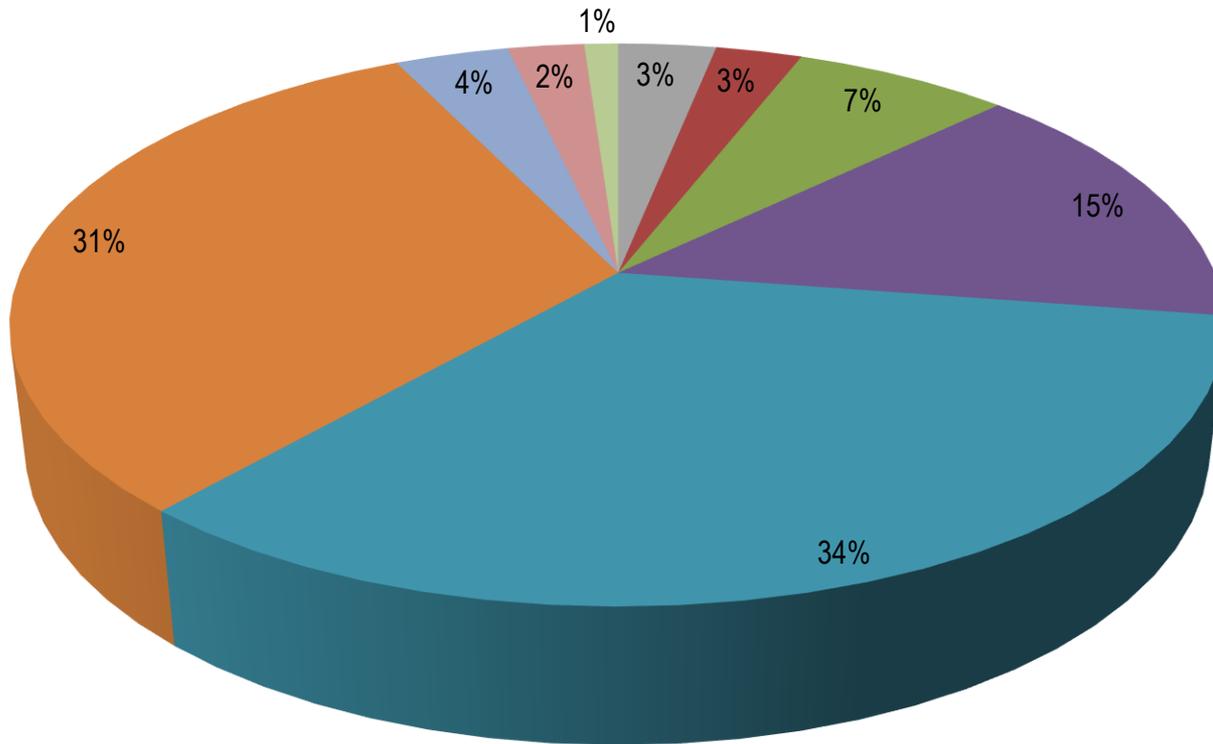
■ Road, Storm & Misc.

Project Plan: Sources



| | |
|---|-------------------|
| ▶ Completed Projects (Dyckman) – City Funds | \$962,758 |
| ▶ 2015–2016 Projects (Peterson Ravine/Kalamazoo St) | \$856,769 |
| • Special Assessment: 25% of Sewer & Water | \$2,131,076 |
| • Road Funds: | \$4,551,636 |
| • SRF: 75% of Sewer & Main LS Consolidation | \$10,514,188 |
| • USDA: WWTP Improvements (All Rate Payers) | \$9,743,000 |
| • Water Rates: 75% of Water (City Rate Payers) | \$1,119,288 |
| | |
| ▶ Local Sewer Rates: (City Rate Payers) | \$327,860 |
| | |
| ▶ SAW Grant | <u>\$ 752,732</u> |
| | |
| ▶ Total Funding Sources: | \$30,959,307 |

Project Plan: Sources



- Completed Projects
- 2015/2016 Projects
- Special Assessment: 25% of Sewer & Water
- Road Funds:
- SRF: 75% of Sewer & Main LS Consolidation
- USDA: WWTP Improvements (All Rate Payers)
- Water Rates: 75% of Water (City Rate Payers)
- SAW Grant
- Local Sewer Rates: (City Rate Payers)

Rate Impacts through Phase 2



| | |
|------------------------------|------------------|
| ▶ SRF – Sewer | \$2,593,356 |
| ▶ SRF – WWTP & Lift Stations | \$5,920,798 |
| ▶ Water Funds | \$385,558 |
| ▶ Road Funds | \$3,225,293 |
| ▶ Special Assessments | \$1,064,695 |
| ▶ SAW Grant | <u>\$582,946</u> |
| ▶ Total Cost | \$13,772,646 |

City Users = \$10.94/mo

Township Users = \$6.19/mo

The rate impacts defined above are a conservative, rough average on a per user basis for the projects defined in the Project Plan. We have engaged a rate consultant to provide a more detailed analysis of potential rate adjustments based upon existing debt expiration dates, system growth, operation and maintenance costs, additional capital needs, additional funding sources, etc. Their preliminary review concurs with the rate impacts shown in our analysis.

Rate Impacts through Phase 2



For example, if LDFA/DDA are able to commit a combined \$100,000/year for 20 years, the rate impacts would be lessened for all users to:

City Users = \$9.30/mo

Township Users = \$4.55/mo

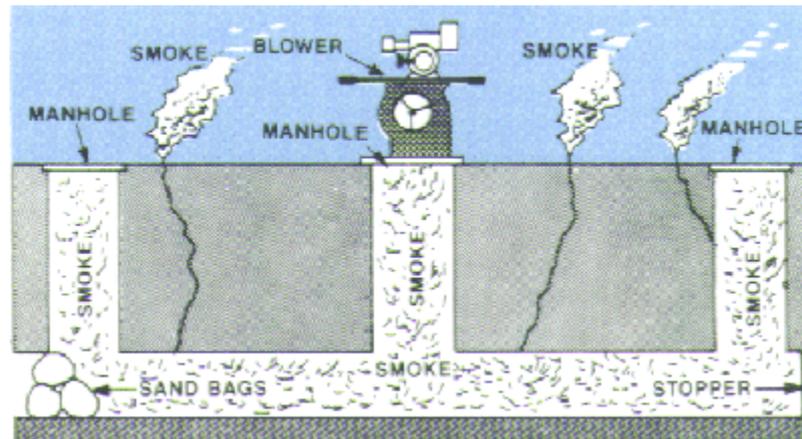
Additionally, since the City was granted Disadvantaged Status the SRF loan term could be extended to 30 years and receive \$500,000 in loan forgiveness, further reducing the impact on user costs to:

City Users = \$6.00/mo

Township Users = \$3.00/mo



Questions and Answers



Proposed

“South Haven Area Water-Sewer Authority”

Joint Session
of
South Haven/Casco Township Water & Sewage
Treatment Authority
and
South Haven Board of Public Utilities
January 27, 2016

Presented by:

Ron Bultje
Scholten Fant
Townships' Attorney

Scott Smith
Dickinson Wright PLLC
City Attorney

Over the last few years...

City, Casco Township & South Haven Charter Township leaders have focused on their water & sanitary sewer systems, reviewing:

- * Current & projected future flows & capacities.
- * Current debts & current rates, fees & charges.
- * Current systems' challenges & needed improvements.
- * Capital needs, costs & funding sources.
- * Current ownership structures, myriad agreements.
- * Changing regulatory requirements.
- * Changing funding requirements (e.g., required funding of depreciation).
- * Growing pressure from state officials & others for (formalized) intergovernmental cooperation.

Decided to explore a regional water/sanitary sewer authority, **if** ...

- A. All parties are treated fairly.
- B. No loss of local control/autonomy.
- C. Will not increase customer costs.
- D. Users will benefit.
- E. It will not be extra complicated.

*Remember this slide.

Why consider a regional authority?

1. State encourages & sometimes incentivizes regional cooperation.
2. City & Townships currently cooperate (e.g., planning, ordinances, etc.) without all benefits of cooperation.
3. Improve efficiency & reduce duplication, lowering customer costs.
4. Replace current complicated contract & debt framework.
5. Minimize future local legislative actions & contract changes.
6. Maximize facility utilization before expansion.
7. Recognize Township customers' payments for facilities costs.
8. Provides one-stop for job providers & homeowners.
9. All system users will have the same O&M rates.
10. Empowers all stakeholders with a voice in decisions.
11. Common approach to systems' care.
12. Improved system stability with larger customer base.

How does current system play out?

- * How does a homeowner experience the permitting process?
- * How does a business get needed permits?
- * How does billing occur.

Ross Stein & Brian Dissette will explain.

What law authorizes a regional authority?

- * 2 principally available statutes:
 - * 1955 PA 233 – used for Casco-South Haven Authority.
 - * Municipal Partnership Act, 2011 PA 258.
- * MPA may allow more flexibility, particularly in funding.
- * Bond markets not as familiar with MPA, but with bond counsel you have used in past, likely no problem.
- * MPA requires contract to address certain issues & allows addressing others.

Current complexity adds to contract length.

- * The number of involved entities:
 - * City of South Haven
 - * Casco Township
 - * South Haven Charter Township
 - * Allegan County
 - * VanBuren County
 - * Casco/South Haven Township Sewer & Water Authority
- * All have some ownership interest.
- * Outstanding debt balances.
- * Constitutional & charter requirements.
- * Myriad current contracts among parties & others.
- * Needed improvements.

SHAWSA purposes.

§1.1 – “The South Haven Area Water-Sewer Authority (“SHAWSA”) is created for the purposes of acquiring, owning, leasing, constructing, installing, operating, repairing, maintaining, replacing, improving, extending, enlarging and undertaking any and all other functions, powers and privileges regarding public water and sanitary sewer services in the City, South Haven Township and Casco Township.”

- * Limited to water & sanitary sewer.
- * Provides broad powers as limited by contract.
- * Intended mostly to serve 3 communities.

Governance.

- * 7 member board with staggered 4-year terms serving at pleasure of appointing bodies.
 - * 3 appointed by City Council.
 - * 2 appointed by Casco Twp. Board.
 - * 2 appointed by South Haven Twp. Board.

SHAWSA powers.

- A. ... acquire, own, lease, construct, install, operate, repair, maintain, replace, improve, extend, enlarge & undertake any & functions, powers & privileges regarding water & sewer services in City & Townships.
- B. ...adopt ordinances, rules and regulations for water & sewer services in City & Townships. ...issue permits to connect to, to use or to construct, install, operate, repair, maintain, replace, improve, extend, or enlarge water & sewer services in City & Townships.
- C. ...apply for, hold, maintain and renew any permits, certificates, licenses or other approvals needed to undertake functions, powers and privileges regarding water & sewer services in City & Townships.
- D. ...acquire by purchase, by lease, or by eminent domain, any real or personal property necessary to fulfill its functions, duties or obligations, or to exercise privileges related to water and sewer services in City & Townships.
- E. ...employ or contract for or engage such personnel, firms, service providers, contractors, professionals or others to fulfill functions, duties or obligations, or exercise its privileges related to water and sewer services in City & Townships.
- F. ...fulfill functions, duties or obligations, or exercise privileges or powers related to water & sewer services in City& Townships, by entering into contracts with one or more of the parties or others.
- G. ...by contract provide water or sanitary sewer service to customers outside Townships & City.
- H. ...exercise any powers or privileges provided by the Contract or by the MPA.

Ownership & control.

- * State constitution requires vote to convey City water/sewer systems.
 - * Contract would allow for ultimate conveyance.
 - * Like in Detroit, lease of Systems without a vote.
 - * (Unlike Detroit, rent is \$1.00 per year.)
- * Townships' systems will be conveyed when possible.
 - * Counties would consent to that arrangement.
- * Combined Systems would be called "SHAWSA Water System" & "SHAWSA Sewer System."
- * SHAWSA would control, operate & manage all as if it absolutely owned all.
- * SHAWSA could not sell, lease or otherwise convey any interest in any part of SHAWSA systems without approval of both Township Boards & City Council.

SHAWSA operating principles.

- * All users are retail customers treated equally.
- * Board can approve expansion without approvals of local governments provided it does not require debt or impair existing service.
- * But need approval of the Township Board or City Council to extend lines within that local government.
- * Must have a written purchasing policy.
- * May (really, must) adopt & enforce rules & regulations.
- * Rates are to pay for all costs.

SHAWSA funding.

- * Generally, rates, fees & charges.
- * Special assessments.
- * Tax levy:
 - * Requires prior approval of *each* Township Board & City Council; and also
 - * Requires approval of voters in *each* local government at an even year general election.
- * Contributions from local governments.
- * Contractual payments.
- * Other miscellaneous income.

Debt.

- * New debt requires approval of each Township Board & City Council.
 - * Revenue bonds.
 - * Contract bonds.
 - * Installment purchase agreements.
 - * Special assessment bonds.
 - * Act 185 bonds.
- * New debt will be issued by SHAWSA, not by local governments.
- * Existing debt will be paid from rates paid by current users already paying the debt or by their local government.
- * Local governments may pledge full faith & credit.

Rates.

- * All users will pay the same OMR&R charges.
- * Current debt service charges continue until debts are paid.
- * No free service.
- * Special contracts are possible.
- * SHAWSA Board will set rates on “cost of service” basis.

Initial arrangements.

- * SHAWSA would initially contract with City for services based on the actual cost of providing the services.
- * For continuity, Mr. Stein, who currently serves as Casco/South Haven Authority staff, would continue to serve as a liaison.

Other provisions.

- * Withdrawal with 2 years notice & continuing debt obligations.
- * Termination results in disposal of SHAWSA assets:
 - * As directed by parties, or
 - * In the following way:
 - * System components to local governments in which they are located. (With exception of NCG pumping facilities.)
 - * Sale of personal property.
 - * Funds, including sales proceeds, applied 1st to debt, then proportionally based on system revenues.

*Remember this slide.

Decided to explore a regional water/sanitary sewer authority, *if* ...

- A. All parties are treated fairly.
 - ✓ Equal partners, all with voting position on the SHAWSA board.
 - ✓ Equal OMR&R rates.
 - ✓ Recognizes Township customer's contributions.
- B. No loss of local control/autonomy.
 - ✓ SHAWSA board members appt'd by & serving as pleasure of Twp Bds/City Council.
 - ✓ Twp. Bds. & City Council approval needed for tax, debt, FFC pledge, or extending lines.
- C. Will not increase customer costs.
 - ✓ Eliminated duplication & increased efficiency should reduce costs over long term.
 - ✓ Will not be taking on existing debt of others. They continue to pay their own debt.
 - ✓ Maximizes treatment plant use before expansion is needed.
- D. Users will benefit.
 - ✓ Service should improve & everyone will have the same service.
 - ✓ Rates should be lower than they would be without regional authority.
 - ✓ One-stop answers.
- E. It will not be extra complicated.
 - ✓ Reduces the contractual & financing complexities.
 - ✓ A single board can act to approve water & sanitary sewer requirements.
 - ✓ Simplifies allocations of costs.



Questions?