

2017-2018 CEEEn Capstone Committee

■ Department Participants

- Rollin Hotchkiss, Ph.D., P.E.
- Wayne Lee, Ph.D., P.E. (AZ/WA)
- Jim Nelson, Ph.D.
- Brett Borup, Ph.D., P.E.

Department Chair

Program Director **

Committee Chair, Faculty

Committee Member, Faculty

■ Professional Advisory Committee **

- Dan Avila, P.E.
- Norm Beagley, P.E.
- Mark Christensen, P.E.
- Roy McDaniel, P.E.
- Spencer Stephenson, P.E.
- Paul Thorley, S.E.
- Stephen Sowby, P.E. – Technical Project Advisor
- Alan Bollinger – Engineering Management CH2M-Hill

Utah Dept. of Transportation

City of Santaquin

J-U-B Engineers

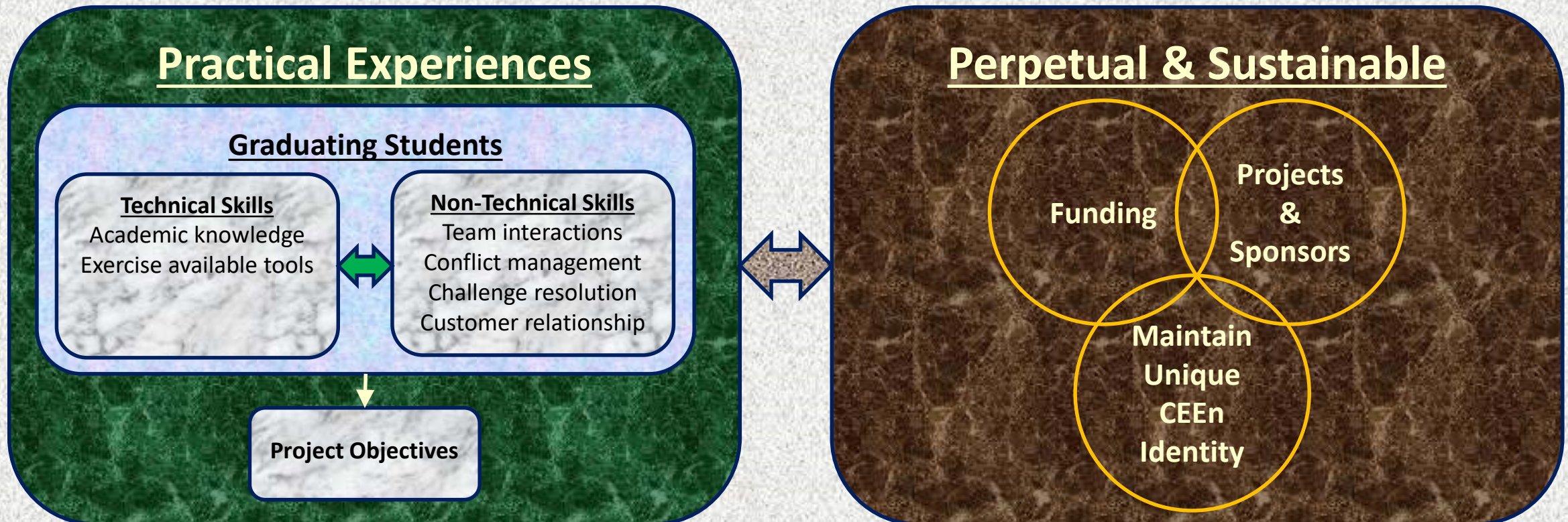
LDS Church

Horrocks Engineers

Acute Engineering Inc.

Capstone Program Objectives

- Self-sustaining world-class program (Inspiring Learning via win-win practical project experiences)
- Maintain true Civil Engineering identity with government/municipal, commercial and humanitarian projects
- Expand both domestic and international collaborative projects → Way of the future
- Provide meaningful benefits (win-win-win) to all involved with the program: ⇔ Students, sponsors and faculty advisors



Enhanced Capstone Project Perspective

- Improve project support environment/perspective
 - Addition to everything in Traditional Capstone (Nothing taken away)

Traditional Capstone Perspective

- Main Sponsors
 - Mostly municipals, humanitarian, small businesses
- Objective
 - Provide students practical experience in project management & execution prior to graduation
- Projects (Limited)
 - Introduce students to practical experience
 - Sometimes projects have known results/answers
 - Taxing on faculty and sponsors
- Sponsors' Benefits
 - Preview of potential new hires
 - Charitable contributions toward preparing students
- Students' Benefits
 - Practical project experiences
- Faculty's /School's Benefits
 - Satisfaction on helping students succeed

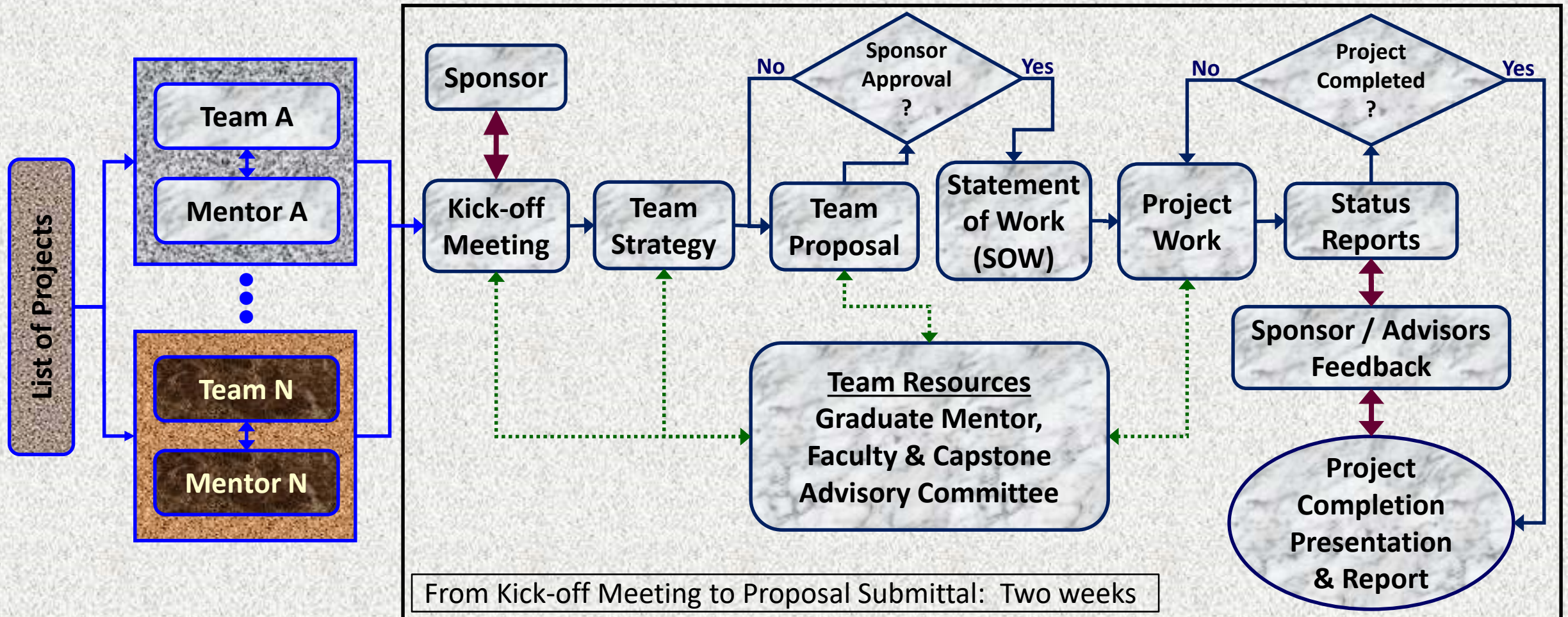


Enhanced Capstone Perspective (In Addition to Traditional)

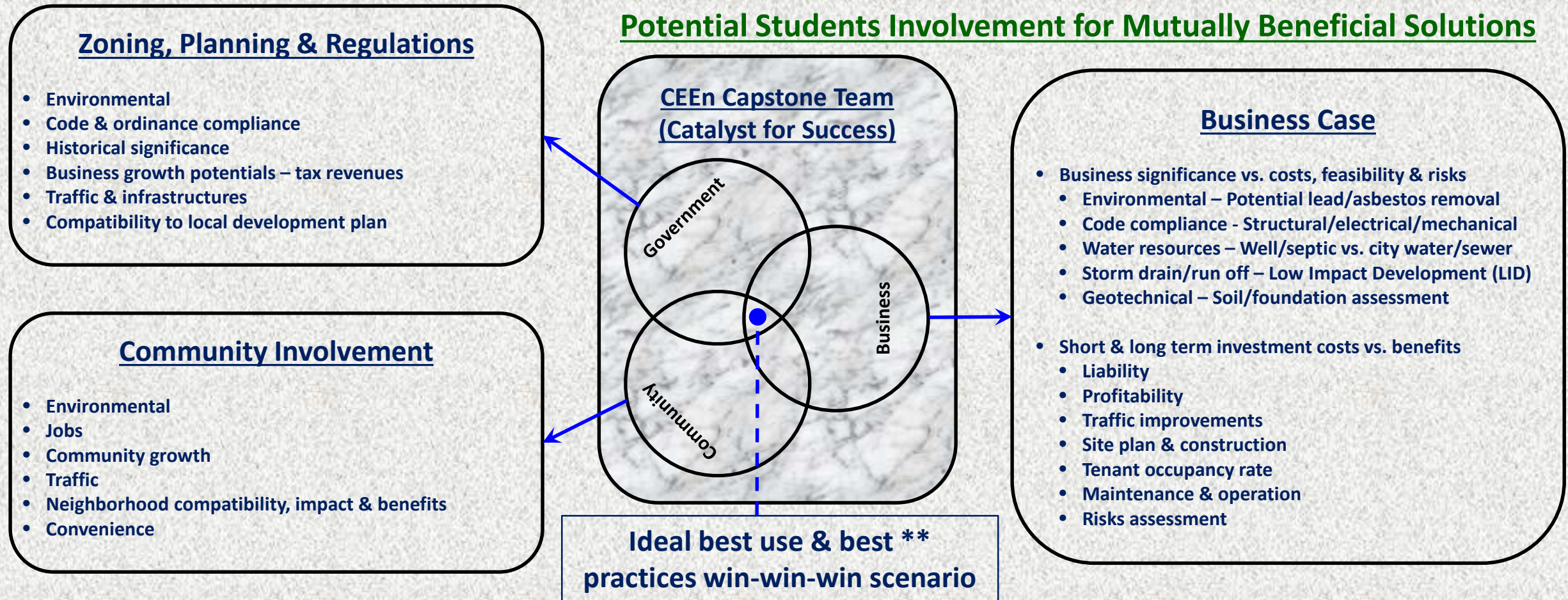
- Main Sponsors
 - Research institutions, construction, manufacturing, corporations and government agencies
- Objective
 - Foster academic-industry collaborative environment → Mechanisms for Win-Win-Win
- Projects (Limitless)
 - Proof-of-concepts demonstrations, process/quality improvements, maintenance reduction
- Sponsors' Benefits
 - Provide investment justifications with sound business-case
 - Pennies on the dollar investments with win-win-win results
 - Improve competitiveness and financial bottom-line
 - Cost reduction, quality improvement, increase reliability, higher profitability etc.
 - Greater customer satisfaction via deliverables with higher quality/reliability & lower costs
- Students' Benefits
 - Enhanced practical project experiences through innovations (inspiring learning)
 - Encourage innovative solutions to challenges (i.e. think outside the box)
 - Publish / showcase practical project work
- Faculty's / School's Benefits
 - Increase research and innovative project opportunities
 - Publications of leading edge results → Expand academic credentials
 - Additional external funding potentials

Projects Execution Process

Project Progress/Results posted on: <http://cecapstone.groups.et.byu.net/content/projects>



Sample Capstone Collaborative Project Environment[¥]



[¥] Actual process to be applied in a 2017-2018 Capstone Project

^{**} Best acceptable compromises under conflicting requirements & interests