Summary

Condition assessment of existing and newly installed sewer pipelines is necessary to ensure the integrity of a collection system. The data gathered as part of any condition assessment is also an important tool for the management of planning and operations.

The two most common methods of inspecting VCP are Low-Pressure Air Testing and Closed-Circuit Television (CCTV) inspection. The Low-Pressure Air Test evaluates the integrity of the entire installation while CCTV inspection only allows for visual inspection of pipe conditions. Many agencies incorporate CCTV inspection in conjunction with air testing as part of final acceptance. These reports create a historical record of the condition of the pipe at the time of final acceptance and over the life of the collection pipeline asset as regular maintenance and inspections are conducted.

Key points from this Handbook

- The operator's observations may not accurately portray the actual condition.
- The image, as seen by the camera, may be distorted.
- The camera position may affect the distortion. Center the camera in the pipe and make sure the camera is level with the pipe.
- It is difficult to determine specific dimensions because of the exaggerated view.
- The image of a joint is exaggerated by the pipe trim/ end chamfer, gap between pipe ends and the angle of the joint.
- Manufacturing and handling marks may be misinterpreted as breaks or cracks.
- Per the recommendation of ASTM C828 and municipal standards, a Low-Pressure Air Test should also be performed to confirm pipeline integrity. It is the definitive, low-cost test for pipelines including quality of the joint and can frequently prevent costly mistakes.

Recommendations

Know the materials, joint design, pipe and common conditions for the pipeline being inspected. It is essential that CCTV operators and data reviewers receive ongoing training on the equipment, condition assessment methods and characteristics of the pipe material evaluated to minimize errors.

Over-reliance on non-VCP specific guidelines and/or generic software may result in erroneous assessment of pipeline conditions.

There have been cases in which repairs were conducted only to discover the assessment did not match actual pipe conditions, or they were far less significant than originally indicated.

As a world-wide leader in developing and evaluating wastewater pipeline condition assessment, NCPI recommends the Low-Pressure Air Test as the preferred method of acceptance testing of a new pipeline installation.