

# USING 3-D DRAWING SOFTWARE IN CIVIL WORKS PLANNING

## PCoP WEBINAR SERIES

Stephen Stello, Civil Engineer, Nashville

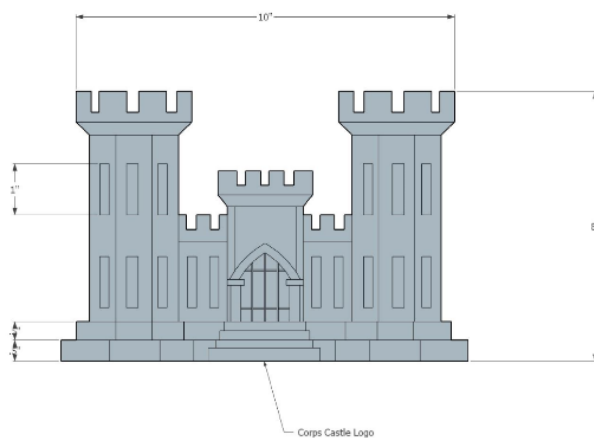
05 April 2018



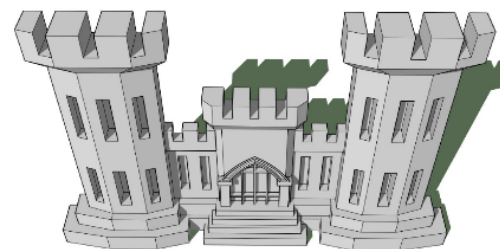
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# WHY 3-D MODELING?



PLANS



3D-MODELING



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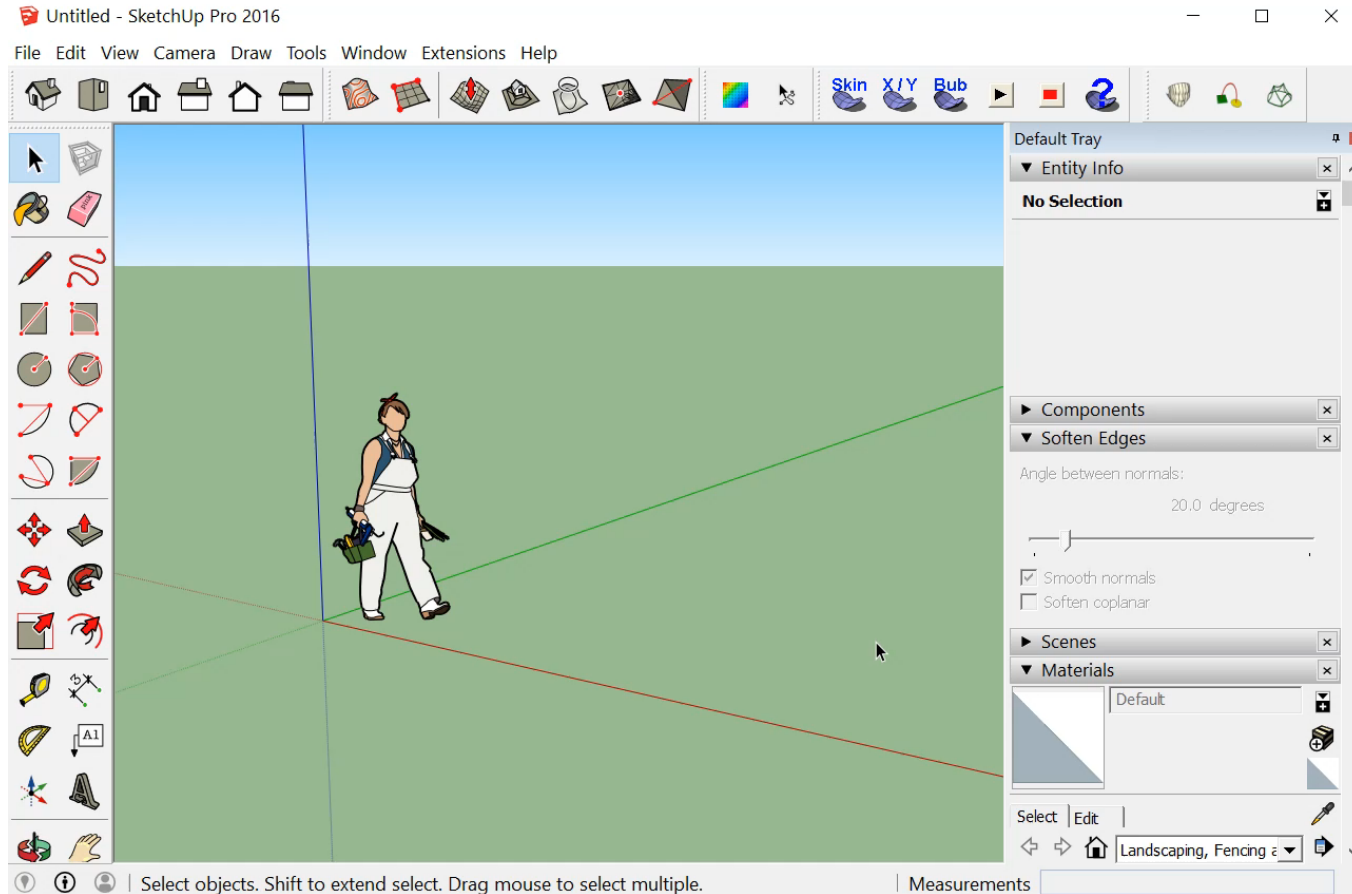
# WHY 3-D MODELING?

3-d Modeling can help improve:

- Planning
- Communication
- Review
- Professionalism
- Design



# WHAT IS SKETCHUP?



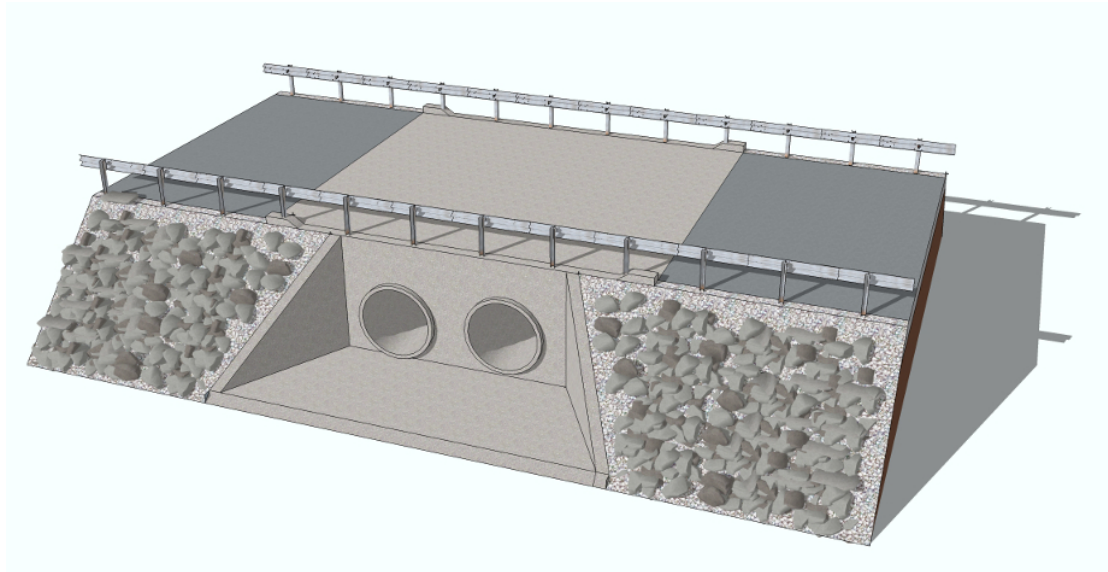
Trimble Sketchup is a lightweight 3-d Modeling Software that is quick, easy to use, and flexible.



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# SIMPLE MODELS



We can build 3-d models of projects in as little as a couple of hours to two weeks depending on the complexity.



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# SIMPLE MODELS

Scene 1 | Scene 2 |



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# COMPLEX MODELS

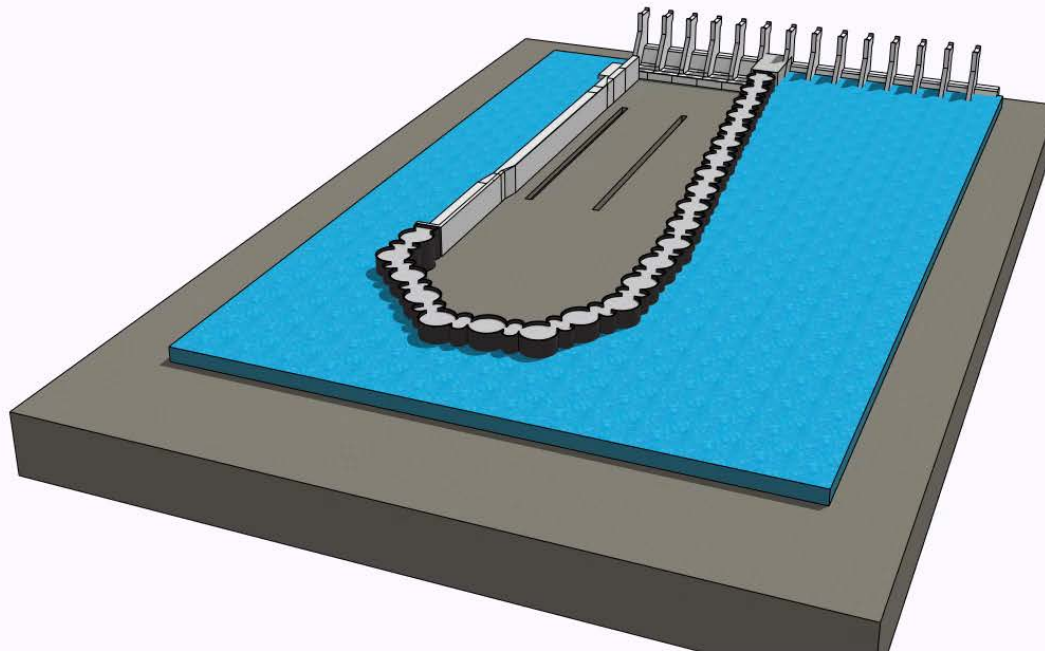


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# COMPLEX MODELS

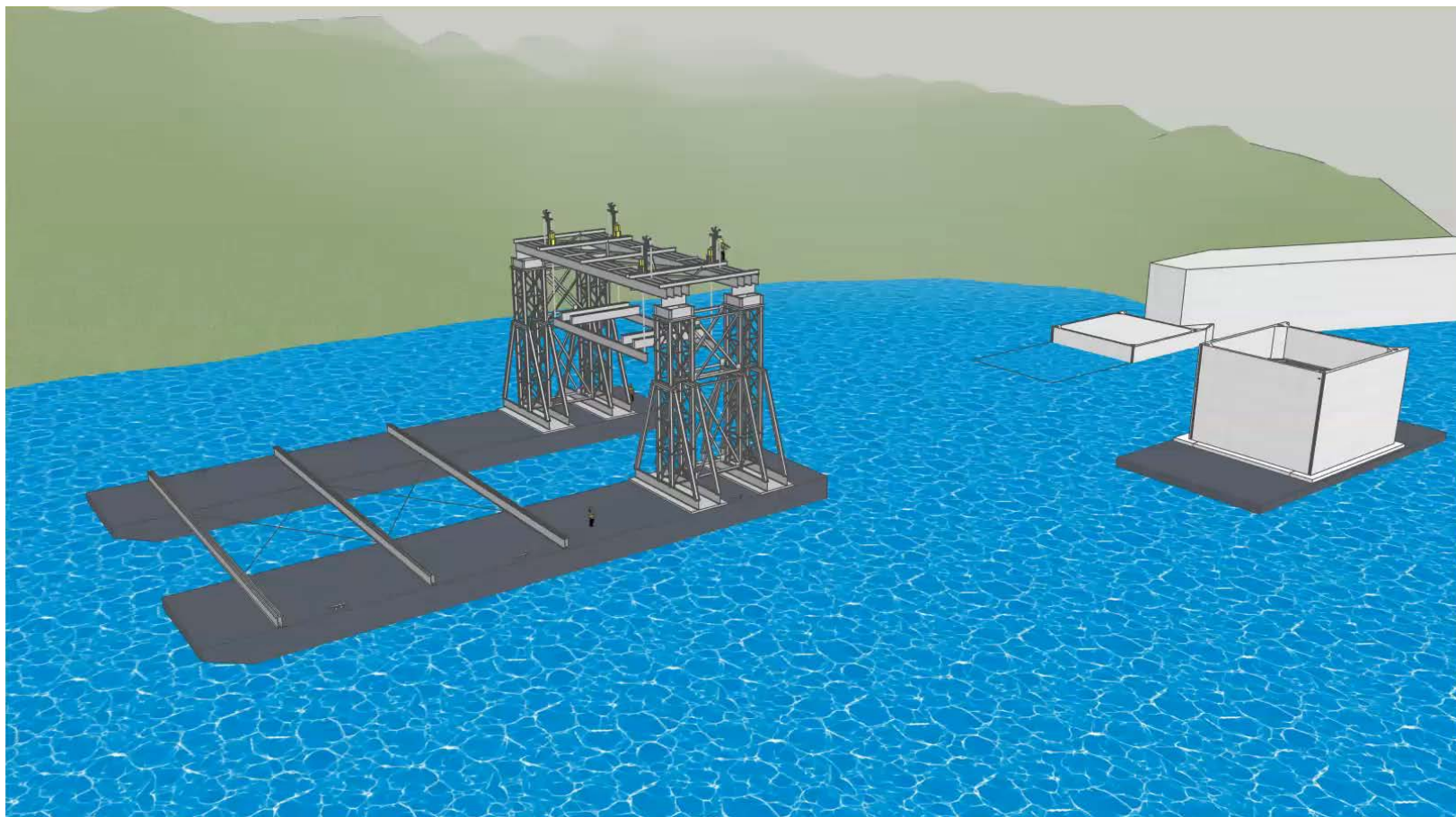


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# 3-D ANIMATION



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# 3-D MODELING USES

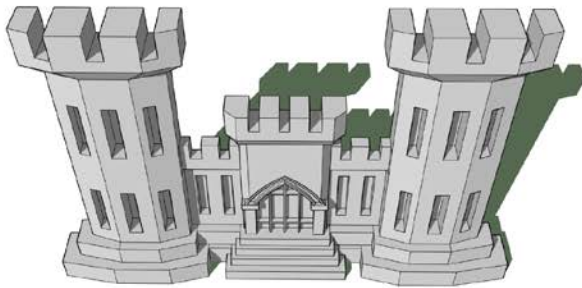
- Concept models
- Master planning and site Layout
- Construction sequence animations
- Design meetings & Charrettes



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# RENDERING



3D-MODELING



RENDERING



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# RENDERING

1. Create 3-d content
2. Add texture
3. Add lighting
4. Post production



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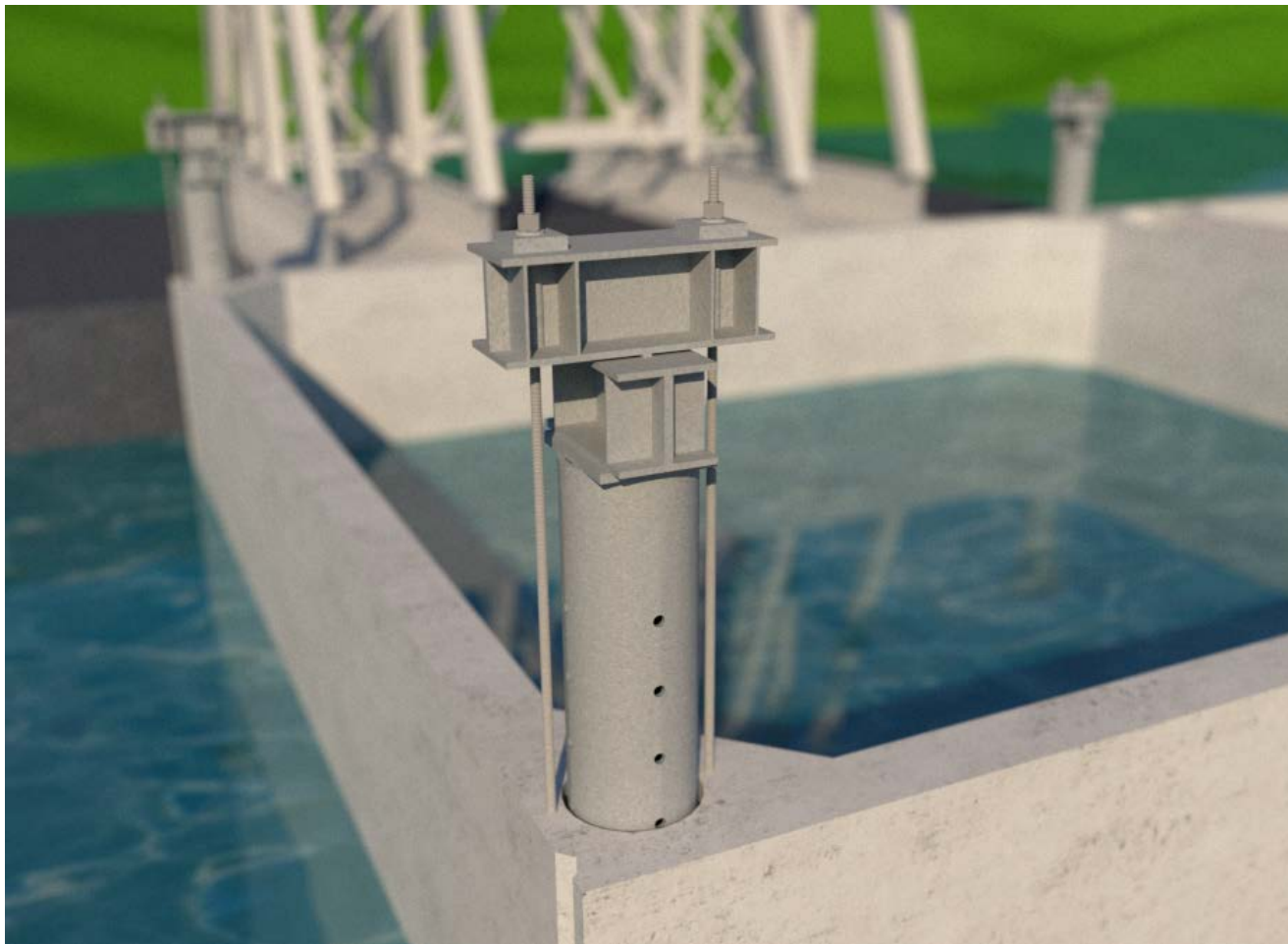
# RENDERING EXAMPLES



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# RENDERING EXAMPLES

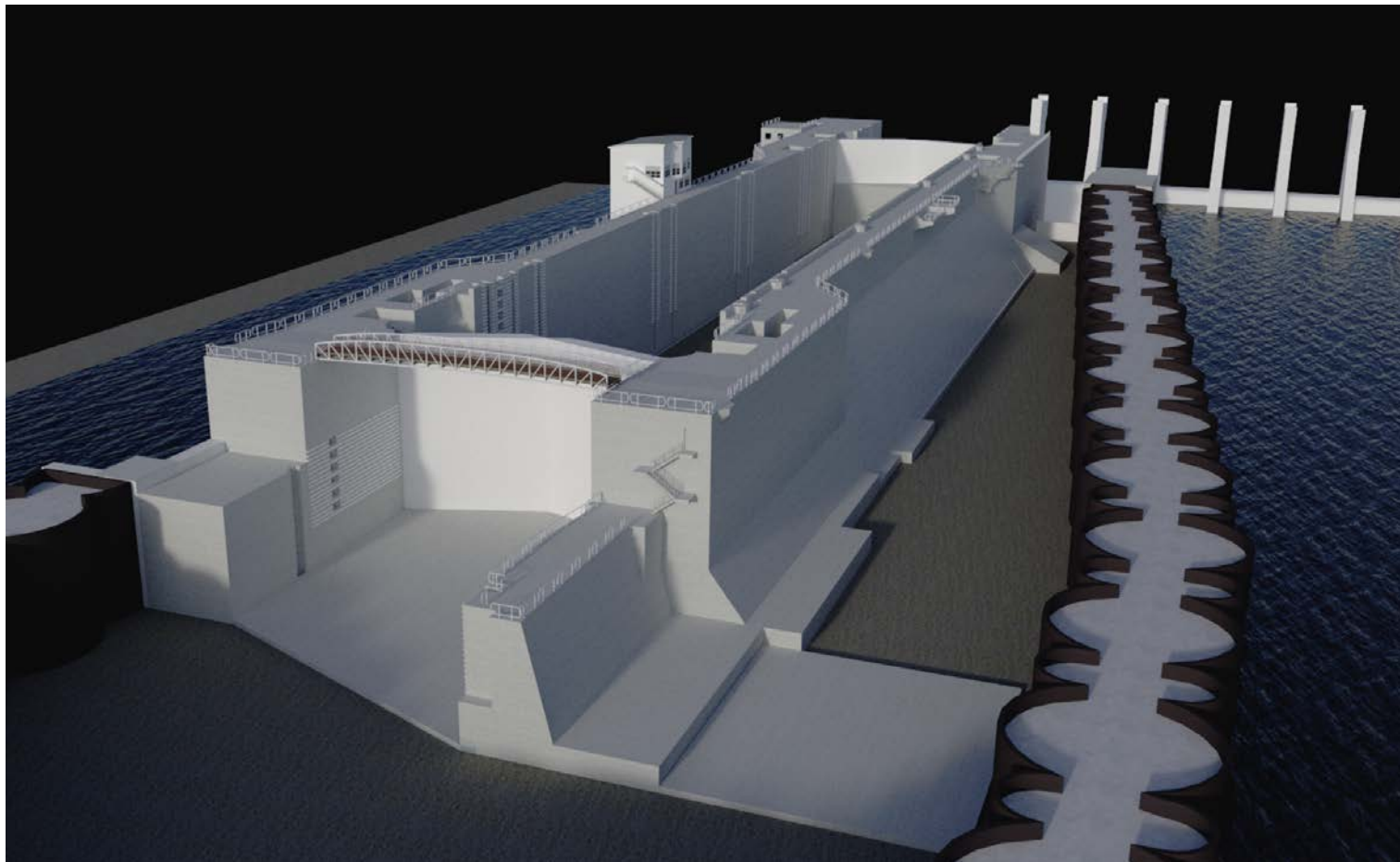


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# RENDERING EXAMPLES



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# RENDERING EXAMPLES



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# USES FOR RENDERED IMAGES

- Helps tell the story
- Greater visibility for your project
- Can be used for articles, public meetings, etc
- Builds pride in our work



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# INFOGRAPHICS

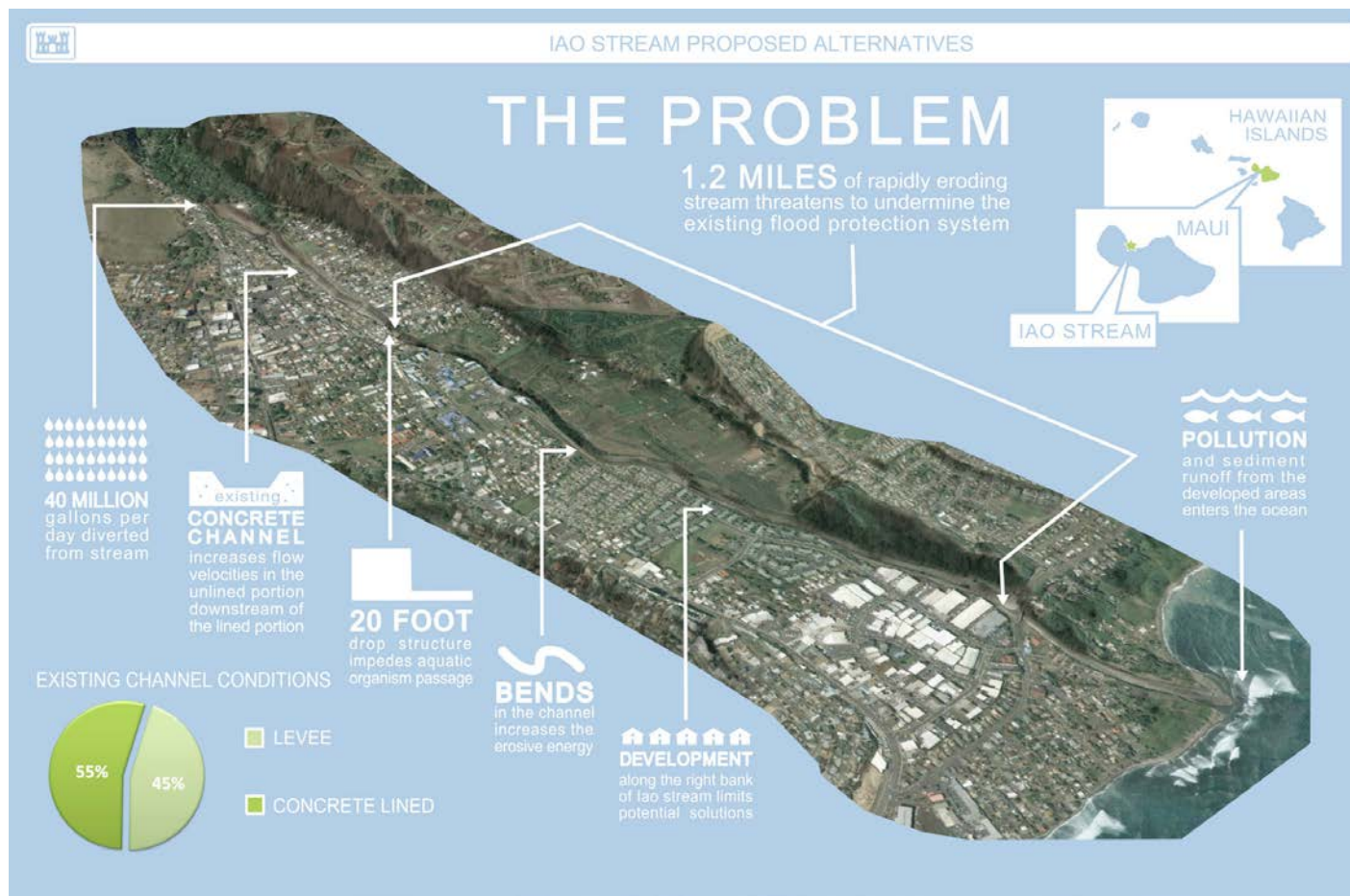
- Add information to poster presentations
- Uses vector graphics for high quality and scaling
- Makes complicated processes easier to understand



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# INFOGRAPHIC EXAMPLES



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# INFOGRAPHIC EXAMPLES



## 2

Alternative

### Downtown Lebanon Flood Channel Improvement



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# INFOGRAPHIC EXAMPLES



PHILOSOPHY

## Great Lakes and Ohio River Division

**D**evelop Future Talent  
**R**efine Internal Management  
**I**mprove Regional Processes  
**V**alue Open Communication  
**E**mpower Multidisciplinary Teams

## Nashville District

**Enrichment:** People, processes, program  
**Engagement:** People, partners, purpose  
**Empowerment:** Disciplined Initiative, Top Cover!  
Put authority where the information is  
**Execution:** Deliver the Program,  
Accomplish the Mission, Take care of people



*"Get GREAT WORKS Operational - fast, safe and responsibly"*

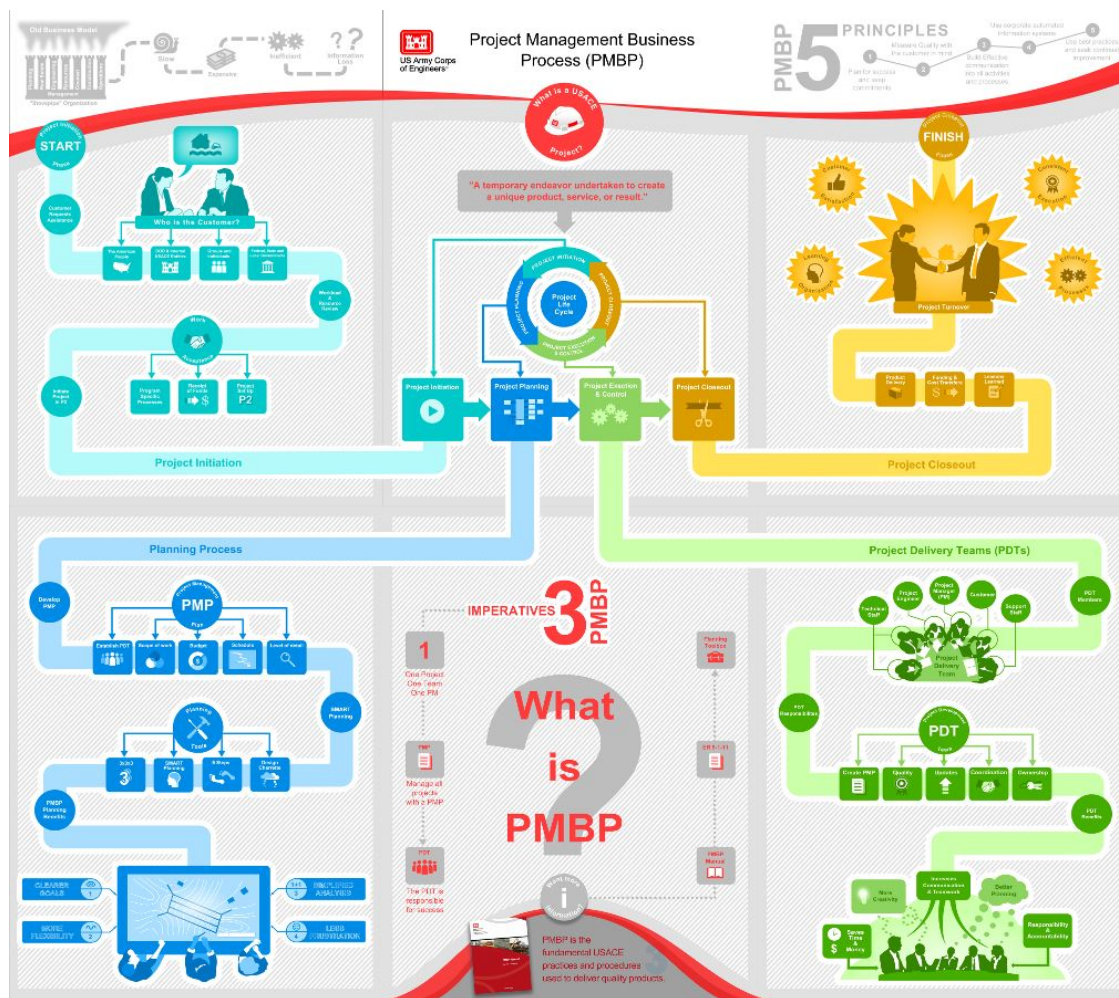
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# INFOGRAPHIC EXAMPLES



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# GOALS

1. To incorporate 3-d modeling into the planning, design, and construction phases of USACE projects
2. To create professional images and animations to enhance communication
3. To advance 3-d visualization capabilities of USACE
4. Build a team across the Corps



# FUTURE WORK



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# FUTURE WORK



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# FUTURE WORK



VIRTUAL REALITY PUTS THE  
VIEWER INSIDE THE PROJECT



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# TAKEAWAYS

1. We are here for your use.
2. 3-d modeling can be cost effective
3. Let others know.
4. 3-d modeling is the present and future.





# CONTACT



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# Questions?

Type questions in the chat box.  
We will answer as many  
as time allows.

This webinar will be posted to the  
Planning Community Toolbox:  
<http://www.corpsplanning.us>



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