

Baker City Public Works

# Inflow and Infiltration Report 2015 Edition

**The Baker City Public Works Department continues to dedicate resources to reduce and eliminate Inflow and Infiltration from the City's wastewater collection system while providing excellent service to its customers and protecting the environment.**

During 2015, the Baker City Public Works Department continued to direct efforts toward reduction and, wherever possible, elimination of **inflow and infiltration** into the Baker City wastewater collection system.

All new wastewater collection lines and manholes which are installed by Baker City personnel or contractors are vacuum and pressure tested and inspected to ensure that they are properly installed and completely water tight. This prevents both surface and ground water from entering into the sys-

## Annual Summary

tem.

Our wastewater collection crews work daily to clean and video inspect lines searching for sources of **inflow and infiltration**.

In 2015 Wastewater Collection Specialists cleaned 121,384 feet of line and video-inspected 17,298 feet of line. They also cut and/or chemically treated roots in over 518 feet of line.

In addition, a manual push camera is being utilized for inspection of lines that cannot be accessed by the standard camera. This



Manual Push Camera in use.

'push cam' was used 84 times in 2015, inspecting approximately 3,320 feet of line. This camera proves valuable in allowing inspection of lines that are difficult to access and private laterals. These inspections detect broken lines and possible sources of **inflow and infiltration**.

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## 2015 CIPP Wastewater Mainline Lining Project

Baker City's wastewater lining projects have been highly successful in eliminating infiltration into the wastewater collection system over the past several years. The CIPP liner creates a water tight barrier, keeping raw wastewater inside the pipe and groundwater out. Baker City awarded the 2015 CIPP bid to Planned and Engineered Construction from Helena Montana. Due to their schedule the project was not completed until March of 2016. The project highlights will be included in the 2016 Inflow & Infiltration report.



## 2015 Standard Construction Methods

*B*aker City Public Works Department crews use up to date techniques to create water tight seals on both repairs and new installations.



3515 Carter Street—

A hole saw was used to cut a precise hole in the existing PVC main line. An 'Inserta-Tee' fitting was inserted into the hole using a rubber gasket to seal the connection and complete the installation.



2715 11th Street—

An old leaking transite lateral was replaced using PVC pipe including use of PVC rubber gasketed bell and spigot pipe.



## 2015 Standard Construction Methods Continued

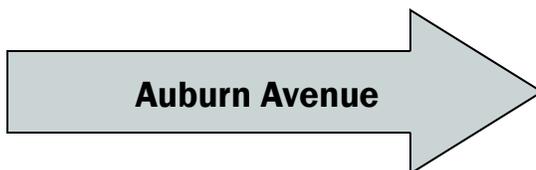
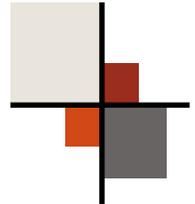
### Grove Street—

A failed lateral was replaced. The site was excavated. The existing line was 'snapped' using a pipe breaker tool. The new PVC line was installed using Fernco connectors specifically designed to provide a water tight connection between the PVC and transite pipes.



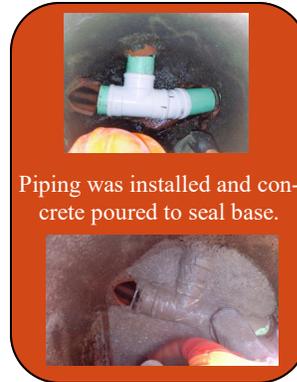
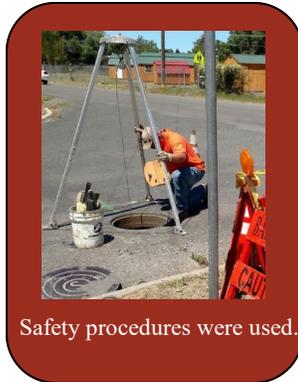
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*anhole repairs and new installations incorporate high strength concrete to seal the surface, impeding all inflow of surface water.*

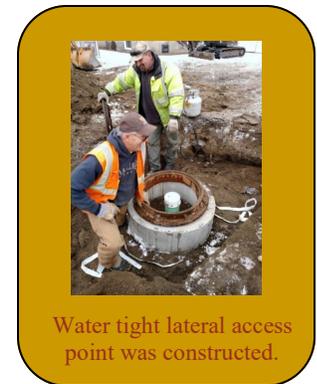
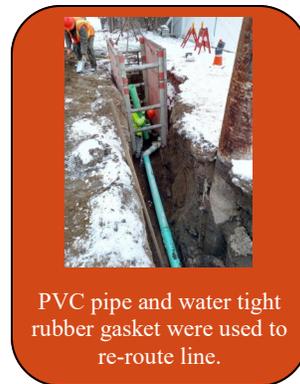
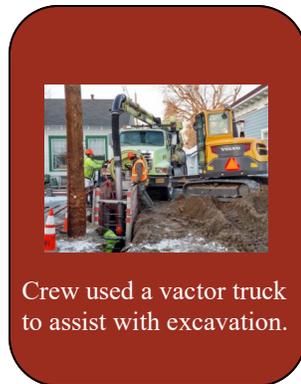


## 2015 Projects Targeted Toward I&I Reduction or Elimination

**B**aker City's Wastewater Facility Plan identified a manhole located at the intersection of 3rd Street and David Eccles Road as having multiple defects resulting in inflow and infiltration in to the wastewater system . Permanent repairs to this manhole were budgeted and completed in 2015.



**I**t was discovered in November of 2015 that a power pole was installed through a wastewater line several years ago.



### 2016 Planned Inflow and Infiltration Reduction Projects

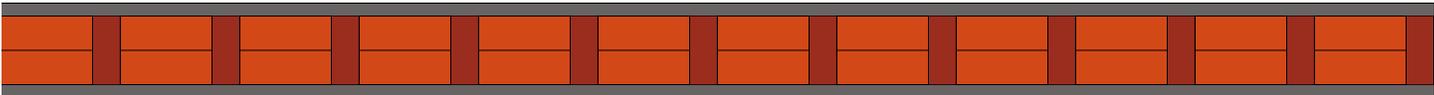
Public Works will be contracting CIPP work for 2016, which will reduce I & I coming into the system. Lines identified for this project include—

- Main Street from Cliff Street south 370'
- Tracy Street from 6th to 7th
- 'H' Street from 10th to 11th

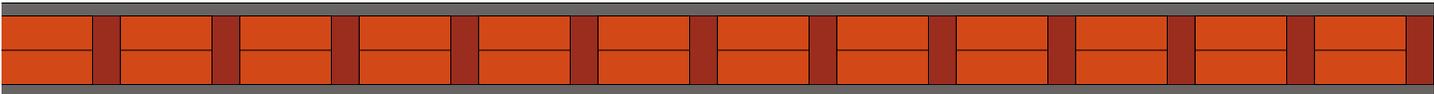
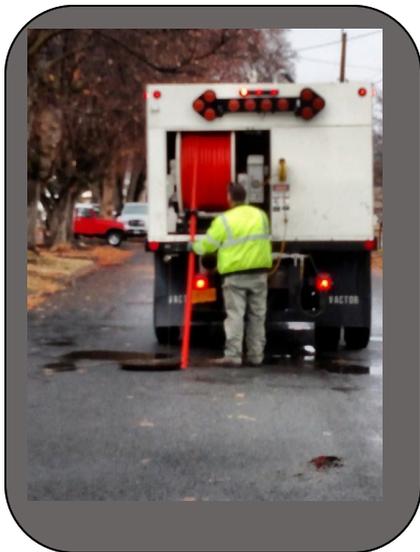
In addition to CIPP activities, Baker City plans to use 'Pipe Bursting' technology to upsize and replace an old leaking terra cotta line. This process is new to our I & I reduction arsenal, and we are hopeful that we will find success with this reconstruction method.

## 2015 General Maintenance, Cleaning, Video Inspection and Manhole Inpection

**W**astewater lines are video inspected to locate defects and to determine sources of infiltration. Baker City's Vi-Vax push camera unit is used regularly to inspect private wastewater laterals. This helps to locate flow problems and sources of I & I.



**B**aker City's vector sewer jetter is used to clean lines throughout the city.





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