

Brown & Caldwell Get The Inspection Data They Needed After Years of Attempts With A Prior Subcontractor

After years of frustration and around \$60,000 sunk costs, Brown and Caldwell got the measurable and accurate inspection data they needed from IPI.



INTERACTIVE PIPE INSPECTION
A Division of Infrastructure Renewal Company

Background

For one client's project, Brown and Caldwell struggled to get the inspection data they needed. They had not been able to get reliable and measurable data along the Woodland Creek Bike Path in Olympia, Washington. Since 2017, the previous subcontractor they hired failed after several attempts. And after 2020, Brown and Caldwell knew they had to hire another subcontractor to get the data that they needed. So, who does the largest privately-held, environmental engineering, and construction firm in the U.S. hire? A company whose specialty is gathering inspection data in those hard-to-reach areas, Interactive Pipe Inspection (IPI), Inc..

Challenges

Brown and Caldwell attempted to inspect these lines with the other subcontractor for years. In their first attempt in 2017, the inspection camera kept going underwater. So they knew they needed a bypass due to the high flows. And with the same subcontractor in 2020, they tried again. And there was still standing water in the pipeline. After several failed attempts they knew they not only needed to do heavy cleaning, but do it during a very short window of low flow times.

Project

Woodland Creek Bike Path in Olympia, Washington

Owner

LOTT

Prime Contractor

Brown and Caldwell

Main Subcontractor

Interactive Pipe Inspection (IPI)

Inspection of:

Sanitary Sewage Pipe

- Height (Diameter): 8in, 30in, and 36in
- Material: Reinforced Concrete Pipe
- Total Length of Pipe Inspected:
- Approximately 3900 ft.

Other Requirements:

- PANORAMO®
- Manhole inspections
- SSI inspections
- Inclinator

What IPI Did



Hole from 10 to 3 o'clock, Length = 6 in., Joint, Exposed Sealing Gasket



Obstruction Rocks from 3 to 9 o'clock, Loss of cross sectional area = 30% After Heavy Cleaning Debris Still Exist In Pipe



Miscellaneous Water Level Sag, Water Level = 50%, Continuous Water Sag

Aligned Together Before Going Into The Field

Brown and Caldwell and IPI aligned on getting a good plan in place before going out into the field to do the job. IPI went through a subcontractor pre-qualification process. Much of which included health and safety data and training. Especially around confined space entry. And before the project IPI was on top of renting all the bypass equipment. McLean states, "It was nice to know that was all taken care of on the first night. They had a good team of people. We did not need more than that. Three people were there. And again, they did not have a mobilization fee, so it lowered costs right off the bat."

Heavy Cleaning and Clearing of the Pipelines

Brown and Caldwell made it clear that the priority was to inspect the two lines that they have not been able to reach. One of the end deliverables was to have cleaned and dewatered the whole line.

Gathering Accurate and Measurable Data Each Night

According to McLean one of the most important deliverables she kept in mind was the footage collected each night. McLean always reviews the videos on the back end to ensure that they're not missing any big defects. Health and safety were other factors important to McLean since she was out in the field with IPI. "It is always nice to see. Everyone is doing the right thing, even if it is annoying and cumbersome and you know you got to do it," McLean says.

Why Caldwell & Brown Chose IPI

Local Subcontractor and Partner

Other subcontractors had come in from the Portland area to Brown and Caldwell to bid for the job. Unfortunately, for McLean there was no mobilization. McLean appreciated that IPI was nearby and felt down the street from IPI. If any challenges on the job site emerged they would be solved immediately. IPI could easily go back to their shop in Tumwater and then come right back. And besides being local, Brown and Caldwell felt confident that IPI could get the work done right the first time.

Experienced and Institutional Knowledge

Brown and Caldwell collaborated with IPI before this project. And they not only value IPI's services but enjoy working with them. They knew that IPI was familiar with the job site area and what they would be encountering. They also knew that IPI had done work for this particular pipeline downstream in the past. So IPI would be familiar with the type of flows that they would see at this particular location. This gave them confidence that IPI knew what was required for a bypass.

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They've been working on lots of collection systems for years. So their institutional knowledge is really invaluable.

— *Hannah McLean - Engineer and Project Manager at Brown and Caldwell*

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What Was The Result?

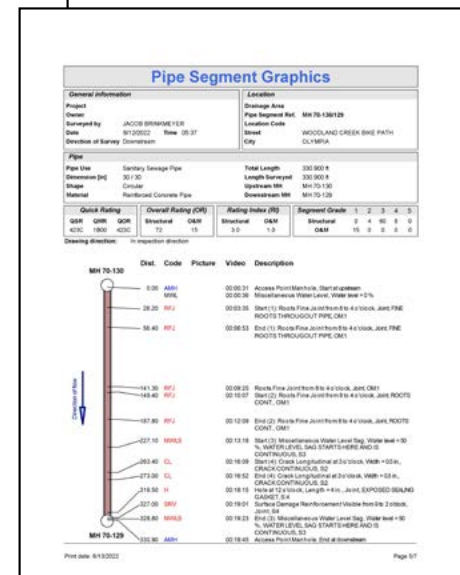
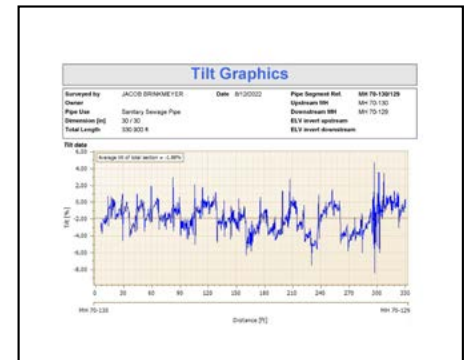
Done Right The First Time and No More Sunk Costs.

According to McLean, the all-in project cost was in the \$30,000 range. At this point, their client wanted to ensure that they hired the right people to complete the project. Around \$60,000 was already spent in trying to gather the data that they needed. After IPI heavily cleaned the pipelines, they were able to get a full video. This was Brown and Caldwell's ultimate success.

Clear. Concise. Consolidated Data.

IPI gathered Brown and Caldwell's information and data using the IBAK HD Orpheus System system. With this camera system they were able to get them higher quality information and data. To achieve such quality and to allow this high resolution to be displayed on the monitor and stored, the transmission path has also been revolutionized. A Gigabit Ethernet Standard is being used for the transmission of images and other data.

McLean even noticed the difference, “The camera that they used this time around. I did not realize that until I was trying to look through videos from 2017. I realized that IPI’s camera quality was a lot higher than the other subcontractors that we used. So doing this job, I was really impressed with the quality of the video. It makes my job a lot easier. It’s a lot easier to look at the videos, review them, and to then use them for or design. Especially the manhole inspection. The 3D point cloud, we’ve used that a lot once we went to design.”



Pipe Segment Graphics and Tilt Graphics.

An example of some of the data received in a report after conducting an INREACH™ Assessment.

Looking to get the measurable and reliable asset data you need to make your goals within reach? Schedule an INREACH™ Assessment.

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