

#526

NOMINATION FORM



JPIA WORKERS' COMPENSATION SAFETY AWARD PROGRAM

AGENCY: Rancho California Water District

Employee Nominated:

Name: Chris Lopez & David Holquin

Job Classification: Wastewater Operator Collections

Reason for Nomination: Developed a new and unique idea for camera surveillance of pipelines

Nominated by: Dave Morrison

Signature: *Dave Morrison*

Date: 1/12/09

Reviewed by: *Paul Holquin*

General Manager: *Matt*

Date: 1/15/09

Please attach supporting documents and/or digital photos and E-mail to:

tlofing@acwajpia.com

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Citrus Heights, CA 95610-7632
FAX: (916) 965-6847

#15-16

Terry Lofing

From: Dave Morrison [morrisond@ranchowater.com]
Sent: Monday, January 19, 2009 9:41 AM
To: Terry Lofing
Cc: Peter Kuchinsky; Craig Elitharp; Fred Edgecomb; Steve Nixon; Pat O'Neil
Subject: RCWD Chris Lopez David Holguin - JPIA Safety / Risk Award Program
Attachments: Chris Lopez David Holguin RCWD 09 JPIA Award Program.pdf

Hi Terry,

Attached is an idea developed by Chris Lopez and David Holguin from our collections department using a Boogie board as a camera inspection float. The idea was covered in an article in the January 2009, issue of Municipal Sewer & Water magazine (see attached). I would like to submit this to the JPIA Safety / Risk Award Program. Let me know if you have questions.

Thanks,

*Dave Morrison
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1/27/2009

#541

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BETTER MOUSETRAPS



Chris Lopez cut the 36- by 30-inch Boogie board to fit a 12-inch PVC pipe and tested it on the district's recycled water detention basin. (Photos courtesy of Rancho California Water District)

BETTER MOUSETRAPS

PRODUCT:
Jet Cam inspection system
(mounted on modified
Boogie board)

APPLICATION:
Inspection in heavily charged
sewer main

BENEFITS:
Quick and cost-effective solution

USER:
Rancho California Water District

MANUFACTURER:
Jet Cam RS Technical Services
Inc., Petaluma, Calif.

WEB SITE:
www.stechserv.com

SURF'S UP

A camera inspection using a modified Boogie board float helps a California city locate and remove a blockage before sewage backs up in a school yard

By Scottie Dayton

"Surfers use Boogie boards to paddle from beach to beach, and I had an old one in my garage. I strapped the camera to the board with a bungee cord, then took the unit to our detention basin for recycled water to see how it would react."

Chris Lopez

Chris Lopez and David Holguin, collection system operators for the Rancho California Water District in Temecula, Calif., noticed a high level in a manhole on an easement near Calvary Chapel complex. An overflow here meant sewage encroaching on an elementary school playground.

A low level in the downstream manhole 300 feet away confirmed a blockage. An attempt to jet-rod the 12-inch line using a 2100 series Vector combination truck failed, as did snagging the material with a continuous rodder and corkscrew blade.

The district doesn't own a main-line camera, so the men attached their Jet Cam from RS Technical

Services Inc. to the truck's rodder. No matter which skid they used, the 25-feet-per-second flow in the three-quarters-full pipe sank the camera.

With time running out before a significant problem erupted, Lopez drew on his surfing experience to build a flotation platform based on one of the fastest growing extreme water sports in the world — boogie boarding. The modified Boogie board kept the camera upright, enabling Lopez and Holguin to identify and remove the blockage within 14 hours of its discovery.

Test tank

Lopez first tried sending a tag line downstream to attach a nylon rope to both ends of the camera.

"We figured that enough tension on the line would keep the Jet Cam above water," he says. "Watching the bobbing line made me wonder why we just couldn't float the camera toward the blockage to see what was down there."

To maintain buoyancy, Lopez and Holguin strapped the camera to a minimally inflated sewer test plug with a bungee cord, but the assembly rolled over in the sewer, sandwiching the camera between two pigs enhanced stability somewhat, but the craft capsize with the least amount of turbulence.

"We needed something more stable," says Lopez. "Surfers use Boogie boards to paddle from beach to beach, and I had an old

one in my garage. I strapped the camera to the board with a hunger cord, then took the unit to our detention basin for recycled water to see how it would react." The raft was stable and reliable.

The 36- by 30-inch, plastic-encased, rigid-foam board was too large for the sewer, so Lopez used a hacksaw and file to cut down the sides until they just fit inside a scrap piece of 12-inch PVC pipe. The snug fit increased stability. Lopez inserted an eyebolt in the front and back of the board, then mounted the camera with heavy-duty bungee cords and Velcro, a redundancy should the cords fail.

Time bomb

The next morning, Lopez lowered a high-strength nylon tag line down the 9-foot-deep manhole. "We gambled that it would float past the obstruction, and it did," he says. "David gave me the high sign when it arrived." Holguin secured that end of the tag line to the eyebolt in the front of the Boogie board, then tied 400 feet of nylon rope to the eyebolt at the back of the board.

Positioning the camera was a coordinated effort. As Holguin lowered the unit, Lopez main-

After efforts to remove the unseen blockage failed, the Boogie board camera float was sent down the pipe. At 247 feet, the camera televised a length of PVC pipe jammed across the sewer and collecting paper.



tained tension on the line to keep the board facing forward and the nose level. "If the nose tilted down the slightest amount, the rushing current would sink it," says Lopez. The camera launched successfully on the first attempt.

The men maintained two-way radio contact as Holguin fed out the line and watched the CCTV monitor. At 247 feet, the camera televised a length of PVC pipe jammed across the sewer and collecting paper.

"It probably was a piece of lateral from an upstream construction site," says Lopez. "We had no other choice than reverse rodding to remove it. I felt comfortable doing it because we had no service connections between the manholes and wouldn't risk sucking water out of toilet bowls and p-traps." Nevertheless, Lopez inserted vacuum hoses in the upstream manhole just in case jetting downstream created complications.

Mopping up

Holguin maintained video contact as Lopez jetted away paper and debris using 60 gpm/500 psi. He then increased the pressure to 1,100 psi and began rocking the nozzle toward the obstructing pipe and back again. After 10 minutes, the fragment shifted enough for the flow behind it to dislodge one end. The battle ended when Holguin caught it in a trap set in the downstream manhole.

The team inspected 757 additional feet of the sewer using the Boogie board as a stable flotation platform for the camera. They also installed Smart Cover hydraulic sensors from HydroNex, San Diego, in the two manholes. The devices will notify Lopez and Holguin via cell phone and e-mail of high-water events. ⬆

MORE INFO:

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