

MEETING MINUTES

Sept 9, 2025

In-Person Meeting

ATTENDEES: See Attachment 1 for copy of attendee list

Announcements and General Business:

Dustin opened the meeting and provided the following announcements.

1. Participant introductions
2. Reminded the group about signing up for monthly presentations.
 - a. Membership is \$400 per organization, and you can send as many people as you want to monthly meetings. Membership also provides a link to your firm on our website and reduced fees for our annual training in the fall and our annual seminar in February.
3. Call for PUG Presentations
 - a. If you'd like to present, we are scheduling for Jan 2026, plus a last minute opening for Sept 2025.
4. PUG Annual seminar abstract submissions are currently due/open!
5. Upcoming conference dates:
 - a. WefTec Conference 2025 - Chicago, IL - September 27-Oct 1
 - b. Western Chapter No-Dig Conference 2025 - Scottsdale, AZ - October 14-16, 2025
 - c. NASTT No-Dig North 2025 - Vancouver, BC, October 27-29, 2025
 - d. Practical Considerations for Pipeline Design and Construction (PUG hosted) - Central San Offices - November 13, 2025
 - e. Pacific Water Conference (AWWA HWEA) - Honolulu, HI - February 10-12, 2026
 - f. PUG Annual Sharing Technologies Seminar - Concord, CA - February 19, 2025
 - g. No Dig Conference - Palm Springs, March 29 - April 2 (Municipal Scholarship deadline - 11/1)
 - h. CWEA Annual Conference - Sacramento, CA - April 7-10, 2025
 - i. AWWA ACE - June 21-24, Washington DC
 - j. ASCE Pipelines - August 1-5, 2025 - Detroit Mi
6. James Kohne provided a recap of July's monthly presentation (West County WW Clean and Green Upgrading to the Future).
7. No financial summary report. Will provide update next month.

Attendee Announcements and Project Discussions:

- NASTT 2026 will be in Palm Springs.
- EBMUD hiring an assistant engineer, Pipe Rebuild Team.
- Solano Irrigation District – hiring an Engineering Technician.

Minutes by James Kohne, Woodard & Curran
Secretary, Nor Cal PUG

Page 1 of 4

- Keep an eye out for NASTT messages about getting on the field site visit notification list. Pipe demo at the end of Sept, hosted by Central San.
- Participant asked about standards/code for sizing a steel casing around an 8" PVC C900 carrier pipe. Contractor wants to use 12", they think a 14" or 16" would be preferable. Hoping to be able to point to a standard. No one had a standard to reference. Nancy suggested checking the UniBell handbook.
- Central San asked about using project dwgs with colors.

2025 NAWWA ACE Conference Recap provided by Dustin LaVallee

- Denver, CO, June 9-11
- Conference Outline
- Presentations (focused on condition assessments)
 - Exploring AWWA M77's new chapters
 - A 10-yr journey of empowering utility-led innovation
 - Optimizing utility operations using AI and machine learning
 - Managing breaking water mains without breaking the bank
 - WaterOne Case study – pipe bursting, Matt Carter – 67th Terrace project (water main replacement alternatives).

Presentation:

“Overview of Pressure Pipe Rehabilitation Future”, by Adam Brown (BKF Engineers).

Overview:

Gravity pipe rehabilitation has been widely adopted for decades, but pressure pipe rehabilitation continues to be an area of uncertainty for many asset owners. With different products and processes available to engineers and owners, it can be hard to know which ones may be suitable for a given situation. This presentation will cover a high-level overview of pressure pipe rehabilitation methods such as spray-on lining, sliplining (including FFRP), CIPP, pipe bursting, spray-in-place pipe, and close tolerance pipe slurification.

Highlights from the presentation include:

1. About BKF
2. Why rehabilitation
 - a. Limiting disturbance (high vol traffic, businesses...)
 - b. Lack of access
 - c. Utility congestion
3. Project scoping
 - a. Key Considerations
 - i. Condition assessments are challenging, no access – see AWWA M77 for info
 - ii. “Trenchless” does not mean “no excavation”
 - iii. Materials/products/equip are often not cheap
 - iv. Rehab programs can help realize economies of scale
 - v. Mixing/Matching methods can yield best value
 - vi. Use bid alternatives for comparable methods
 - vii. Standardize a method or evaluate case-by-case?
 - b. Project-specific evaluation criteria
 - i. Structural deficiencies
 - ii. Design life
 - iii. Site constraints and obstructions
 - iv. System pressures
 - v. Hydraulic capacity (per AWWA M28)
 - c. Pipe conditions, Hydraulics, Disturbance, Loading, Materials, Bypass
4. AWWA structural lining classifications
 - a. Class I Lining (nonstructural, protect inner surface of host pipe from further corrosion, host pipe provides structural support
 - b. Class II and II (semi-structural systems, sustains internal pressures but host pipe manages external loads. Class II depends on adhesion to host pipe to prevent collapse, Class II sufficient ring stiffness to be self-supporting.
 - c. Class IV: Fully independent and structural (e.g., CIPP)
5. Rehabilitation Methods
 - a. **Spray-In-Place-Pipe (SIPP) Linings.** (e.g., epoxy/mortar or polyurea, applied mechanically/spincaster, length controlled by equipment – 600-700 ft per AWWA. Negligent hydraulic capacity reduction. Need to clean/inspect pipe prior to application.

Minutes by James Kohne, Woodard & Curran
Secretary, Nor Cal PUG

Page 3 of 4

Verify bends (up to 45 deg). Mentioned "SIPP Americas" as a sample product (4"-42", 1,350'/day, fast reinstatement, NSF 61 certified).

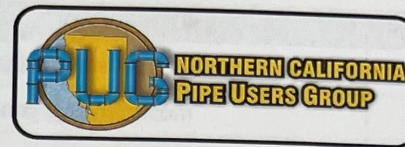
- b. **Flexible fabric reinforced pipe (FFRP)**, (Primus Line (6-18"), Bullet Liner (4-48"), but Primus can go to higher pressures, though needs to be de-rated if going through bends). No curing. Can't be tapped. Small pits. Pulled through, inflated w/air. Requires certified installers.
 - c. **CIPP**. Felt liner. Can have glass or carbon fiber reinforcement. (4-120" diam). Max pressure = 250psi. Similar pit size to FFRP. Can be tapped. 2-6 hr cure time avg. Can restore services robotically.
 - d. **Sliplining**. Pulling smaller pipe into host pipe (grout annular space). PVC or HDPE typical. Requires capacity reduction.
 - e. **Pipe bursting**. Pulls in new pipe. Can make new pipe bigger (only method, up to 2 sizes). Can't pull through acute bends. Pits can be bigger. Excavation required for services. Includes pipe splitting. Challenging w/thin steel, DIP, can't do bar-wrapped or reinforced pipe. Can result in heave and pressure against nearby utilities (1-2 ft for each inch of upsize). Pneumatic vs static bursting. Pneumatic used on fracturable pipe, static used for splitting. Static need 2 pits. Pneumatic can go through an existing MH.
 - f. **Manufactured in place composite pipe (MICP)**. Only 1 known manufacturer. 48-96". 250 psi and above. SIPP Tech.
 - g. **Close tolerance Pipe slurrification (CTPS)**. Used primarily to get rid of AC pipe. Relatively new. Only by Azuria. Limited contractor pool. 4-20" range. Can upsize. ~500ft. ASTM F3532-23
 - h. **Carbon Fiber Reinforced Polymer (CFRP)**. 30" diam and above (need man-entry). Polymer applied and cured to host pipe. Very expensive. Class IV fully-structural rehab. Mainly used in large diam concrete pipelines.
- 6.

Next Meeting:

The next general meeting will be at the Brown & Caldwell office on Tuesday, October 14th, 2025. The presentation is titled, "Hobas Pipe" and will be presented by Stephen Alston, from Hobas Pipe.

Please email pugnorc@gmail.com for additional information.

SIGN IN SHEET
MEETING DATE: Sept 9, 2025



Attendees:

No	Name	Agency/Company	Email Address	Present?
1	Adam Brown	BKF	abrown@bkf.com	X
2	Alexandra Watson	HydroScience Engineers	awatson@hydroscience.com	✓
3	Amanda Lee	EBMUD	amanda.lee@ebmud.com	
4	Amber Wallace	City of West Sacramento	amberwa@cityofwestsacramento.org	
5	Amelia Berumen	Central San	aberumen@centralsan.org	✓
6	Ashley Stalf	East Bay Municipal Utility District	ashley.stalf@ebmud.com	
7	Ashruf Khan	West Yost	akhan@westyost.com	
8	Aynne Valencia	SewerAI	aynne@sewerai.com	
9	Bao Nguyen	Alameda County Water District	Bao.Nguyen@acwd.com	✓
10	Ben Wright	Black & Veatch	wrightb@bv.com	✓
11	Carman Luk	San Francisco Public Utilities Commission (SFPUC) - CCSF	cluk@sfwater.org	✓
12	Chung Linh	CCSF/SFPW	chung.linh@sfdpw.org	✓
13	Dana Lawson	Central San	dlawson@centralsan.org	✓
14	Devon Bacon	BKF	dbacon@bkf.com	✓
15	Diego Soto Lopez	Central San	dsotolopez@centralsan.org	✓
16	Dillon Ballinger	CVSan	Dillon@cvsan.org	
17	Dorothy Bechler	Central San	dbechler@centralsan.org	✓
18	Dustin La Vallee	EBMUD	dustin.lavallee@ebmud.com	
19	Dustin Rainey	Jacobs	dustin.rainey@jacobs.com	
20	Elena Topete	EBMUD	elena.topete@ebmud.com	✓
21	Eric Yao	HDR	Yuan.Yao@hdrinc.com	✓
22	Ferisca Putri	Sacramento Area Sewer District	putrif@sacsewer.com	✓
23	Fidel Salamanca	Harris & Associates	fidel.salamanca@weareharris.com	✓
24	Gabriel Rios	Sac Sewer	riosg@sacsewer.com	✓

	Name, Company		Email Address	Present?
25	Hunter Kett	Solano Irrigation District	hkett@sidwater.org	✓
26	JaJuan Murray	EBMUD	jamurray@ebmud.com	✓
27	James Kohne	Woodard & Curran	jkohne@woodardcurran.com	✗
28	James Kong	Central San	jkong@centralsan.org	✓
29	Jason Fitch	CCCSD	jfitch@centralsan.org	✓
30	Jill Shankel	Carollo Engineers	jshankel@carollo.com	JS
31	Joe Heavin	Shannon & Wilson	joseph.heavin@shanwil.com	✓
32	Karen Lee	EBMUD	karen.lee@ebmud.com	✓
33	Katie Leisenring	HDR	Katherine.leisenring@hdrinc.com	✓
34	Kevin Randeni	Central San	krandeni@centralsan.org	✓
35	Kingsley Kuang	EBMUD	kingsley.kuang@ebmud.com	✓
36	kurt chirbas	Geotree Solutions	KURT.CHIRBAS@HENKEL.COM	
37	Leo Gudina	Repcor	leo@repcor1.com	✓
38	Lisa Zou	Central San	lzou@centralsan.org	✓
39	Nancy McWilliams	Solano Irrigation District	nmcwilliams@sidwater.org	✓
40	Natan Johnson Lennon	CVSan	nathaniel@cvsan.org	✓
41	Saied Khan	CCSF/SFPW	saied.khan@sfdpw.org	✓
42	Sasha Mestetsky	CCCSD	smestets@centralsan.org	✓
43	Stephanie Myers	Central San	smyers@centralsan.org	✓
44	Taylor Lithgow	Kennedy Jenks	taylorlithgow@kennedyjenks.com	✓
45	Tony Park	LEE+RO	Tony.Park@lee-ro.com	
46	Wallis Lee	CCSF/SFPW	wallis.lee@sfdpw.org	
47	Weili Du	Central Contra Costa Sanitary District	wdu@centralsan.org	✓
48	Wenyuan Tang	Aecom	wenyuan.tang@aecom.com	

Fernando Monroy	West County Wastewater	fmonroy@wccd.org
DIEGO RIVERA	US PIPE	DRPE128@GMAIL
Saied Khr	SFPL	Saied.khr@sfppl.org
Max Dickerson	EBMUD	
Christopher Rodriguez	Central San	crodriguez@centralsan.org
Emmanuel Gomez	Central San	egomez@centralsan.org
CINDY PREUSS	CDM SMITH	preussc1@cdmsmith.com
MATT ESCALANTE	EBMUD	matthew.escalante@ebmud.com
Travis Packer	RINKER	Travis.Packer@rinkerpipe.com
WENYUAN TANG	AECOM	wenyuan.tang@aecom.com
Marsha Van Loan	SFPUC	mvanloan@sfwater.org
Ciman Young	" "	cyoung@sfwater.org
Kyle Gourley	Corollo	kgourley@corollo.com
Cooper Sitter	Underground Solutions	CSitter@Azulia.com
JAMES RICKMAN	WEST YOST	JRICKMAN@WESTYOST.COM