



MEETING MINUTES
November 12, 2019

Attendees:

Name of Attendee(s)	Company / Agency Name	Email Address
Alexandra Watson	HydroScience Engineers	awatson@hydrosience.com
Amanda Cauble	Central Contra Costa Sanitary District	ACauble@centralsan.org
Andrew Hawksworth	EBMUD	ahawkswo@ebmud.com
Bas Basavaraj	Trident Environmental Engineering	Bas@Tridenteng.com
Bennett Sanderson	Harris and Associates	bennett.sanderson@weareharris.com
Bob Allen	Trident Engineering	ballen@tridenteng.com
Brian Danley	AnchorCM	bdanley@anchorcm.com
Bya Founas	Hydro Science Engineers Inc.	bfounas@hydrosience.com
Catherine Morey	Brown and Caldwell	cmorey@brwncauld.com
Charles Temple	Griffin Soil Group	chase@griffinsoil.com
Colin Dudley	Brown and Caldwell	cdudley@brwncauld.com
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David Rasmusson, Melissa Cansdale	City of Vallejo	d.rasmusson@cityofvallejo.net
Dustin La Vallee	EBMUD	dustin.lavallee@ebmud.com
Gean Na	American Concrete Pipe Association of California	gna@concretepipe.org
Jacob Ferriera	Underground Solutions	jferriera@aegion.com
Jason Fitch	CCCSD	jfitch@centralsan.org
Jenn Hyman	EKI Environment & Water	jhyman@ekiconsult.com
Jimmy Dang	Oro Loma Sanitary District	jdang@oroloma.org
Joe Branch and myself	City of Vallejo	d.rasmusson@cityofvallejo.net
John Mukhar	MNS Engineers.com	jmukhar@mnsengineers.com
Jordan Ollank	ADS	jordan.ollank@ads-pipe.com
Ka Chow	Harris and Associates	ka.chow@weareharris.com
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Katherine Aguilar	SASD	aguilark@sacsewer.com
Kyle Cubert	Harris and Associates	kyle.cubert@weareharris.com
Landon Lochrie	Castro Valley Sanitary District	LANDON@CVSAN.ORG
Lian Zhu	Harris and Associates	lian.zhu@weareharris.com
Liana Olsen	Central Contra Costa Sanitary District	lolsen@centralsan.org
Lisa Zou	Central San	lzou@centralsan.org
Lul Kidane	MNS Engineers	lkidane@mnsengineers.com
Michael Dunbar	Sacramento Area Sewer District	dunbarm@sacsewer.com
Nancy McWilliams	Solano Irrigation District	nmcwilliams@sidwater.org
Nealsen Cayanan	Central Contra Costa Sanitary District	ncayanan@centralsan.org
Oranis Pimentel	Mott MacDonald	oranis.pimentel@mottmac.com

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Name of Attendee(s)	Company / Agency Name	Email Address
Steve Nilforoushan	Rinker	neama.nilforoushan@rinkerpipe.com
Su Pyae Sone Soe	McMillen Jacobs Associates	soe@mcmjac.com
Terry Wang	Ninyo & Moore	twang@ninyoandmoore.com
Yinlun Xu	Harris and Associates	yinlun.xu@weareharris.com
Zachary Carroll	Harris and Associates	zach.carroll@weareharris.com

Conference Recap: Jimmy Dang, WEFTEC, Chicago, September 2019

Presentation: Akron's Main Interceptor Sewer, Replace or Rehabilitate

- Background
 - City of Akron was under EPA Consent Decree to reduce sewer overflows on its main interceptor sewer
 - The Consent Decree required construction of 8,000 LF of parallel interceptor
 - The existing and new interceptors were required to handle 280MGD of combined sewer.
- Existing system
 - Half round, concrete bottom with arched brick top
- Four Phase Approach
 - Advanced Facility Plan had three options:
 - Parallel sewer west (\$60.1M)
 - Parallel sewer east (\$57.6M)
 - Rehab existing sewer by removing and reconstructing cap (\$47.6M)
 - Preliminary Engineering Report, refined costs
 - Parallel sewer west (\$42.8M)
 - Parallel sewer east (\$45.4M)
 - Rehab existing sewer by removing and reconstructing cap (\$43.4M)
 - Pilot Section Design and Construction
 - Rehab 300 feet of sewer by removing and replacing brick with rectangular concrete top
 - Final Design and Construction
 - Rehab sewer by reinforcing top with rebar and pneumatically placed mortar (shotcrete)
 - Allowed for 5 feet of surcharge to meet flow requirements
 - Total cost was under \$17M, significantly less than EE of \$33.5M

Presentation: "Ice Pigging for Pipelines" by Daniel Eisenberg, Suez Advanced Solutions.

Highlights from the presentation include:

The presentation included an overview of ice pigging including how it works, equipment footprint, and recommended uses.

- What is Ice Pigging
 - Proprietary cleaning technology that can improve water quality and reduce pumping costs.
 - Brine solution using food grade salt, frozen into slush

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- Slush is pumped into water main or sewer force main and is moved through the pipe using system pressure. Can also be used in inverted siphons with packers to increase pressure.
- Benefits of Ice Pigging
 - Compared to traditional solid pigging
 - Slush will not get stuck
 - Pumped through 2" to 4" opening, no need for launch or retrieval stations
 - Relatively short downtime
 - Will pass through butterfly valves and pipes with varying pipe diameters
 - Compared to traditional flushing
 - 1,000 times more shear strength than water
 - 30%-50% less water required
 - Improved cleaning
 - Compared to jetting or air scouring
 - Less aggressive
 - Length restricted by available ice rather than hose length
- What does Ice Pigging remove?
 - Iron
 - Manganese
 - Sediment and grit
 - Biofilm
 - Fats, Oils, and Grease
- What does Ice Pigging NOT remove?
 - Tuberculation in cast iron pipes
 - But, it will clean biofilm off of tuberculation
- Equipment footprint
 - Onsite
 - 10 ton tanker to carry slush
 - Flow analysis unit to monitor and sample water during flushing process, only used on potable water systems, not required on raw or wastewater systems
 - Offsite
 - Semi with ice machines
- Process
 - Turn off water services at curb stop
 - Install slush through fire hydrant or other 2" port
 - Once plug is formed, open upstream valve to pressurize pipe and move ice through pipe
 - Flush out downstream hydrant or other 2" port
 - Disposal based on agency's regulations: sewer, ditch, baker tank, etc.
 - Suez takes samples on potable water systems during entire process to analyze what is removed from system
 - Turn water meters back on when complete
- Applicability
 - Generally 4" to 24" pressure mains
 - 36" mains can be cleaned, but requires two tankers
 - One tanker can clean up to about 2,300 feet of 12" main
 - Most down stream section is usually cleaned first
 - Can help with taste and odor problems that are not cured by flushing alone
- Outcomes
 - Potable water: improved water quality with removal of mineral and bio-films
 - Sewer force mains: increased flow rates of 10%-15%, immediately quantifiable

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- Pricing
 - Dependent on many variables, but minimum \$45k to mobilize which would include about three 10-ton tankers worth of work

Thank you, Daniel for a great presentation and your contributions to PUG!

General:

September 2019 Meeting Minutes: An overview of the September meeting was presented.

Announcements:

Winners of PUG held a raffle for attendance to WESTT mini No-Dig in Honolulu:

- Kevin Kai, Brown & Caldwell
- John Aquino, City of San Jose

October Training – Introduction to Trenchless and New Installation, EBMUD Oakland, was successful with training filled to capacity

Annual Seminar February 20, 2020 –

- Keynote speakers will be Kim Hackett, Authority Engineer and Teresa Herrer, General Manager for Silicon Valley Clean Water.
- Abstracts were Due November 8. Fifteen abstracts received, notifications will go out late November or early December.

WESTT mini No-Dig combined with HWEA – November 20-21, Honolulu

P3S Pretreatment, Pollution, Prevention and Stormwater Conference, January 27-29, Long Beach, California

Coatings+ Conference, February 3-6, Long Beach, CA

AWWA/WEF Utility Management Conference, February 25-28, Anaheim, California

PVC Pipe Association has technical briefing on their website regarding safety precautions using air pressure for pipe testing.

NASTT No-Dig, April 5-9 2020, Denver Applications for Scholarships for Public Agency employees available now. Scholarship includes registration and 3 night accommodations.

Financial Update: The current total in the organization account is \$51,237.17

Project Discussions:

Question about post landslide recovery design when bedrock is too shallow to allow for standard Caltrans design. It was suggested that anchoring 6"-8" into bedrock with epoxy may work, but that geotechnical engineer should be engaged to assist with design.

Burlingame recently had low-bidder that was underqualified and all bids were rejected.

EBMUD is accepting proposals for design of rehab/replacement for 12,000 LF of 6"-8" gravity sewer, 7 lift stations, 6,000 Lf of force main and water treatment skid replacement at Pardee reservoir. Construction cost estimate is ~\$8M, proposals due December 4th, check EBMUD website for details.

EKI – small engineering and water resource firm is looking for a 5-15 year design engineer in their Oakland or Sacramento office.

Next Meeting:

The next general meeting is scheduled for Tuesday, December 10, 2019. The topic is **“American Iron and Steel requirements, and how to successfully meet them,”** by Chris Keffer, The Iron Group

Please call Nancy McWilliams at 707-455-4018 or email **pugnorcal@gmail.com** for additional information on this month’s meeting minutes.