



UNDERGROUND CONSTRUCTION TECHNOLOGY

The Underground Utilities Event | July 13-15, 2021 | Music City Center | Nashville, TN

9:30 a.m. Session – Room 102A

STOP
Chasing
the Dog's
Tail





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Introduction

Utility-Related Problems
& Strategies to Improve



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Impact of Current Practice

Poorly located utilities
leading cause of
construction delays

Delay Claims - \$\$\$

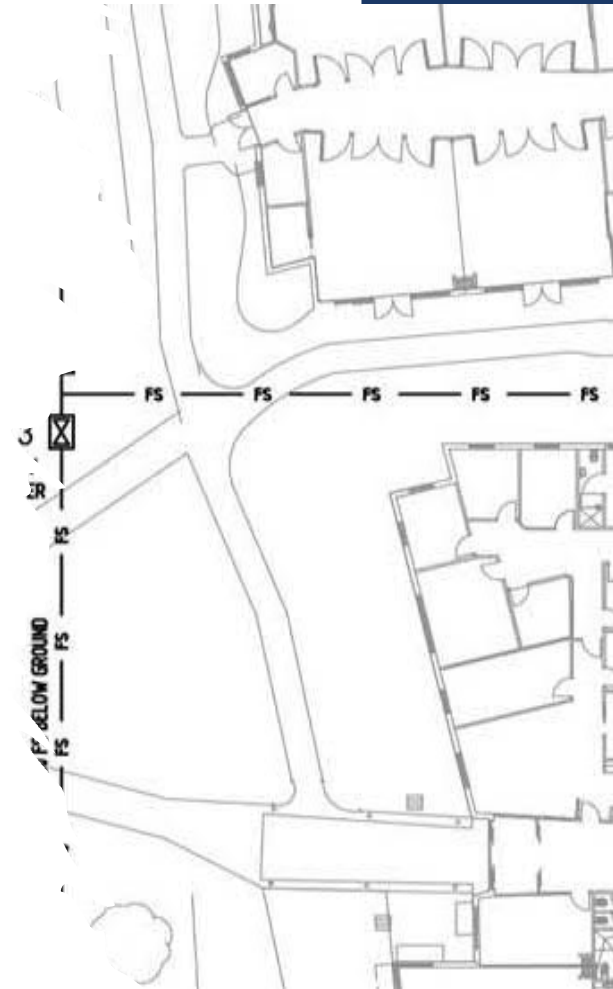
National Utility Review: Utility
Coordination Process" (US DOT,
FHWA, October 2018)





Standard Practice

- Designer sends project map
- Utility provides inaccurate location
- Designer unable to assess relocation or redesign
- Project is inaccurately bid
- Project requires redesign due to unforeseen utility conflicts
- Contractors incur extra costs to work around unmarked and mismarked utilities
- Construction delay claims
- Health & Safety threatened





PA 811 Top Violations - 2-Year Comparison

2019 18%

2020 24%

Excavator failed to submit proper location request

2019 82%

2020 76%

Owner failed to respond to routine One Call ticket

2019 36%

2020 35%

Excavator failed to employ proper excavation techniques

2019 64%

2020 65%

Owner failed to locate underground lines

(See handout for detail)



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Three-Fold Focus

Ensure

Ensure owners can better identify utilities at design phase

Provide

Provide for timely utility relocation when required

Help

Help ensure contractors are paid extra when project or facility owners fail to properly perform this work





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SUBSURFACE UTILITY ENGINEERING (SUE)

ASCE Standard 38-02

Raise Quality
Level From "D"
to the
Appropriate
Quality Level

Quality Level D:

Quality Level C (all of the above, plus):

Quality Level B (all of the above, plus):

Quality Level A (all of the above, plus):

(See handout for detail)

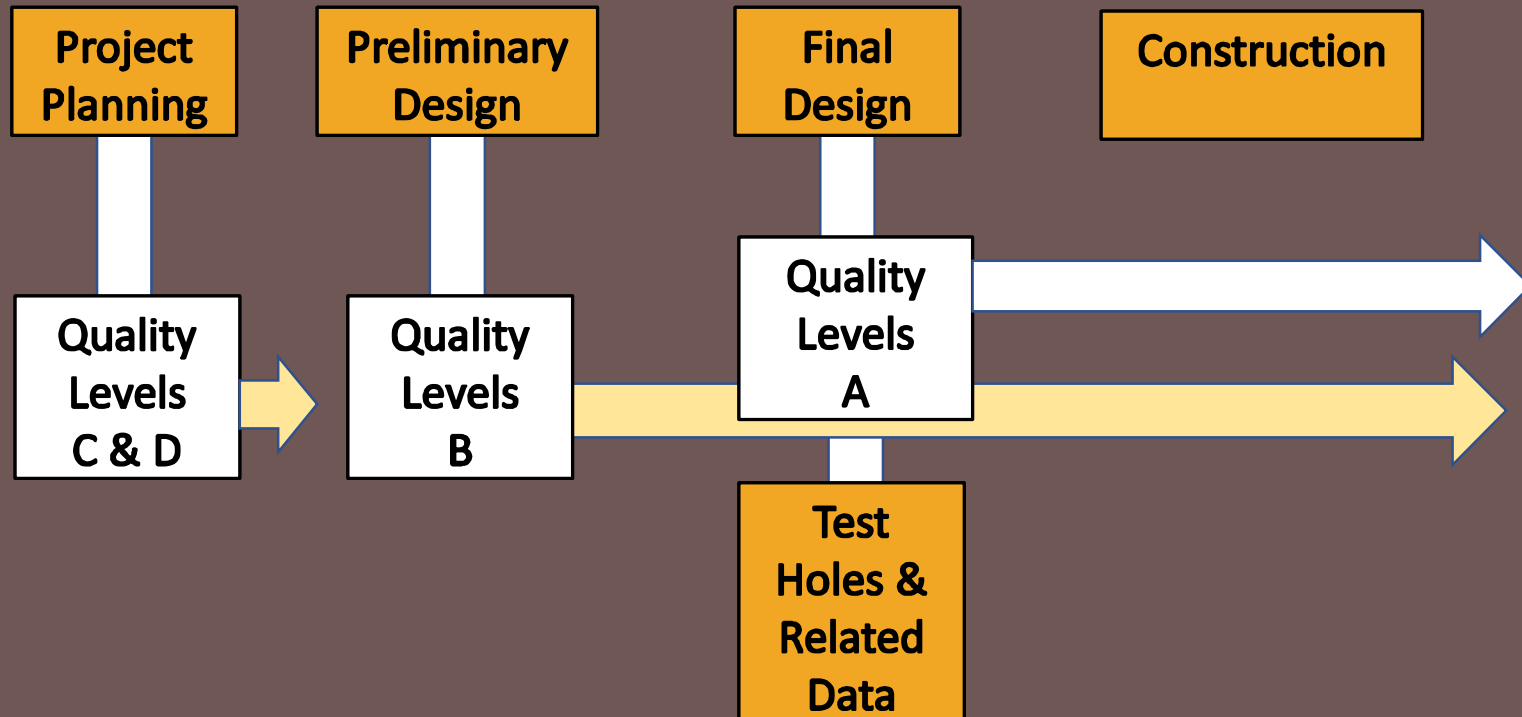


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SUBSURFACE UTILITY ENGINEERING (SUE)

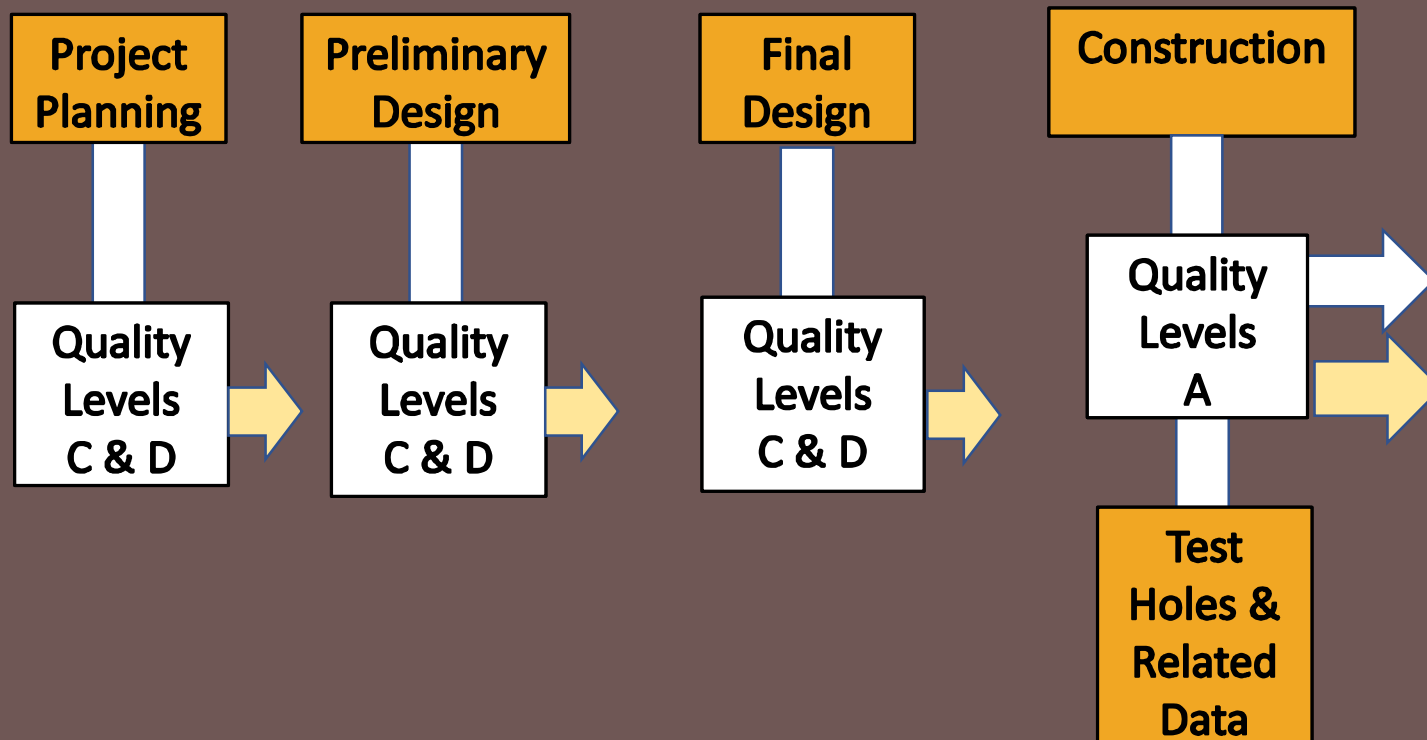
Project Application with SUE





SUBSURFACE UTILITY ENGINEERING (SUE)

Project Application without SUE





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WHERE TO BEGIN

Design, Plan & Bid
Documents

Owners must do
better

811 Mapping must
improve

Use Colorado Model
law



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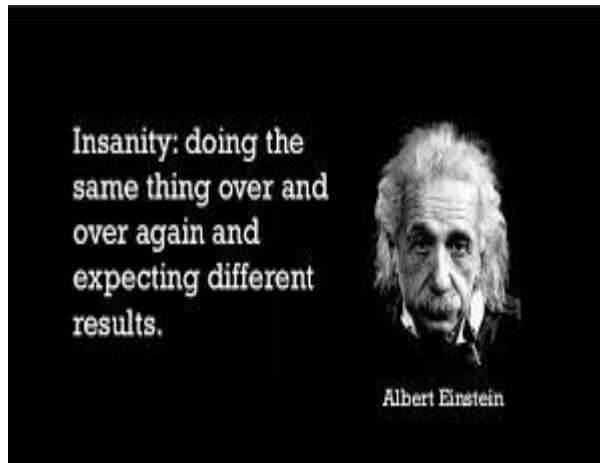
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The state
of the
Present
and the
Future



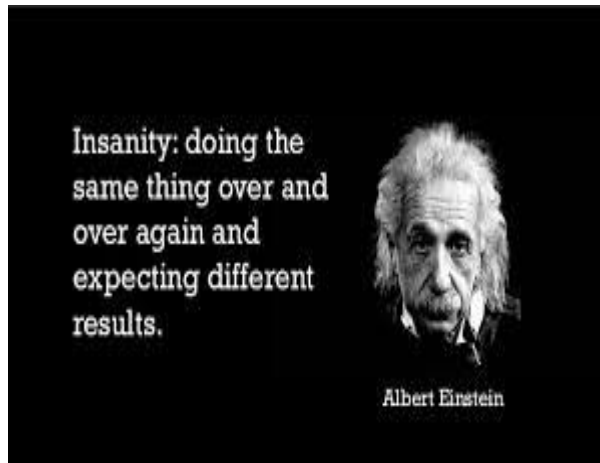
Inferences



- Main focus of Common Ground Alliance and most One Call Systems remains on the Excavator.
- Little meaningful data on facility owners, project owners, and Designers prior to 2018.



Inferences



- All stakeholders have a shared interest in timeliness and safety.
- PUC 2-Year Violations Report shows need to reduce the number of no marks and mis-marked facilities.
- SUE process in the Design Phase needs to be completed on projects.



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Conclusion

TIME

DOLLARS - \$\$\$\$

SAFETY

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