Upping your Utility Coordination to the Next Level: Successful Partnerships

Panel Presentations

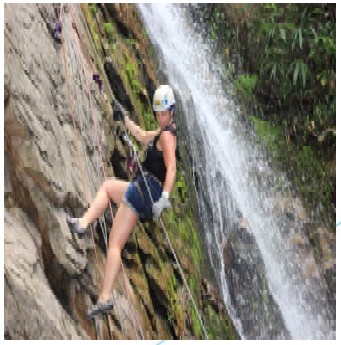
Audience Q & A

Resource Links and Contact info

Sandi J. Garrick, Utility Liaison
Pima County Public Works

PIMA COUNTY

- 18 years in the design, estimating, construction, and utility field, with 8 years in the private sector and 10 years with Pima County
- Regional collaborative approach to utility coordination with multiple public agencies
- Continual process improvement and development of Best Practices for utility coordination and damage prevention at local, state and national levels
- A.A. in Business Management and B.S. in Sustainable Built Environment – Go WildCats!
- Guest lecturer for Utility Coordination at UA College of Engineering
- Likes to teach dance, travel, and embarrass her (now-adult) kids to make them laugh!



Infrastructure Perspective

PIMA COUNTY

- 20+ million miles of underground utilities in the United States
- More than 100k miles of underground utilities in Arizona
- Football field length of buried utilities for every man, woman & child

Utility impact to public rights-of-way

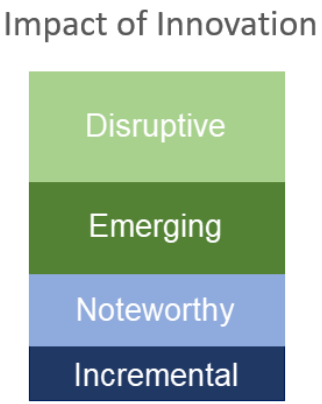
PIMA COUNTY

- 90% of highways built prior to 1950
- Limited ROW availability for utilities
- Utility relocations and conflicts are leading cause of schedule delays & cost overruns

Lessons Learned

PIMA COUNTY

- Prioritize utility coordination
- Preliminary design notification
- Early and comprehensive potholing – coordinate with utilities
- Regular meetings with utilities – maintain partnerships
- Create a culture that promotes creativity and innovation
- Stay informed with current trends & technologies



- Damage prevention is vital – partner with local utilities & emergency responders
- Be involved with regulatory agencies and aware of legislative impacts
- Collaborate at regional, state & national levels

Lessons Learned – Communication!

PIMA COUNTY

- Clearly establish expectations and identify point of contact
- Communication is paramount

Kelly Roy, Utility Coordination Branch Manager
Maricopa County DOT

- Team mission to share professional experiences and build relationships
- Strives to continually improve MCDOT Utility Team quality of work
- 20 years working with Maricopa County
- Associate, Bachelor and Graduate degrees from Glendale Community College, DeVry University & Arizona State University
- Lifetime member of the FBI Citizen's Academy

- The project before “the Project”
- Utility conflicts stop “the Project”
- Without effective partnerships, “the Project” will be impacted and costly

Bobby Garza, Agency Liaison
Arizona Public Service Electric

- Graduate of the ASU Project Management Institute
- 25 years experience in managing municipal and state agency projects
- 16 years of Electrical Line Crew and Project Inspector experience
- Strives to safely and effectively execute programs that support APS critical areas of focus with a premier customer experience
- Strong advocate for employee mentorship programs.
- Teaches APS Customer Project Associates program for civil plan conflict review

Safety Moment

What does a successful utility & agency partnership look like?

- Have a 1st Point of Contact relationship
- Share processes that involve all partners
- Include key management individuals in the Partnership
- The Partnership must be a genuine relationship built on trust
- Quick Fix Solutions

Advantages of the Partnership

Location: SE & SW corner of Peoria Ave & 77th Ave.

A: SE Corner Ground to transition fuse cutouts = 29'

Offset from APS pole to proposed signal pole = 12'

B: SE Corner Ground to secondary (sec) 120.240V = 23'

C: SE Corner Ground to phase to phase 12kV = 33'

D: SW Corner Ground to phase to phase 12kV = 27'

E: SW Corner Ground to secondary 120/240V = 19'

F: SE Corner offset from OH powerlines to proposed signal pole = 2'

Proposed Signal Height =

Limitation is a total height of 23' to the primary & 18' to sec.

G: SW Corner offset from OH powerline to proposed signal pole = 14'6"

Proposed Signal Height = Offset =

Proposed Signal Height = Offset =

Proposed Signal Height = Offset =

No Limitation on height assuming there's not an arm crossing.

OSHA Minimum Approach Distance Regulatory Requirement = 10' for voltages up to 50,000V. This distance is the federal requirement needing to be maintained at all times to the energized open wire conductors to persons, materials and equipment. APS is not able to grant a variance that would allow any person or equipment to get any closer due to this being a federal requirements, not an APS requirement.

On the SE Corner, use of a crane or derrick is prohibited because the load line and boom would not be able to maintain OSHA, OSHA reads that the MAD is based off the operating capabilities of the equipment. APS recommends that the proposed signal be set using ground equipment.

On the SW Corner, use of a crane is an option on this corner if the crane were to setup south of Peoria on 77th Ave if the requirements of 29 CFR 1926, subpart 1407-1411 can be maintained. Aerial equipment can be used. Provided standard onsite to B&F..

- Design for the entire ROW
- Mitigate conflict before construction starts
- Collaborate early

Daryl Finfrock, Superintendent of Construction Operations, Southwest Gas

- 10 years working with the Southern Arizona Division as Administrator of Damage Prevention
- Actively involved in multiple initiatives and committees statewide focused on damage prevention & safety, including the Arizona Transportation Builder's Association, Arizona Locate Resolution Partnership, Arizona 811 Public Service Committee, and the AZ Coalition for Utility Safety & Damage Prevention
- Adjunct faculty instructor at Pima Community College for Natural Gas Technology classes
- Assisted with development of the Get into Energy Program within the College of Applied Science

- Utility coordination aides in open communication
- Damage Prevention awareness is key to safety
- Training/Outreach opportunity
- Industry Best Practices and reporting
- Coordination among stakeholders is key to the successful and timely completion of projects

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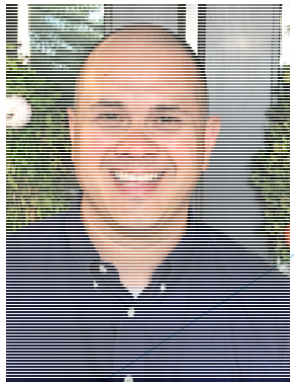
Rick Solis, Solis Engineering Co.

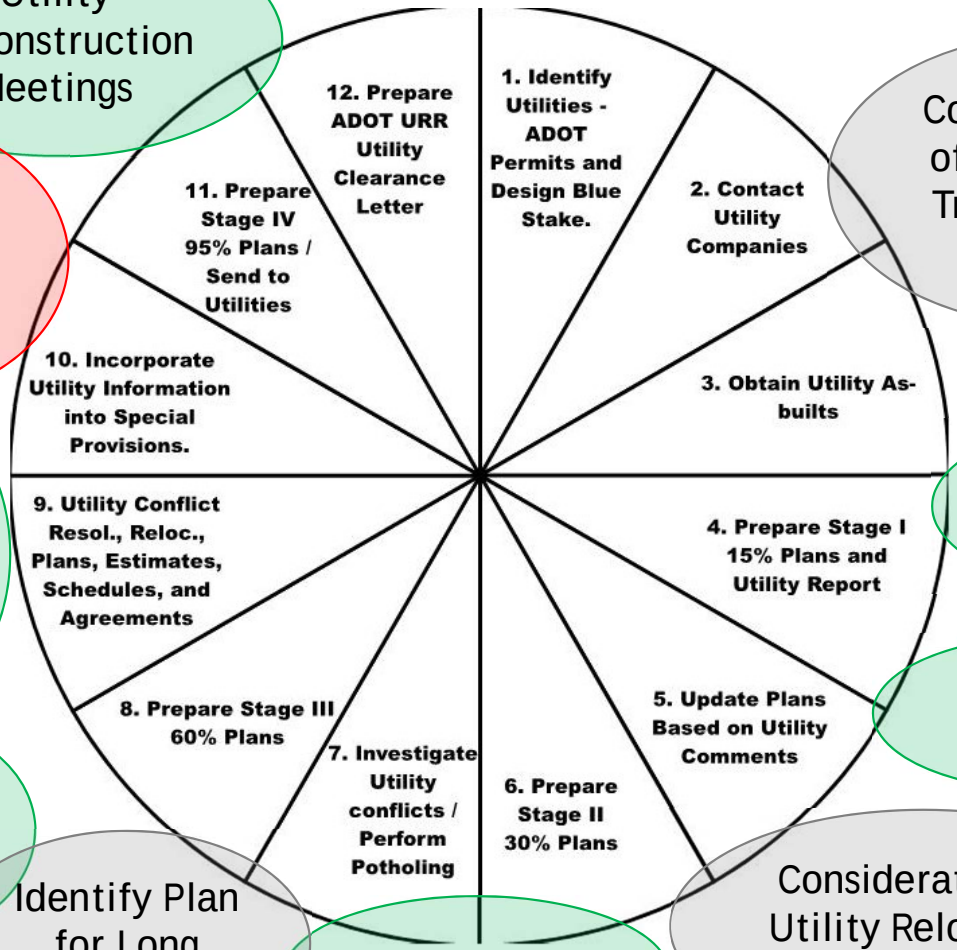
- Principal and Owner of Solis Engineering Co. in Tucson
- 18 years of experience in roadway, infrastructure, and traffic engineering
- Works with various State, Municipal, and Tribal agencies, providing site design, permitting, and platting services
- B.S. in Civil Engineering from the University of Arizona
- Registered Professional Engineer in Arizona
- Southern AZ APWA Branch Chair, 2016
- Assembling puzzles together is a fun family tradition!



Utility Coordination Process

Top 10 Utility Coordination Practices

1. Early Utility Involvement in Design (30% or earlier)
2. Utility Preconstruction Meetings
3. Defined Procedures (i.e., Utility Coordination Guidance Manual)
4. Consideration of Utilities Relocation Schedules in Relation to Project Schedules
5. Use of SUE (Subsurface Utility Engineering)
6. Regularly Scheduled Meetings with Utility Owners
7. Communication of Short-Range Transportation Plan
8. Use of Utility Corridors
9. Use of Standardized Utility Agreements
10. Identify and Plan for Long-Lead Items



Utility Preconstruction Meetings

Use of Standard Utility Agreements

Regularly Scheduled meetings with Owners

Use of Utility Corridors

Identify Plan for Long Lead Items

Perform SUE

Consideration of Utility Relocation Schedules

Defined Procedures

Early Involvement

Communication of Short-Range Transportation Plan

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Resources-1

- Upcoming no-cost FHWA Webinar on Utility Cost Estimates – August 14, 2019 2-4 PM EST:
  https://collaboration.fhwa.dot.gov/dot/fhwa/WC/Lists/Seminars/DispForm.aspx?ID=2086

- National Cooperative Highway Research Program Synthesis 506 Effective Utility Coordination - Application of Research and Current Practices:
  https://www.nap.edu/catalog/24687/effective-utility-coordination-application-of-research-and-current-practices

- Arizona Department of Transportation Utility Coordination resources:
  https://www.azdot.gov/business/engineering-and-construction/utility-and-railroad-engineering/utility-coordination

- Arizona Department of Transportation Utility Coordination Guide for Design Consultants:
  https://www.azdot.gov/docs/default-source/business/utility-coordination-guide.pdf?sfvrsn=11

- Transportation Research Board; Strategic Highway Research Program – Integrating the Priorities of Transportation Agencies and Utility Companies:
  https://www.nap.edu/catalog/23037/integrating-the-priorities-of-transportation-agencies-and-utility-companies

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Resources-2

- Excavation and utility locating Best Practices and Advocacy Toolkits:
  http://www.commongroundalliance.com

- One-Call and Utility Locating Resources:
  Nationwide: http://call811.com/
  Arizona: http://www.arizona811.com/

- APWA Utilities and Public Rights-of-Way (UPROW) Committee:
https://www.apwa.net/MYAPWA/Groups__Committees/Technical_Committees/Utilities__Public_Rights-of-Way_Committee/MyApwa/Apwa_Public/Tech_Cmtes/UPROW/Utility_and_Public_Right-of-Way_Committee.aspx?hkey=ccaf4028-f95c-4855-80ac-7e7a6017a1b5

- FHWA Guidelines for Subsurface Utility Engineering (SUE) – ASCE Standard:
https://www.fhwa.dot.gov/programadmin/asce.cfm

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Resources-3

- Southwest Gas – Get into Energy College Training Program:
  https://www.youtube.com/watch?time_continue=1&v=XyvZnto76PY

- Online video library of job-site situations and roundtable industry discussions for utility excavation safety:
  https://www.planetunderground.tv/

- Damage Information Reporting Tool (DIRT) – analytical data pertaining to utility-related incidents
  https://commongroundalliance.com/programs/damage-information-reporting-tool-dirt

- Free damage prevention training and safety information:
  http://www.arizona811.com/education-and-training/

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