

Indian Head Park Village Water/Sewer System Information



SPECIAL VILLAGE BOARD MEETING 8/27/2015

TOM HINSHAW, MAYOR

GLENN MANN, CHAIR, PUBLIC WORKS COMMITTEE

AMY JO WITTENBERG, ALT., PUBLIC WORKS COMMITTEE

BRENDA O'LAUGHLIN, TRUSTEE

RITA MAYER-FARRELL, ESQ., TRUSTEE

HEIDI LOPEZ, TRUSTEE

CHRIS METZ, TRUSTEE

JOHN DuROCHER, VILLAGE ADMINISTRATOR

EDWARD SANTEN, SUPT. OF PUBLIC WORKS

Project Goals: Identify And Prioritize Water & Sewer System Needs In IHP Via An Asset Management Plan

- Collect data to understand the short and long-term Water & Sewer Systems' infrastructure needs in the Village to facilitate discussion regarding the these needs with the residents of Indian Head Park (IHP) This is being accomplished via creation of an Asset Management Plan with the help of the University of North Carolina, Environmental Finance Center (UNC-EFC).
- Analyze and present data to enable the prioritization of these short and long-term infrastructure needs in IHP with the Village Administration and IHP residents via the Asset Management Plan.
- Understand the financial and human resources needed in the short and long-term to repair and replace our the system's infrastructure.
- Discuss alternatives for funding and scheduling the completion of these projects.

Why Establish An Asset Management Plan?

An Asset Management Plan is the most effective way to organize all of our needs for the Water & Sewer Systems, and all IHP infrastructure.

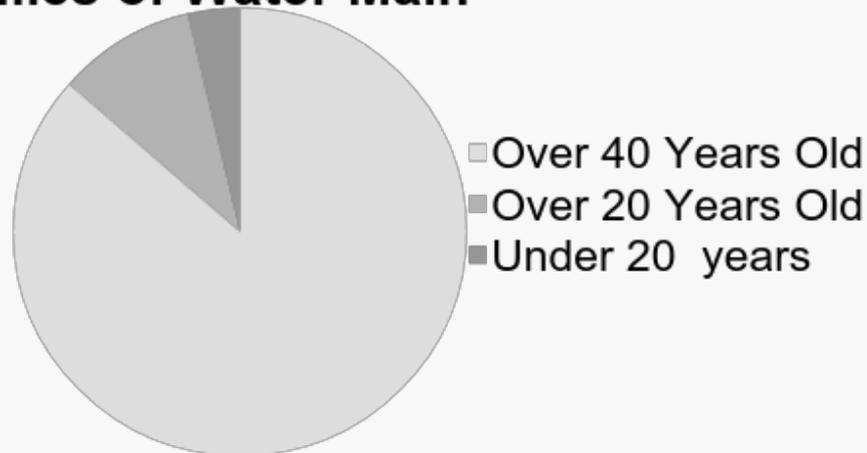
- Evaluates our infrastructure needs across the Village.
- Measures the actual financial condition of our Water & Sewer System and other infrastructure systems.
- Facilitates the prioritization of what needs to be repaired
- Analyzes the cost and timing of infrastructure needs and the impact on the Village.
- The Village has never had a formalized reproducible Asset Management Plan (AMP)
- Using an AMP, we will evaluate, measure, analyze, review and reach decisions on investing in all Village infrastructure to provide Village services for years to come.

Assessing the Infrastructure – Water

• Water Infrastructure Facts:

- Village has 16.22 miles (85,641 feet) of water main infrastructure
- 86.4% of water mains (14.02 miles) are \geq forty (40) years or older.
- 9.9% of water mains (1.6 miles) are \geq twenty (20) to $<$ forty (40) years old.
- 0.6 miles are $<$ twenty (20) years old

Miles of Water Main

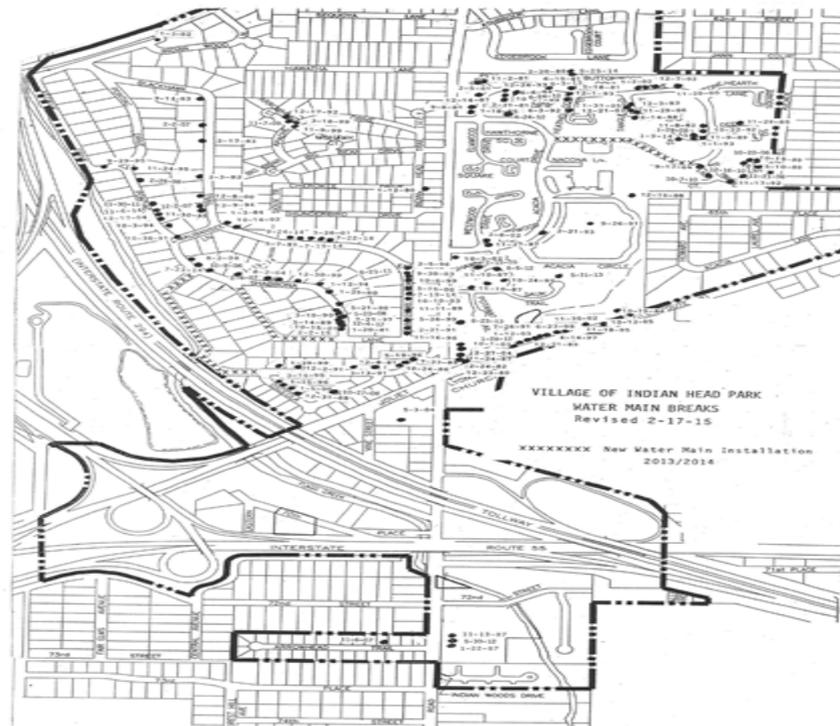


Assessing the Water System Infrastructure

The list below indicates projects that are most critical to both the physical state and financial health of the Water System over the next 1-5 years:

Location	# of feet	Approximate Cost
1. Village-wide Water Meter Replacement Program		\$400,000
2. Blackhawk Trail Water Main Replacement	4,400 ft	\$950,000
3. Shabbona Lane Water Main Replacement	1,200 ft	\$257,000
4. Well #3, Pump House & Meter Vault Renovation.		\$79,500
5. Joliet Road Water Main Replacement	1,350 ft	<u>\$300,000</u>
Estimated Total Short-Term Critical Water Projects Capital Needed		<u>\$1,986,500</u>

Village Street Map Showing Location of Water Main Breaks Throughout the Village



Assessing the Water System Infrastructure

Long Term General Water Infrastructure List

5-10 Years

<u>Item</u>	<u>Cost</u>
• Pontiac Drive: Waubensee to Keokuk, 1,000 l.f. main 8"	\$215,000
• Buttonwood Court: 165 l.f. 6" dia. water main	\$ 50,000
• 500,000 Gallon underground reservoir interior rehab	\$ 75,000
• Exterior Rehab of underground reservoir roof	\$100,000
• Install emergency generator for entire pump house	\$100,000
• Water Main Interconnection to LHSD on Plainfield Road	\$ 50,000
• Estimated Additional Total Short Term Water	<u>\$600,000</u>
• Project Funding Needed	

Assessing the Water System Infrastructure

Long-Term General Water System Infrastructure List 10+ Years

<u>Item</u>	<u>Cost</u>
• Eastgate Water Main replacement, 650 l.f. 8" dia.	\$ 97,500
• Cochise Drive Water Main Improvement, 1300 l.f. 8" dia.	\$280,000
	<u>\$377,500</u>

Please note that the above is subject to change due to changes in the Asset Management Plan, financial conditions, and other considerations.

Assessing the Infrastructure – Water System

- **Total Projected Costs For Needed Water System Capital Expenditures Over 5 and 10-year Projection**

- **Total of Short-Term Projects Water System = \$2,586,500**
- **Total of Long-Term Projects Water System = \$ 377,500**
- **Total Cost of Short and Long-Term Projects = \$2,964,000**

Financial Analysis of Village Water System

Reviewing the financial metrics of the Indian Head Park Water System shows we need to improve the financial condition for both the short and long-term viability of the system.

The financial health of a municipal Water System is commonly defined by four key financial indicators:

- Operating ratio
- Debt service coverage ratio
- Days of cash on hand
- Current ratio
- **Operating ratio**
 - Measure that monitors if the system has the revenue to cover other, non-operating expenses, such as debt service and to build up reserve funds.
 - Operating Ratio Formula: dividing annual operating revenue by annual operating expenses.
 - IHP operating ratio with depreciation = 0.9: Without depreciation = 0.96
 - Both metrics are **below** the standard used by the Environmental Finance Center of 1.2 and 1.5, respectively.
 - A ratio of 1.0 means IHP brought in exactly enough revenue to cover operating expenses.
 - Our current ratio signals we do not have enough revenue to cover our operating expenses.
 - This analysis is based on the current April 30, 2015, Village audit.

Summary: Our current Operating Ratio Shows we do not have enough revenue to cover operating expenses.

Financial Analysis of Village Water System

•Days of cash on hand

Measure of financial security, showing how long a system can operate on its current unrestricted cash reserves without any additional revenue coming in.

- Formula: Calculated by dividing current unrestricted cash and cash equivalents by the average daily cost of running the water system.
- The higher the number the more protected our system is against revenue shocks, and the target value is subjective.
- A system should aim to maintain several months' worth of cash on hand and at the very least exceed the length of the billing period. Median days of cash on hand for an A-rated system was 285 and for an AAA-rated system was 418 days.
- IHP does not meet either of the previously stated goals.
 - 13 days in 2015
 - 213 days in 2014, cash on hand
 - This places IHP well below more than half of the Fitch's A-rated systems.
 - Based on a snapshot in time; we did have \$285,000 in receivables at the same time, which if in hand would make over 100 days of operation possible, even worse than the 2014 analysis shows.

•Summary: Our current Days of Cash On Hand needs to be improved to protect us against any revenue shocks to our system. This is comparable to how you manage your cash personally in your bank account, to enable you to be able to handle any unforeseen events.

Financial Analysis of Village Water System

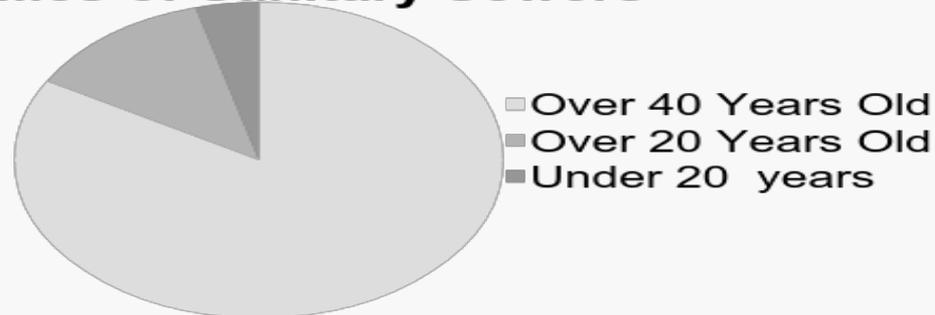
• **Current ratio** measures short-term liquidity, or our ability to pay our current bills.

- Formula: obtained by dividing unrestricted current assets by current liabilities.
- A ratio of 1.0 means we have exactly enough unrestricted current assets to pay our current bills on the day the financial statements were prepared.
- Our current ratio was 3.88 in 2014, but only 1.5 in 2015.
- This is still above the 1.0 minimum standard, however, it was from a snapshot in time and may not represent a typical day for the system.
- operating ratio and the debt service coverage ratio fall below both minimum standards, not beginning to meet desired benchmarks
- This suggests that the rate structure in place on April 30, 2015, and usage levels allow IHP to collect enough revenue to pay for all of our immediate operating expenses but likely **not enough to put into reserves for infrastructure replacement, major repairs or other purposes.**

Assessing the Infrastructure Sanitary Sewer System

- Sewer Infrastructure Facts:
-
- Village has approximately 12 miles (63,360 feet) of sanitary sewer main infrastructure: 8" to 15" diameters.
 - 80% of sanitary sewers (9.6 miles) are \geq forty (40) years or older.
 - 15% of sanitary sewers (1.8 miles) are \geq twenty (20) to < forty (40) years old.
 - 0.6 miles are < twenty (20) years old

Miles of Sanitary Sewers



Assessing the Sanitary Sewer Infrastructure

- Important Initiatives to our Sanitary Sewer System:
 - Implement 10-Year Sanitary Sewer televising program, as mandated by MWRDGC and USEPA. Purpose: to identify and decrease uncontrolled inflows into the sanitary sewer effluent stream.
 - Repair identified defects in sanitary sewers determined by the televising program.
 - Investigate collection system manholes and document condition.
 - Insituform 15" diameter sanitary sewer main beneath Indian Ridge Lakes detention pond.
 - Develop five-year and ten-year maintenance plan for sanitary system (MWRDGC/USEPA program mandate)
 - Maintain sanitary system data: transfer file and update Sanitary System Atlas.

Short to Long-Term Sanitary Sewer Infrastructure Costs

15

<u>Item</u>	<u>Cost (1-10 Years)</u>
• Sanitary Sewer collection system 10- televising program	\$200,000
• Repair Identified defects in Sanitary Sewers determined by televising program.	\$ 50,000
• Insituform 15" Sanitary Sewer under Indian Ridge Lake detention pond	\$100,000
• Replace manhole covers with watertight lids	\$ 5,000
• Sanitary Sewer manhole rehabilitation project	\$ 75,000
• Develop five-year and 10-year maintenance plan for sanitary sewer system. (Engineering)	\$ 10,000
• Maintain sanitary system data: transfer file and update Sanitary System Atlas. (Engineering)	\$ 10,000
• Estimated Sanitary Sewer Infrastructure Costs	<u>\$450,000</u>
• (Includes engineering and maintenance cost projections.)	

Water System Rate Structure

Current Water Rate: Covers current operational expenses only.

\$10.05 per thousand gallons used.

A user of 15,000 gallons would pay \$150.75

Proposed Water Rate: Required to address new IDNR mandates and sound business practices. No increases in staffing, no new infrastructure. Operations and maintenance only!

\$30 quarterly base fee per user to cover most infrastructure replacement PLUS \$12.30 per thousand gallons use fee

A user of 15,000 gallons will pay \$214.50 per quarter.

An increase of about \$21.25 per month.

Sanitary Sewer System Rate Structure

17

Current Sewer Rate: Covers current operational expenses only.

\$9.60 per quarter plus \$0.60 per thousand gallons

A user of 15,000 gallons would pay \$18.60

Proposed Sewer Rate: Required to address new MWRDGC/USEPA mandates and provide for basic operations. No increases in staffing, no new infrastructure. Operations and maintenance only!

\$18.00 quarterly base fee per user to cover most infrastructure replacement PLUS \$ 1.29 per thousand gallons use fee

A user of 15,000 gallons will pay \$37.35.

An increase of about \$6.25 per month.

Next Steps: FURTHER PUBLIC DISCUSSION

- Identify and Discuss Funding Options
- Municipal Bond Sale **NO, except in the direst emergency**. Interest utterly wastes funds unless no alternative funding sources exist. **Build reserves**.
- Short-Term Bank Loan or low-interest State loan; possible grants.
- Increase revenue through water fees on at least a temporary basis for water main replacements and sewer projects, but retaining sufficient rate levels to meet reserve requirements for long-term health of the water and sewer systems, and the Village as a whole.

Thank You!

For more information, please contact

John DuRocher

Village Administrator

708 246-3080 x104