

## **PUBLIC MEETING PRESENTATION**

***April 2, 2013***

### **BACKGROUND**

- The Village of Sauk Village prepared a project plan describing proposed improvements to the Village's water system. This project plan was submitted to the Illinois Environmental Protection Agency (the "IEPA") for review. Sauk Village's goal is to obtain a low-interest loan issued by the IEPA to fund the proposed water system improvements.
- The IEPA reviewed the project plan and agrees that the water system improvements plan is technically appropriate and cost-effective.
- Prior to granting approval of the plan, the IEPA requires that the public be granted an opportunity to comment as to whether or not the anticipated impacts of the project have been accurately assessed.
- Unless new information provided through the public comment process causes a reconsideration, the IEPA will approve the project plan at the close of the public comment period.
- The project plan submitted by Sauk Village, and the Project Summary and Preliminary Environmental Impacts Determination prepared by the IEPA are available for public inspection on the Sauk Village website ([www.saukvillege.org](http://www.saukvillege.org)) and at the front desk of the Municipal Building.
- A comment period of 10 days is being provided after this hearing date in which written comments may be provided to Sauk Village directly or to the IEPA. Comments must be submitted to the IEPA by April 12, and shall be addressed to:

Mr. Gary Bingenheimer  
Illinois Environmental Protection Agency  
Bureau of Water  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, IL 62794-9276  
Phone Number: 217-782-2027  
Fax Number: 217-785-1225

### **EXISTING WATER SYSTEM CONDITIONS**

The Village of Sauk Village pumps and treats groundwater for their public water supply. The Village has two water treatment plants. The first treatment plant, WTP 1, houses Well 1 and Well 2, and the second treatment plant, WTP 2, houses Well 3. The raw groundwater pumped from these wells is aerated, passes through an iron filter, and is injected with fluoride, phosphate, and chlorine. In spite of this treatment, the Village's water users have had ongoing issues for many years with the water quality, including taste, odor, corrosion, high hardness, and scaling of the water piping.

The Village also experienced groundwater contamination when concentrations of vinyl chloride and other volatile organic compounds were detected during routine testing in 2009. The Village then removed Well 3 from service due to the presence of the vinyl chloride. With Well 3 out of operation, the water supply is barely able to supply the average daily flow demand, and cannot supply the maximum daily flow demand. With this water supply deficiency, the IEPA issued a Violation Notice to Sauk Village, and Sauk Village is under enforcement action with the Illinois Attorney General.

In 2012 vinyl chloride concentrations reached one half of the Maximum Contaminant Limit in Wells 1&2. These vinyl chloride levels triggered a public notice regarding the presence of vinyl chloride in the distribution system. Following to the detection and public notice, the IEPA and Illinois Office of the Attorney General pursued enforcement measures against Sauk Village to correct the community water quality issues. An order was filed by the office of the Illinois Attorney General to require temporary air stripping units for the current operating wells. The units were provided and installed by the IEPA, and are currently operational at WTP 1. Since the installation of the temporary air strippers, the treated water sampling results have indicated vinyl chloride levels to be non-detect.

In addition to the vinyl chloride contamination, both water treatment plants require numerous improvements. For the most part the equipment at the treatment plants is beyond its useful life and needs to be replaced, especially the iron removal filters. The filters are undersized, corroding, and in of need of media and valve replacement.

Finally, the existing water distribution system has numerous problems, including scaling, water main breaks, and significant system water loss through leaking infrastructure. The water loss is the difference between the gallons of water pumped into the system and the gallons of water billed to customers. Between January 2011 and June 2012 the water loss was huge – ranging from 30% to 72%.

### **PROPOSED PROJECT**

The temporary air stripping units installed by the IEPA are currently in operation and removing vinyl chloride to below the detectable limit. However, the treatment system established is truly a temporary installation with equipment resting on trailers; flexible piping; electrical cords lying on the ground; equipment blanketed to achieve winterization; etc. In addition, the rental charges are cost prohibitive for a long-term solution. Therefore, a permanent treatment system to achieve vinyl chloride removal is recommended, along with other improvements to WTP 1. These improvements include:

- Installation of air strippers similar to those currently installed

- Replacement of the existing undersized iron removal filter with a new iron removal filter, along with upsizing of the backwash tank
- Installation of a new standby power generator to provide emergency power to WTP 1
- Building and site improvements

The aeration of the water downstream of the iron filters in the temporary air strippers resulted in a rapid buildup of iron and hardness on the air stripper trays, resulting in the need for a heavy cleaning of one of the strippers after only a few months of operation. To counter this, Sauk Village began feeding polyphosphate to sequester the iron and hardness. This has improved water quality as evidenced by compliments from residents received by Public Works staff. Furthermore, the new iron removal filters are expected to achieve additional improved water quality.

The proposed improvements to WTP 2 that are required to bring Well 3 back into operation include:

- Installation of air strippers similar to those currently installed at WTP 1
- Replacement of the existing iron removal filter with a new iron removal filter
- Installation of a new standby power generator to provide emergency power to WTP 2
- Building and site improvements

In addition to the water treatment plant improvements, in order to address the water distribution system problems Sauk Village recently authorized a leak detection survey to be performed. The field work associated with this survey has already begun, and the leak detection survey report is scheduled to be completed by mid-May.

Once the leak locations are identified by the leak detection survey, Sauk Village's Public Works staff will begin to repair the defective infrastructure. The additional water billing income generated by the Village's February 2013 water rate increase will fund the initial distribution system repairs.

### **ENVIRONMENTAL IMPACTS**

The proposed project has been reviewed by Illinois Historic Preservation Agency and the Illinois Department of Natural Resources to assess the environmental impacts of the project. There are no known historic, cultural, or archaeological areas which would be disturbed by the proposed improvements. The project will not adversely impact, endanger, or threaten existing plant and animal species. There will be no construction on a floodplain or wetlands area. The project does not require any stream crossings, there will be no loss of prime agricultural land, and there will be no harmful effects to the area's air quality. The project will bring the Sauk Village Public Water Supply into compliance with sufficient removal of vinyl chloride and the

ability of the system to produce sufficient water to keep up with average and maximum water demands. The aesthetics of the water will also be greatly improved by the proposed iron removal filters.

### **PROJECT SCHEDULE**

Sauk Village is under enforcement action with the Illinois Attorney General. The proposed project will be constructed under the terms of a consent order that was entered into by Sauk Village, the IEPA, and the Illinois Attorney General's office. This schedule is as follows:

- Submittal of IEPA construction permit application and low-interest loan application – April 15, 2013
- Project bid and award – July 2013
- Construction initiation – September 2013
- Construction completion – September 2014

### **FINANCIAL IMPACTS**

- The total cost of the proposed project is approximately \$5.3 million.
- A portion of the recent water rate increase will be utilized to cover the cost of the IEPA loan applied for to fund the project. The loan will be paid back over a period of 20 years.

### **CONCLUSION**

- Sauk Village is currently under enforcement action to correct the significant compliance issues associated with the Village's public water supply.
- As determined by the IEPA, the proposed project is the most cost-effective alternative to achieve compliance with no other less costly options available.
- The proposed project is also the only option available that can be constructed on a timely schedule to achieve compliance.
- I would be happy to address any questions you might have. Thank you for your time and attention.