

Greensand Filter Effluent Line Repair Project

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Strategic Focus Areas



Supportive and Sustainable Infrastructure



Financially Responsible

Introduction

- ♦ Project Background
- ♦ Project Details
- ♦ Bid Process and Results
- ♦ Final Recommendation

Project Background

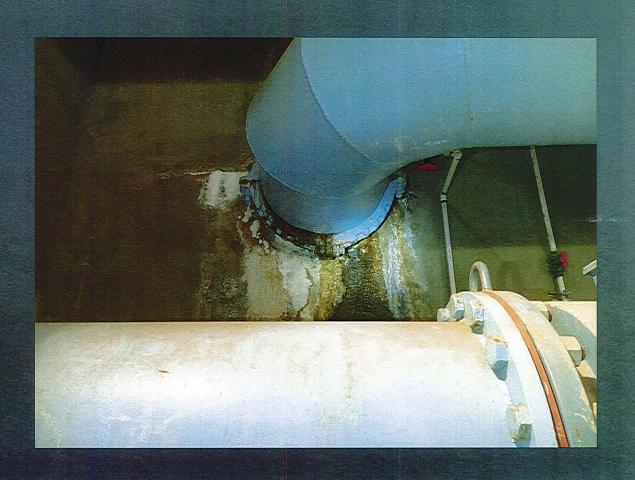
- ♦ This is a design/build project that covers the following 3 components:
 - ♦ Design and repair solution for the 4 filter effluent lines which are currently leaking at the wall penetrations in the Greensand Water Treatment Plant
 - Air gap modification and backwash tank overflow pipe to prevent future flooding in the Greensand Plant
 - Construction of scaffolding in the Greensand Plant to assist with
 operations and maintenance of assets in the pipe gallery

- The 4 filter effluent lines are currently leaking at the wall penetrations in the Greensand Water Treatment Plant
- ♦ Leaking is occurring from the Victaulic couplings and between the concrete and the pipe at the wall penetration
- ♦ The leaking has become so prominent that water plant staff is concerned there is a chance the effluent lines could entirely fail at any time
- Loss of the Greensand Plant would be detrimental, as the City would not have adequate water supply for its citizens during the summer months



Greensand Pipe Gallery

- Blue pipe is the effluent from Greensand filter bed
- This pipe is carrying filtered water to the clearwell
- Penetration through the concrete wall shows significant leaking
- All 4 effluent line wall penetrations are leaking as shown
- The construction for this project can only be performed between the months of October to May, when Greensand is not operating due to system demand



- ♦ Scope of work
 - Design/build services for identifying and repairing leakages on all 4 effluent lines

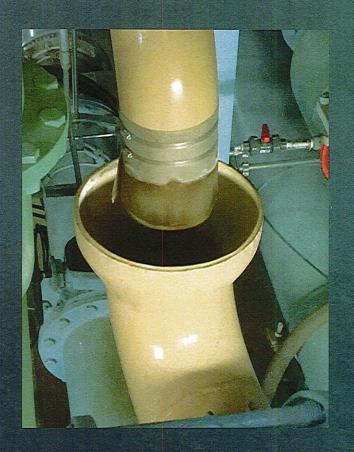


Air Gap and Backwash Overflow

- ♦ An additional part of this project is to either modify the air gap that is required by CDPHE or install an overflow pipe at the backwash tank
- ♦ The additional scope of work was developed to prevent flooding in the Greensand plant, which occurred in 2013 due to electronic failures
- ♦ There was 9 ft of water in the basement of the Greensand Plant when flooding occurred
- ♦ A backwash tank overflow would ensure no flooding even in a situation where electronics fail

Air Gap and Backwash Overflow

- ♦ Scope of Work
 - Design/Build services for modifying air gap and/or installing overflow pipe at the backwash holding tank

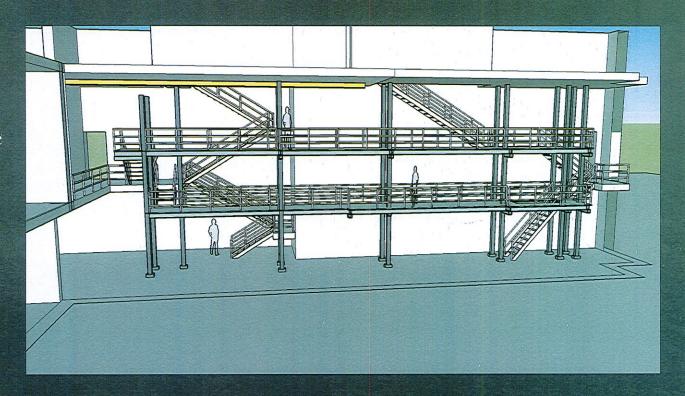


Scaffolding

- ♦ Permanent scaffolding will also be installed in the Greensand pipe gallery
- ♦ Design for scaffolding was completed in 2016
- ♦ Scaffolding is necessary due to the inaccessibility for operators and plant mechanics to perform maintenance of the Greensand Plant assets

Project Details

- ♦ Scope of Work
 - Construction of the scaffolding that was designed as a separate project



RFP Process and Results

- ♦ Formal Request For Proposal Process
 - ♦ Proposals due October 24th, 2018
 - ♦ Two (2) proposals received
- ♦ City staff analyzed and evaluated the design/build proposals
 - ♦ IMEG was determined to be the most responsive and responsible bidder with a bid price not to exceed \$582,617.00
 - ♦ This cost includes diagnostic and design of the leakage repairs, construction of the leakage repairs, design and construction of the air gap and/or back wash tank overflow, and construction of the scaffolding

Final Recommendation

Staff believes that accepting the design/build proposal from IMEG for the design and build services for the Greensand Filter Effluent Line Repair Project would accomplish the following:

- Provide a long term, reliable solution to repair issues at the Greensand Water Treatment Plant to ensure continuation of treatment and distribution to customers
- ♦ Provide efficiency and cost savings by using one general contractor to perform construction on all three project components: filter effluent line leaks, air gap and/or backwash tank overflow pipe, and scaffolding

Questions?