



MEETING MINUTES
September 15, 2009

Attendees:

Cara Ingebrigtsen	Brown & Caldwell	cingebrigtsen@brwncald.com
Chris Lyne	P&F Distributors	chris@pfdistributors.com
Damien Detcherry	URS Corporation	damien_detcherry@urscorp.com
Dorcas Olaniyan	WBA	dolaniyan@whitleyburchett.com
Jen Glynn	RMC	jglynn@rmcwater.com
Jimmy Dang	Kennedy Jenks	jimmydang@kennedyjenks.com
Jonathan Lee	WVSD	jlee@westvalleysan.org
Kevin Kai	Brown & Caldwell	kkai@brwncald.com
Kurt Vincelette	R&B Company	kvincelette@rbcompany.com
Lani Good	Brown & Caldwell	lgood@brwncald.com
Liz Hirschhorn	Whitley Burchett & Assoc.	lhirschhorn@whitleyburchett.com
Nancy Ku	PSOMAS	nancy.ku@psomas.com
Nona Espinosa	Nolte Associates	nona.espinosa@nolte.com
Richard Barge	PipeMedic	richard@pipemedic.com
Roberts McMullin	URS Corporation	rob_mcmullin@urscorp.com
Russ Eberwein	Harris & Associates	reberwein@harris-assoc.com

Presentation: *Water Main Renovation with Carbon Fiber Reinforced Polymer (CFRP)* by Richard Barge of PipeMedic, a division of QuakeWrap, Inc.

The presentation covered:

1. CFRP Review
2. Applicability in Pipelines
3. PipeMedic – A Super Laminate CFRP System

Highlights from the presentation include:

1. Fiber Reinforced Polymer (FRP) can be made of glass, carbon, Kevlar, or other material.
2. A polymer resin matrix is used to hold the FRP together.
3. Carbon fiber reinforced polymers (CFRP) can have up to 3 to 5 times the tensile strength of steel.
4. There are many advantages for using CFRP:
 - Low Weight
 - Anisotropic
 - Corrosion Resistant
 - Speed of Construction
 - Low Cost
5. CFRP has been used in cars, boats, airplanes, structural repairs, blast protection, and now pipelines.

6. CFRP is a repair method for Prestressed Concrete Cylinder Pipe (PCCP).
7. AWWA M28 has classified CFRP as a fully structural class IV trenchless repair, which is independent of the host pipe for internal loadings only.
8. CFRP has an estimated design life of over 50 years.
9. The high strength of the CFRP is accomplished by overlapping the composite circumferentially and longitudinally.
10. CFRP application is NSF-61 potable water certified.
11. Two methods for FRP pipe repair: (1) Wet Lay-Up and (2) Pre-Cured Laminates.
12. The wet lay-up method involves saturating the fabric and applying to the pipe surface much like wall paper.
13. Pre-cured laminates provide the same strength without having to cure the FRP layers in the field, which can be problematic and time consuming.
14. For more information see the website: www.pipemedic.com.

Handouts:

1. PipeMedic Brochure
2. Free Webinar on the Latest Innovation in Pipe and Culvert Repair using CFRP

Thank you Richard for the great presentation!

General:

August 18, 2009 Meeting Minutes: A motion was made to approve the minutes, which was seconded and minutes are approved with no corrections.

Website Update: The new website is operational and continues to be uploaded with information.

Announcements:

2009/2010 Membership: Please submit your upcoming 2009/2010 membership renewals. Memberships cost is \$350 per entity. Remember that membership has numerous benefits, such as discounts for courses and conferences, participation in raffles held at random monthly meetings, discounts on attending the annual seminar, etc. Get your renewals and/or new member applications in today.

Financial: PUG is filing taxes at this time and the report will be posted upon completion.

SSC Webinars: SSC continues to present monthly lunch webinars covering boring, drilling, and vacuum excavation applications. See www.sscboring.com/education for more information. The upcoming webinars include:

- Benefits of Vacuum Excavating – ***October 1, 2009***
- Small Boring Unit (SBU) Applications – ***November 5, 2009***

UIM Webinars: The Water Utility Infrastructure Management (UIM) website hosts on-line webinars related to water management. For more information, visit the UIM website: www.uimonline.com/index/webinars. The upcoming webinars include:

- Water Loss Modeling and Management by Bentley – ***September 24, 2009***
- Leak Detection by ADS – ***October 27, 2009***
- Pipeline Condition Assessment by Pure Technologies – ***November 18, 2009***

Specialty Conferences 2009: The following specialty conferences include:

- WEFTEC Exhibition & Conference in Orlando, Florida – October 10 – 14, 2009

NASTT No-Dig Show: The 2010 NASTT No-Dig Show will be held in Chicago, Illinois during May 2 through 7, 2010. Visit <http://www.nodigshow.com/> for more information.

PUG/WESTT Good Practices Course: The 2009 PUG/WESTT Good Practices Course is scheduled for October 20, 2009 at the office of CCCSD. This year the course is on New Installation Methods. A registration flyer has been sent out the PUG email list.

PUG Sharing Technologies Seminar 2010: The 18th Annual Sharing Technologies Seminar is scheduled for **Thursday, February 18, 2010**. Abstracts are still being received by the PUG Board, until Friday, September 18, 2009. Upon review of the abstracts, the PUG Board will select the speakers for the 2010 seminar.

Colorado School of Mines: Colorado School of Mines is offering a Tunneling Short Course during September 23 through 25, 2009. Visit <http://www.microtunneling.com/> for more information.

McElroy University: McElroy University is offering classes on PE pipe fusion machine training. Visit <http://www.mcelroy.com/fusion/training/index.htm> for more information.

Projects Discussions:

Jonathan Lee of WVSD discussed an ongoing project that involves an 8" sanitary sewer line in an active landslide area. A CCTV of the sewer line showed extreme deflection of the pipe that did not allow the camera to pass. This is an area of restricted pipe capacity and the WVSD decided to monitor the ground movement within the area to determine the best solution.

Kurt Vincelette of R&B Company discussed a trenchless project in Delta Diablo that involves the slip lining of over 7,000 feet of 14" fusible PVC pipe within the host 18" pipe. Underground Solutions will be hosting a field trip to present the fusible PVC technology. More information to follow from Rob Craw of Underground Solutions.

Next Meeting: There will be no general meeting in October, however the 2009 PUG/WESTT Good Practices Course will be held **Tuesday, October 20, 2009** at the office of **CCCSD**.

The next general meeting will be held **Tuesday, November 17, 2009** at the office of **Brown & Caldwell** located at **201 N. Civic Dr., Suite 300, Walnut Creek, CA**. The topic will be on **Ground Penetrating Radar (GPR)** by Underground Imaging Technologies. Please call Roberts McMullin at 510-874-3102 or email rob_mcmullin@urscorp.com to RSVP or ask for additional information on this month's meeting minutes.