

Lessons Learned:

Developing a Showcase Central Utility Plant for the University of Florida's College of Veterinary Medicine



Background



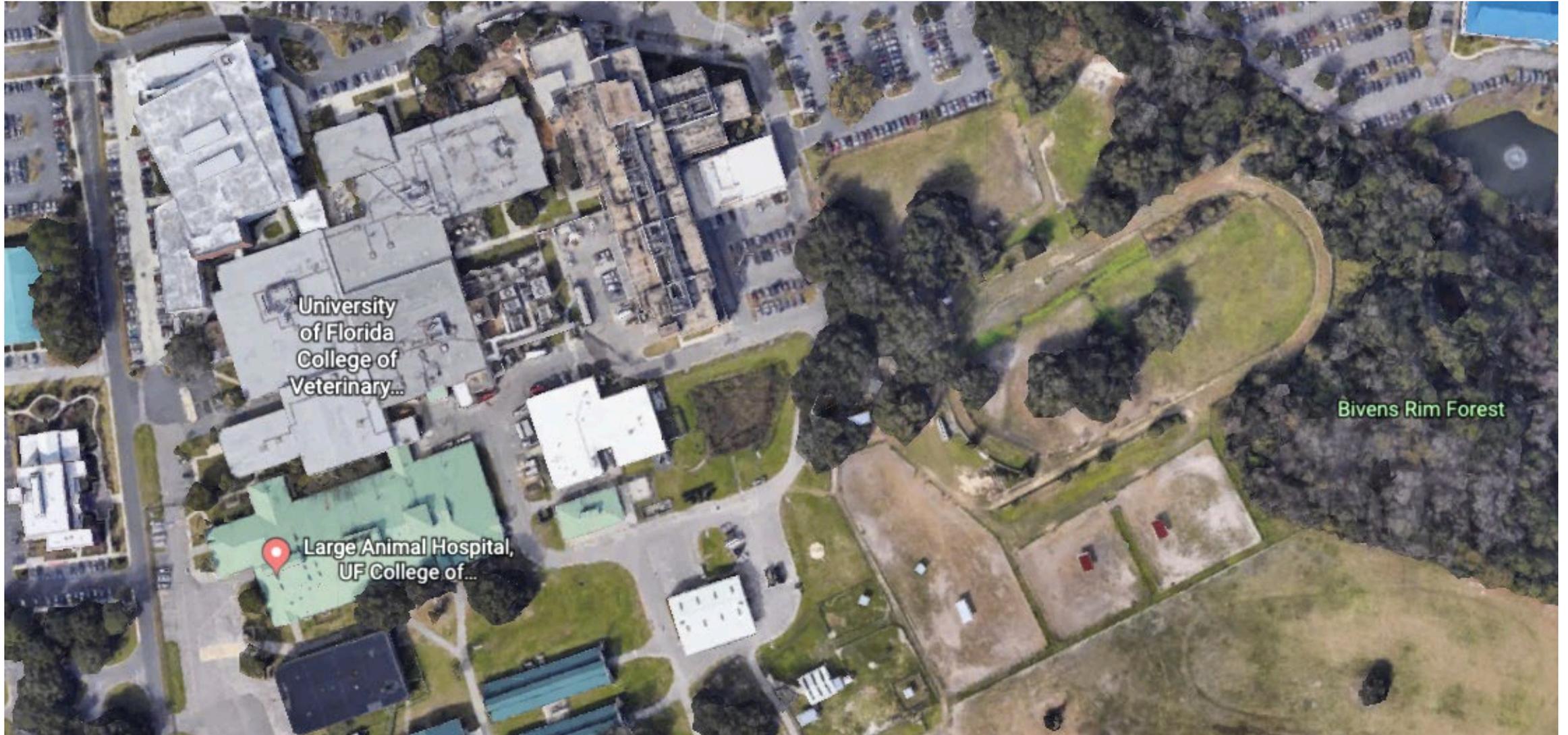
Background



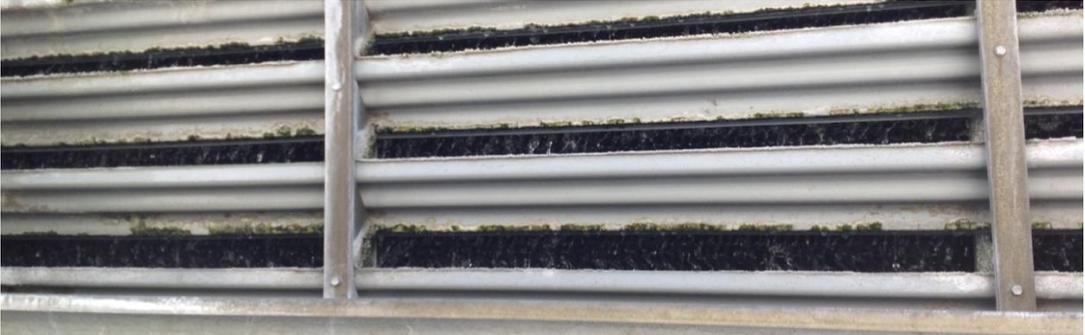
Background



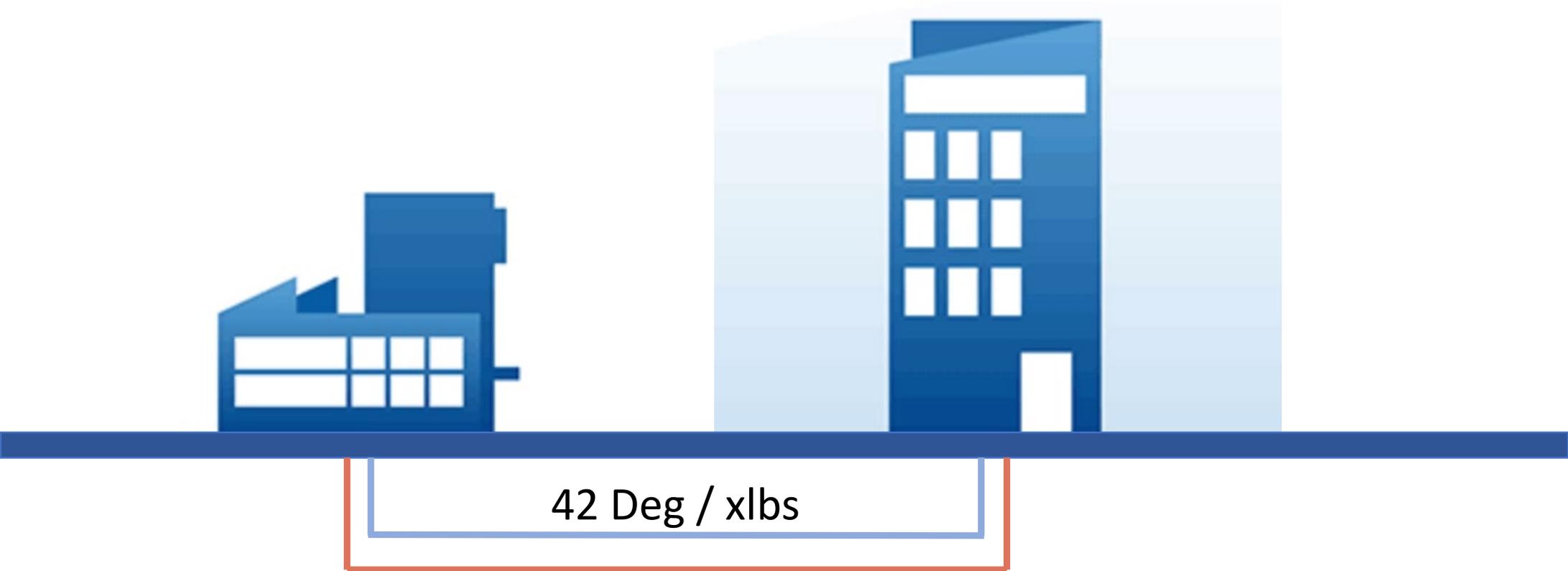
Background



The Problem: Infrastructure

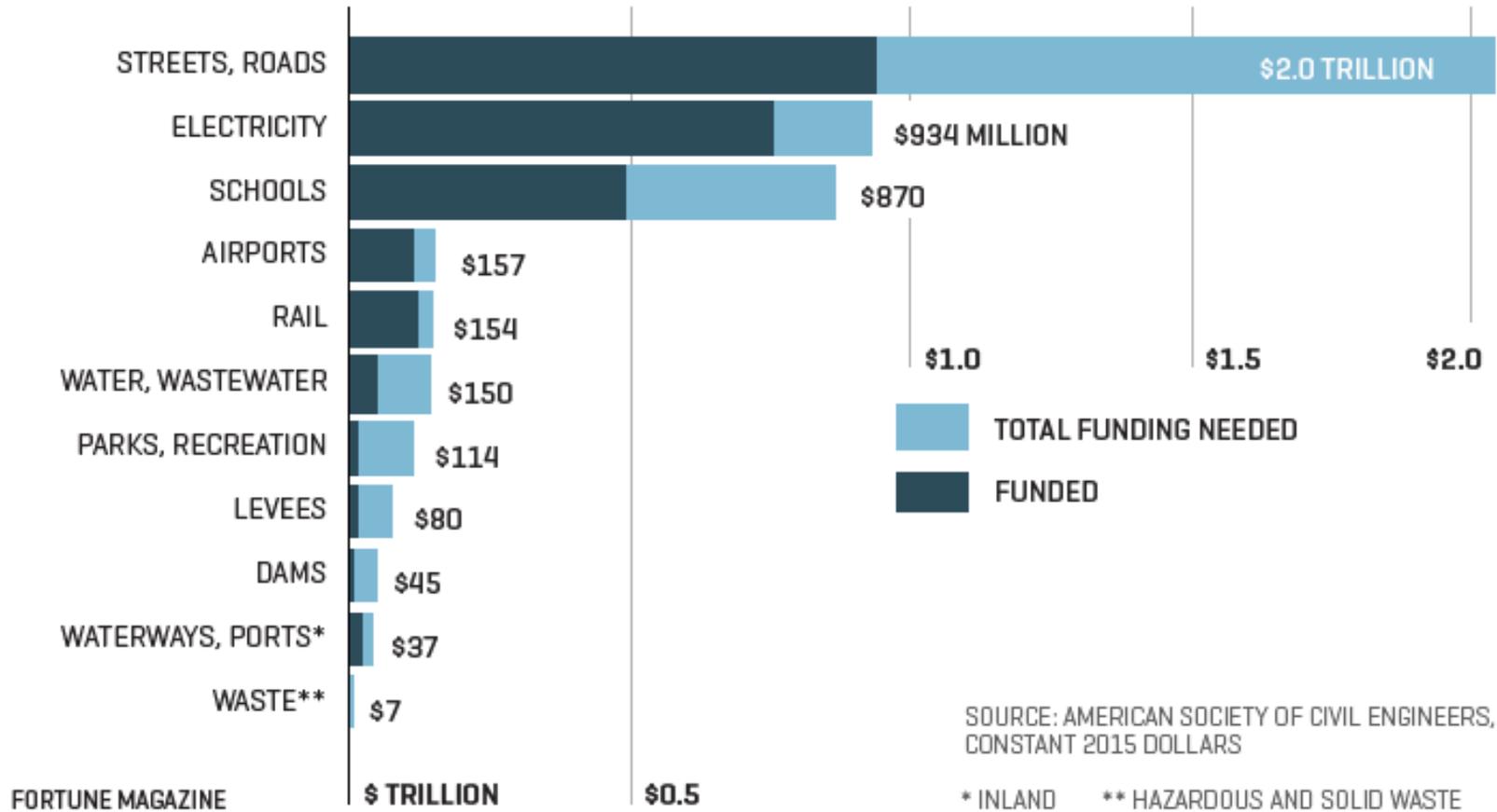


The Problem: Operational



The Problem: Financial

U.S. INFRASTRUCTURE NEEDS OVER THE NEXT 10 YEARS



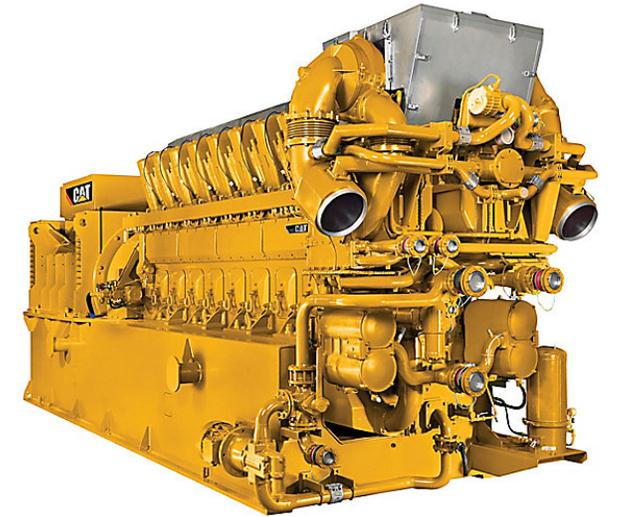
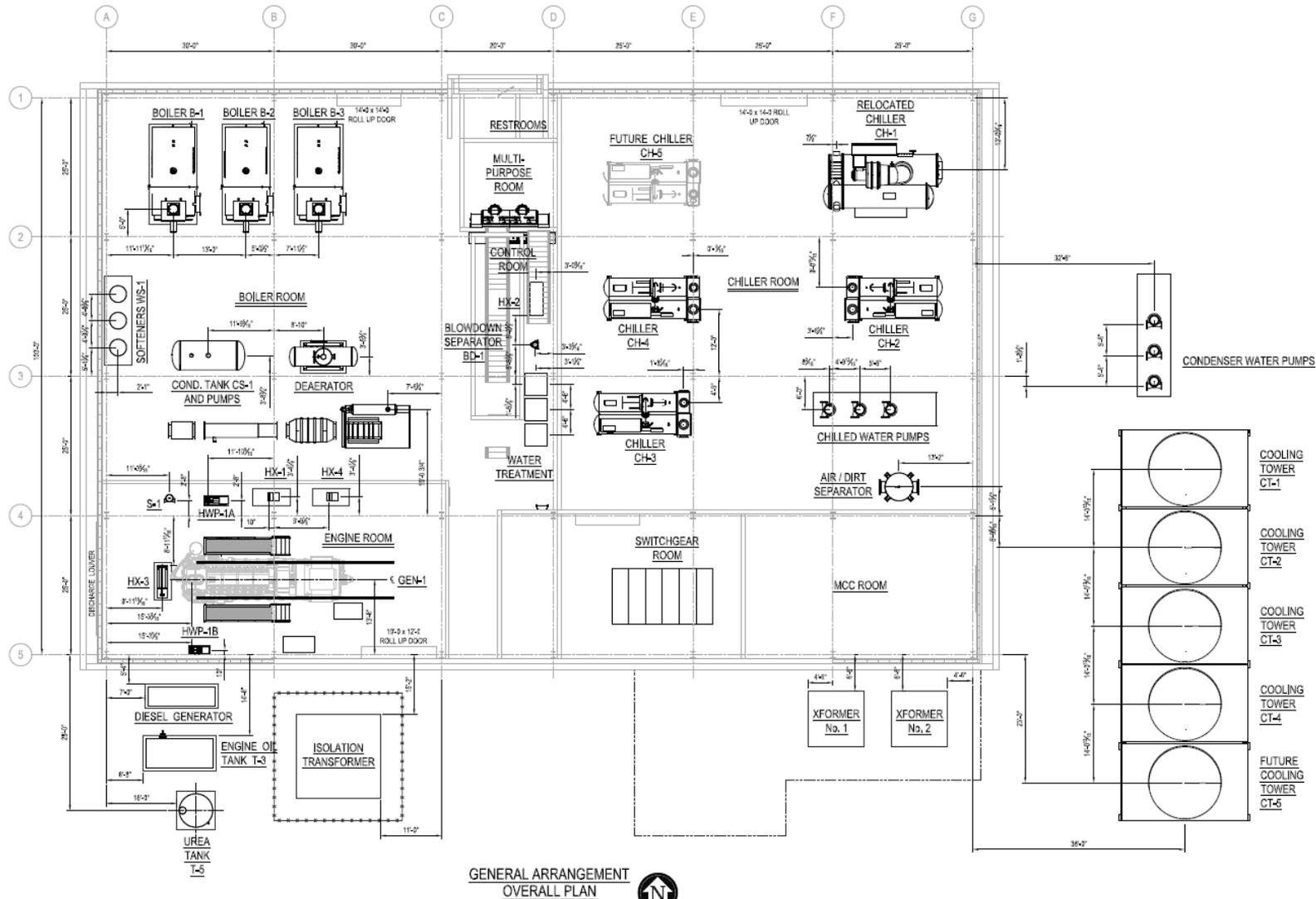
The Problem: Political



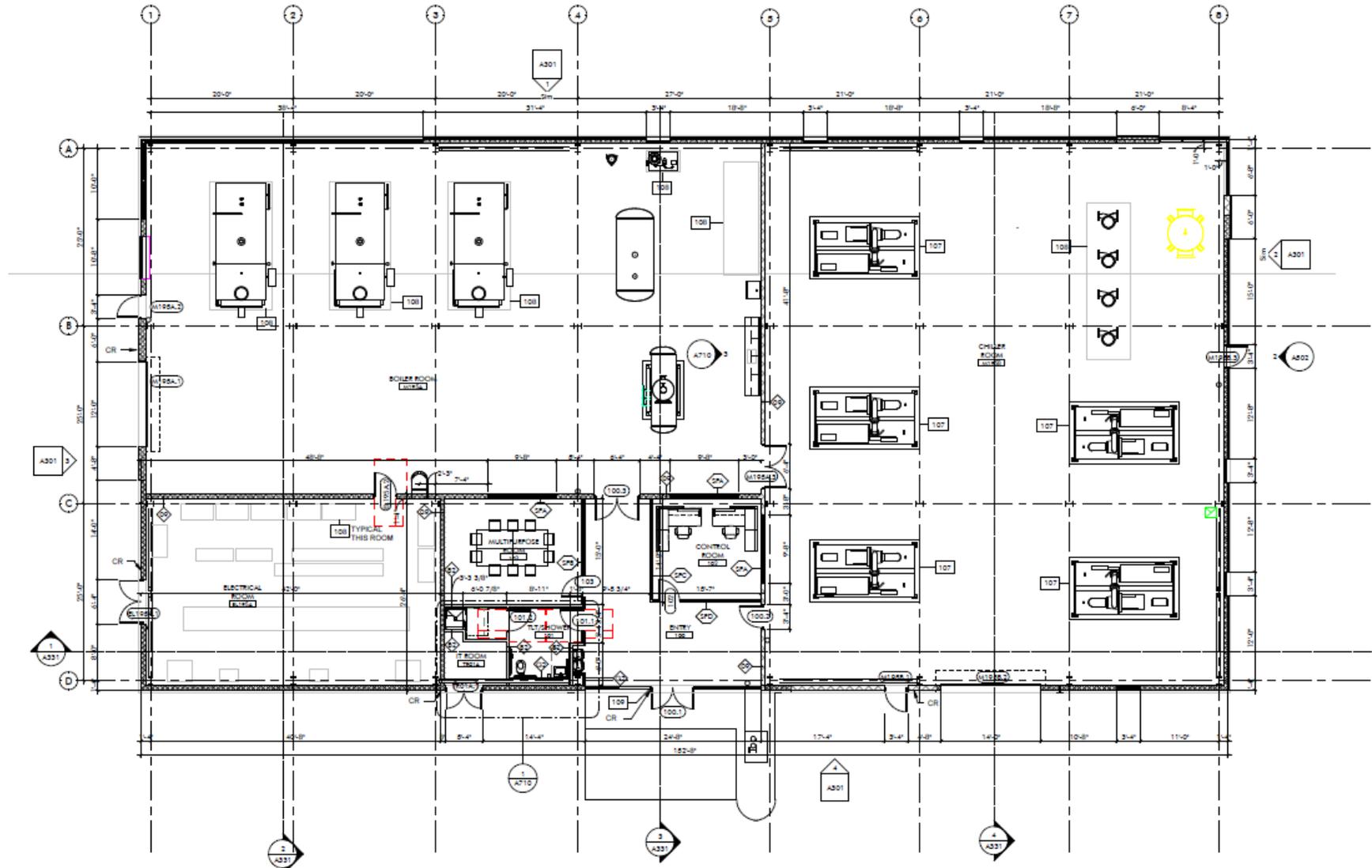
The Solution: Technical



The Solution: Technical



The Solution: Technical



The Solution: Operational

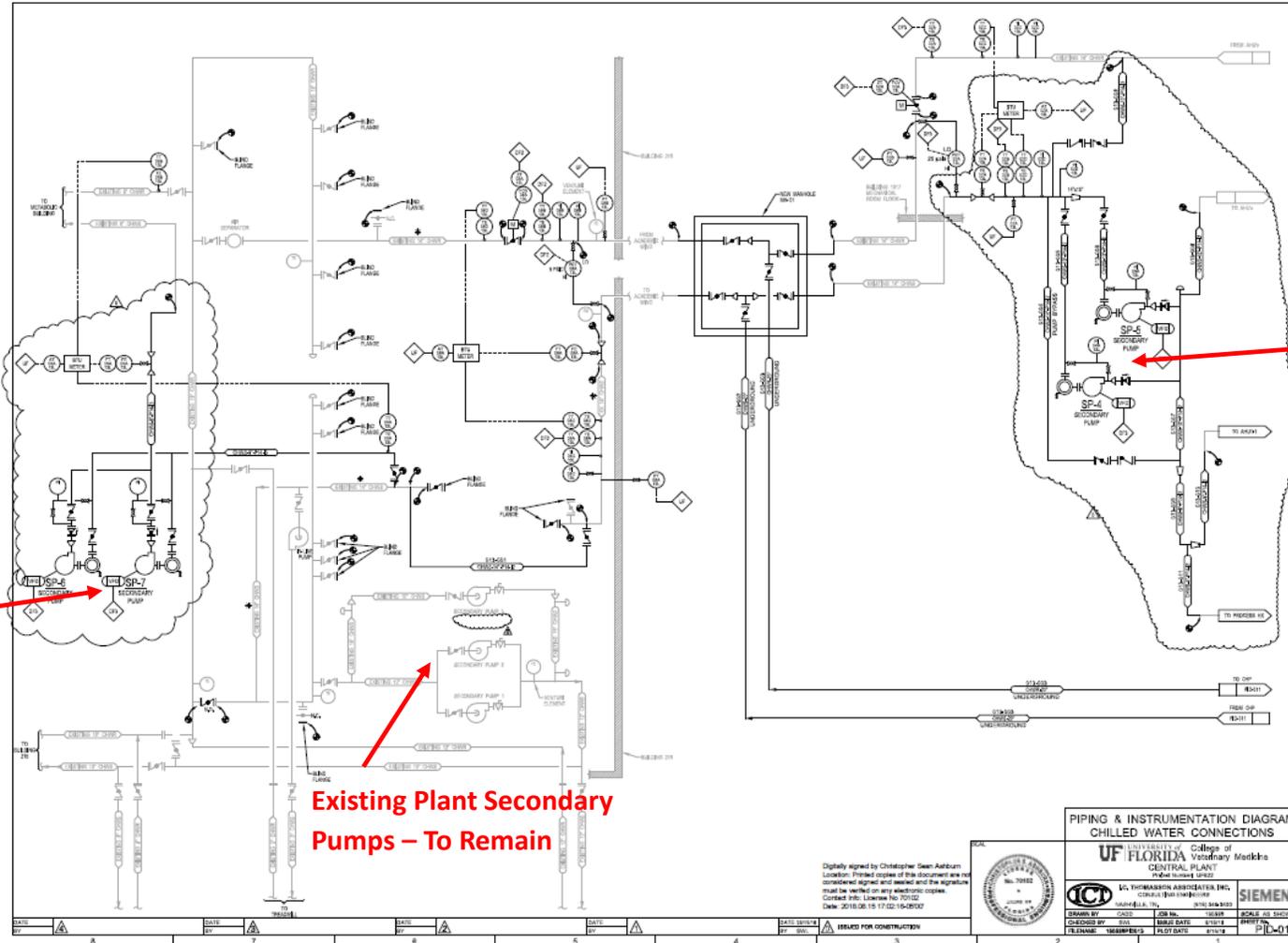
Facility Pumps Metabolic Building – New Pumps (with New)



Existing Plant Secondary Pumps – To Remain



Facility Pumps 1017 – Relocated (with New)



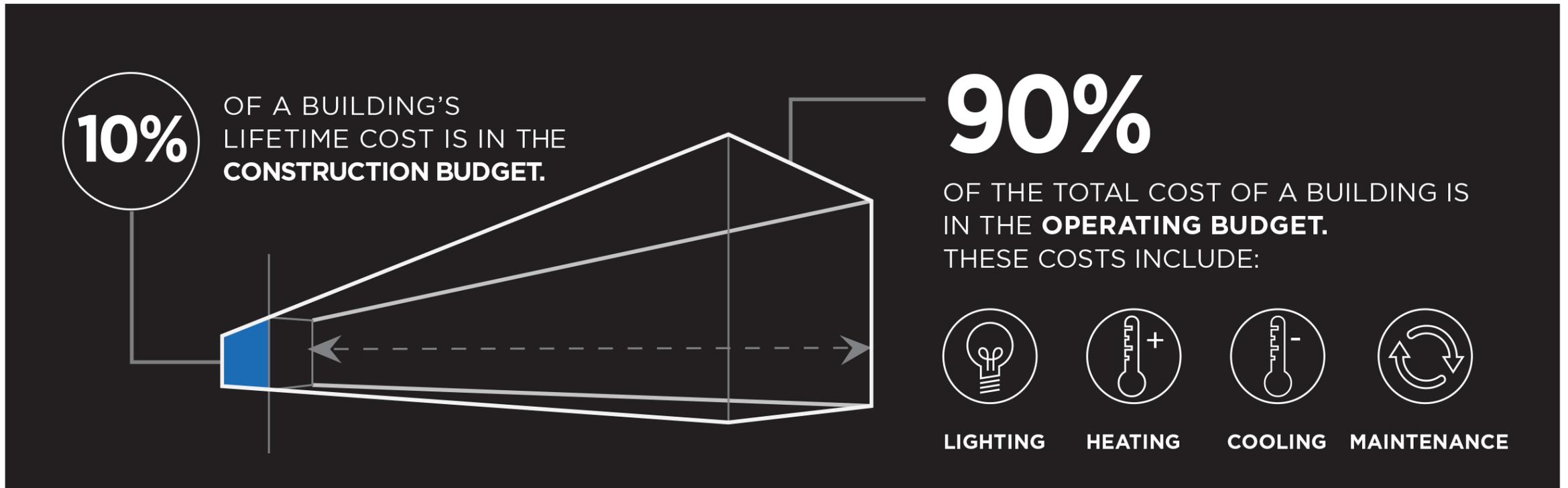
Digitally signed by Christopher Sean Aultman
Location: Printed copy of this document are not
considered signed and sealed and the signature
must be verified on any electronic copies.
Contact Info: Lwinlee Ho: 70702
Date: 2018.08.15 17:02:15-0500



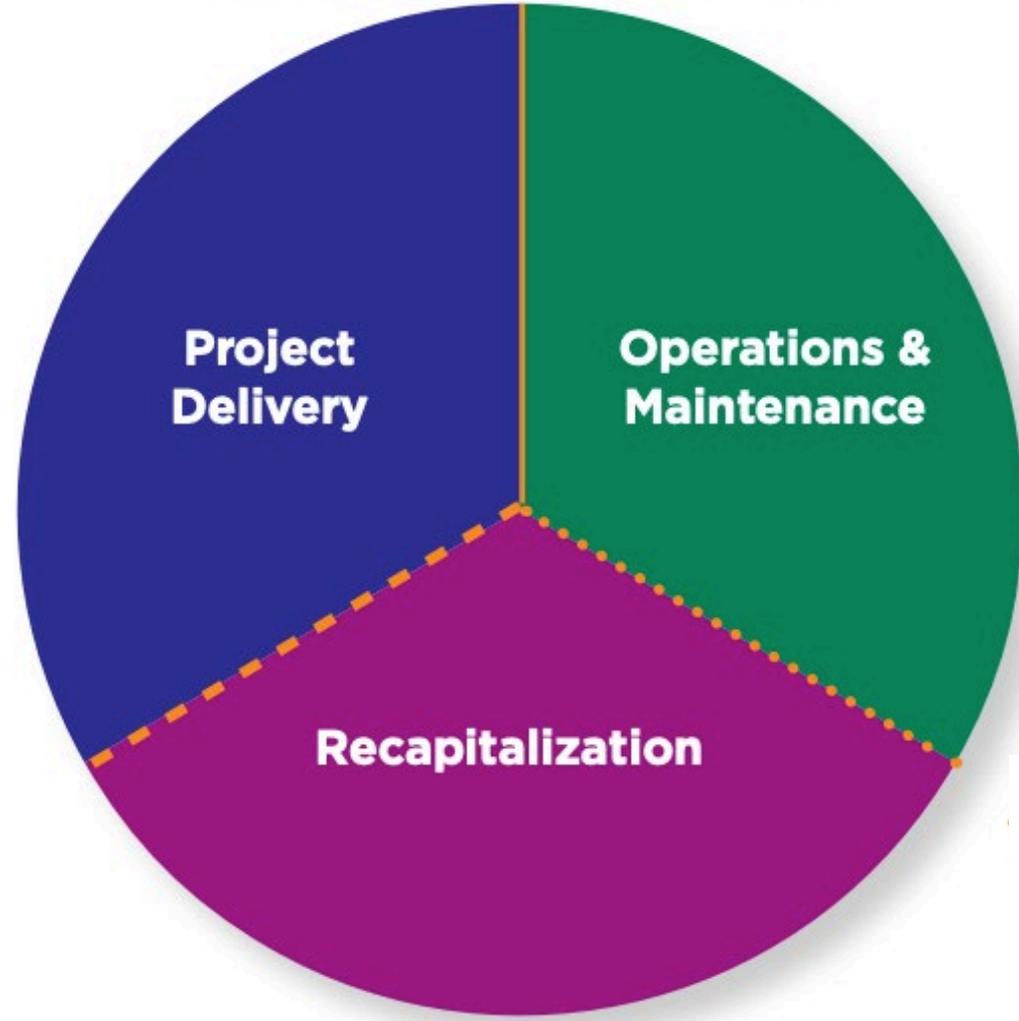
PIPING & INSTRUMENTATION DIAGRAM CHILLED WATER CONNECTIONS	
UNIVERSITY of FLORIDA College of Veterinary Medicine CENTRAL PLANT P&ID Number: 10102	
ICD UNIVERSITY OF FLORIDA 3160 BARCLAY DRIVE GAINESVILLE, FL 32611	SIEMENS
DRAWN BY: GCOO CHECKED BY: JGUM DATE: 08/15/18 PLOT DATE: 08/15/18	SCALE: AS SHOWN PROJECT NO: 10102 P&ID NO: 10102-013

DATE: 08/15/18					
BY: JGUM					

The Solution: Total Cost of Ownership

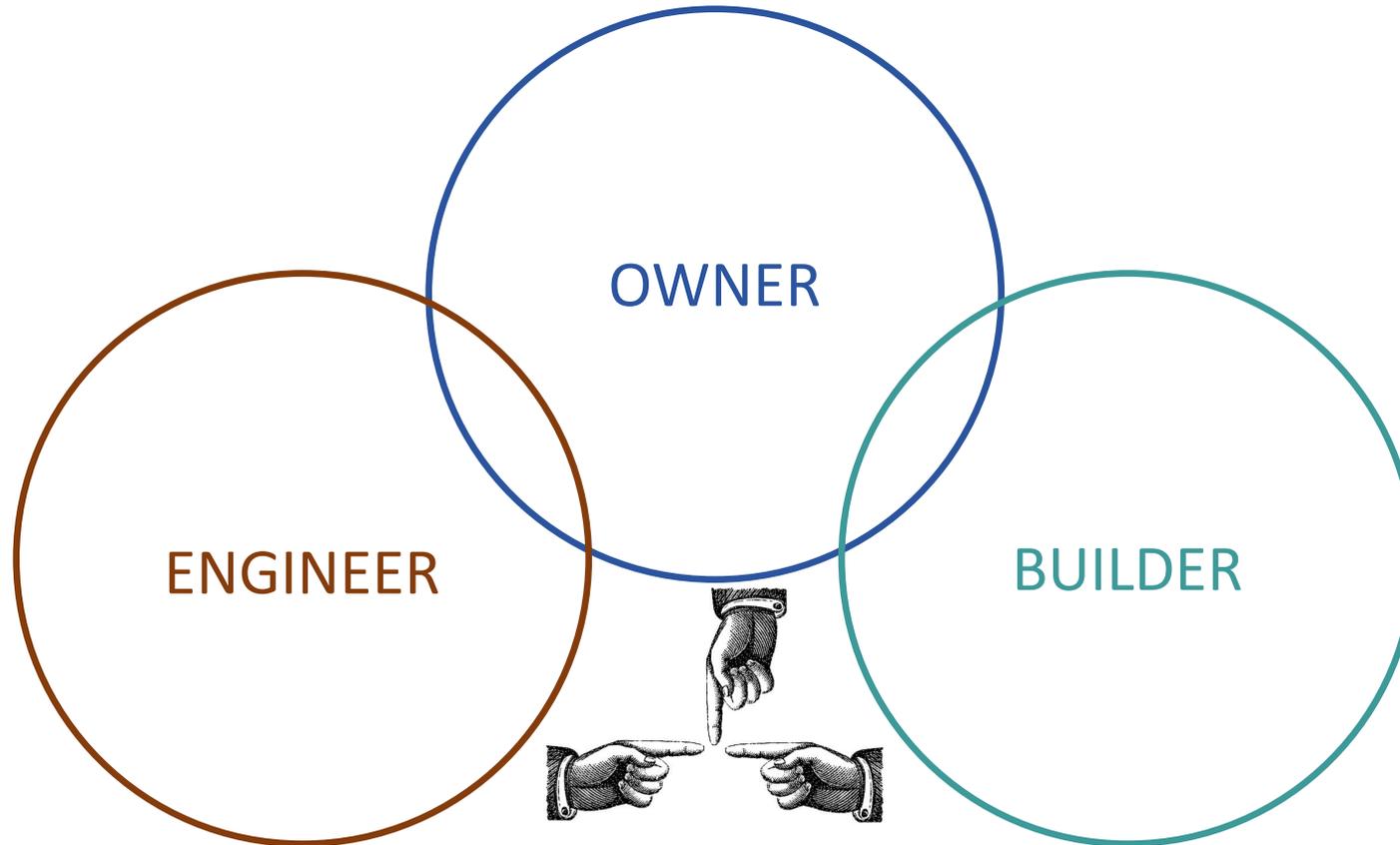


The Solution: Total Cost of Ownership



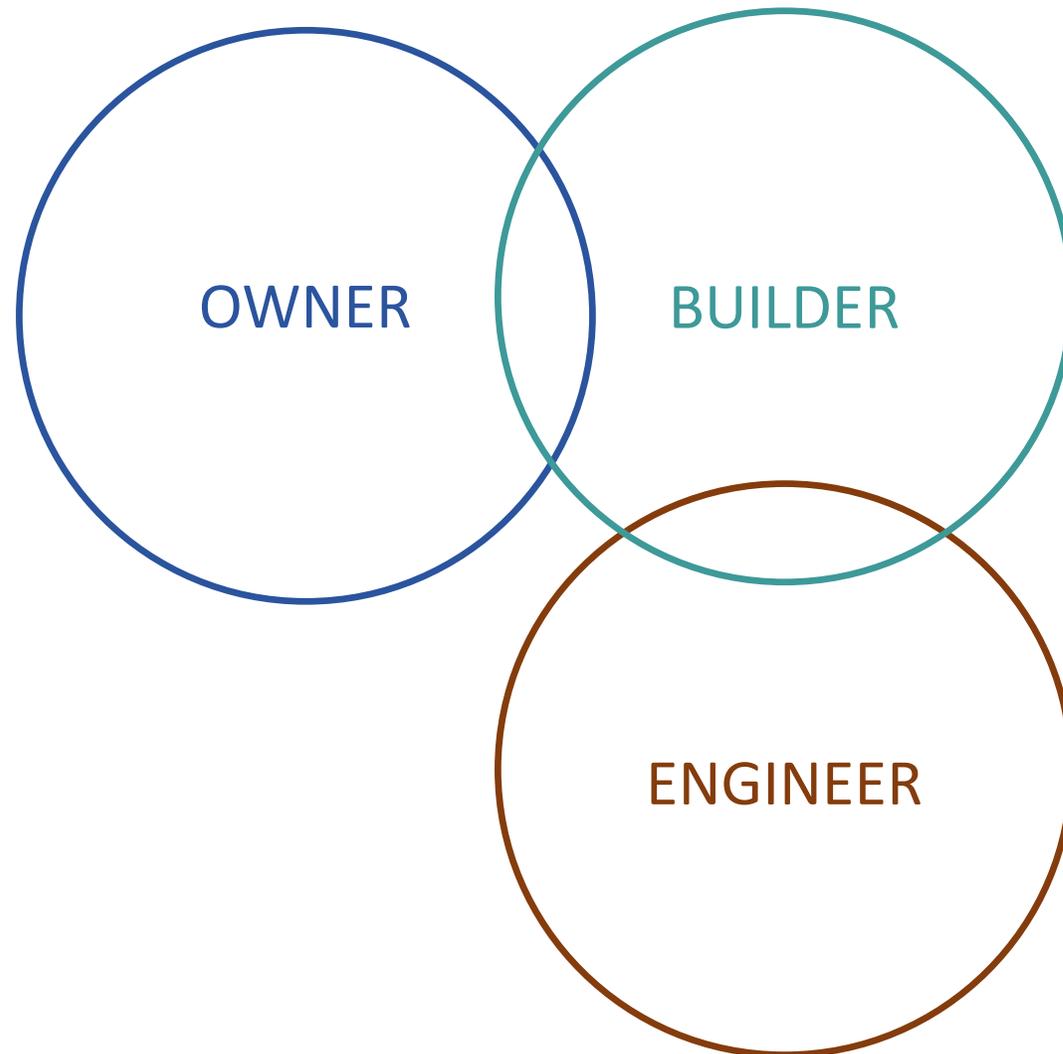
The Solution: Delivery Vehicle

DESIGN : BID : BUILD



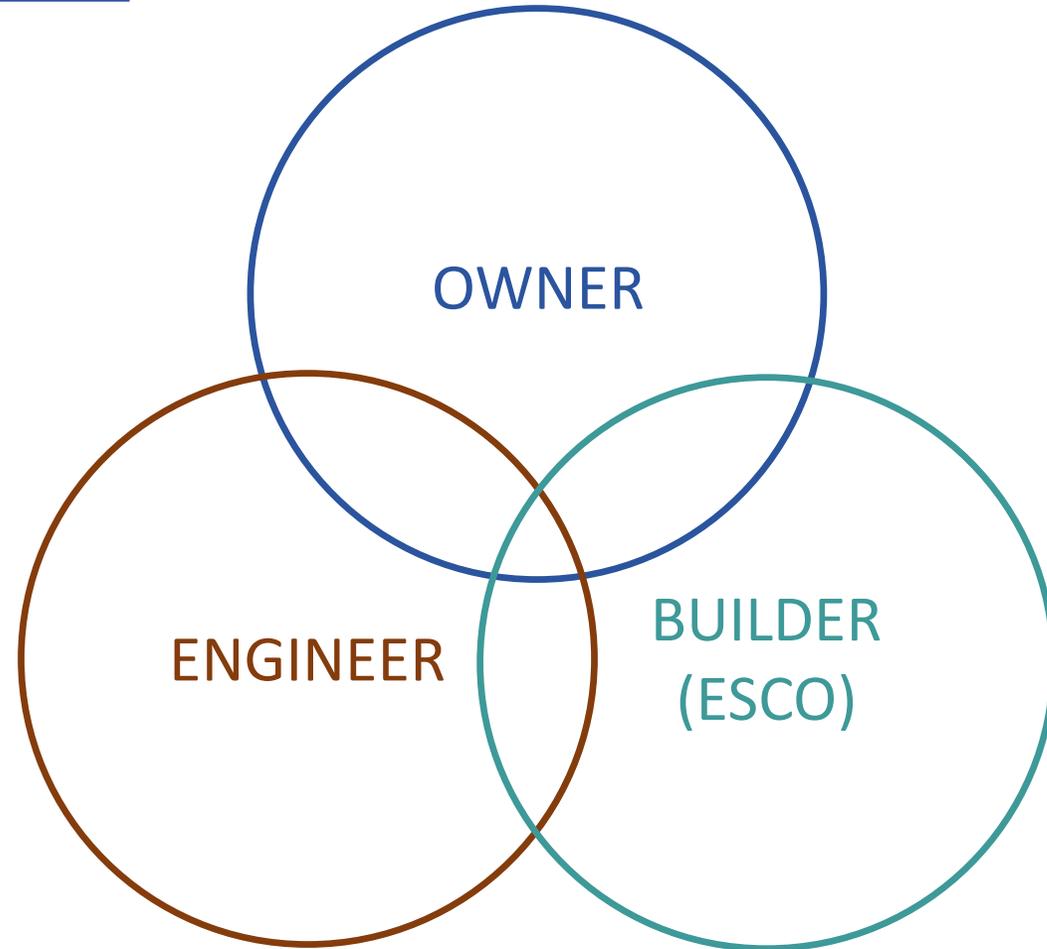
The Solution: Modified Delivery Vehicle

DESIGN : BUILD

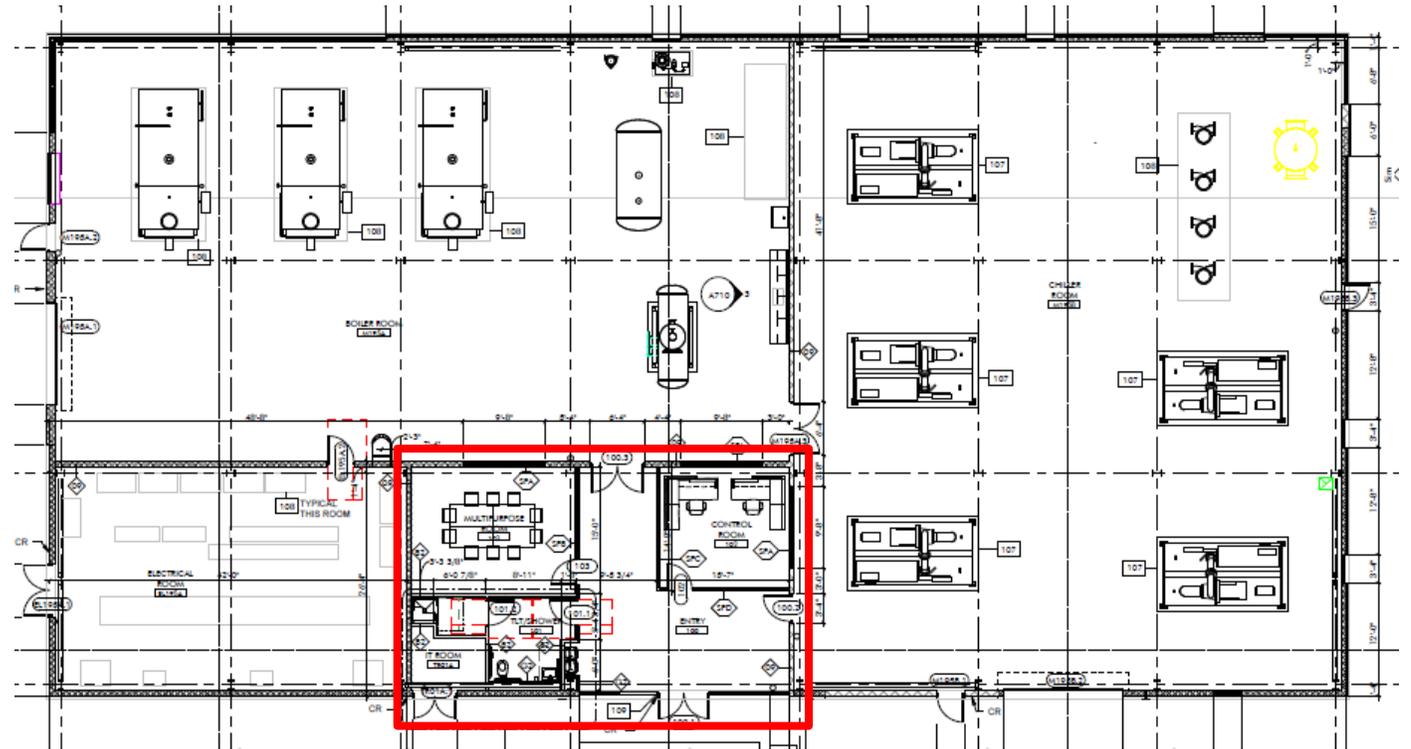


The Solution: Modified Delivery Vehicle

DESIGN : BUILD : PERFORM



The Solution: Living Laboratory



The Solution: Living Laboratory

ARC6911 Optimizing Performance In the Built Environment

Spring 2014 New course, first time offered.

T/Th, 3rd-4th Period, 3 Credits

"Unfortunately, the vast majority of buildings exist as untested hypotheses. Little in the way of performance evaluation or structured feedback from the owner and occupants is typically sought."

Grondzik, Kwok, Stein, Reynolds.
Mechanical and Electrical Equipment for Buildings, 11th edition.

This interdisciplinary Graduate Level course will serve as an introduction to green building rating systems, with a focus on the USGBC accreditation Leadership in Energy and Environmental Design (LEED™).

Students will actively perform assessments of existing buildings, to develop an understanding of the complex interrelationships among building envelope and orientation, mechanical system design, lighting systems, occupant usage patterns, maintenance protocols, and the effect of these factors on resource consumption. *Successful completion of this course will fulfill the eligibility requirement to take the LEED™ Green Associate exam.*

As the quote above implies, most buildings are elaborate experiments constructed at great expense; but from which little or no **data** is gathered by the designers. This course will provide students with the opportunity to collect and analyze that data, in order to carry the lessons learned forward in an integrated design process. Teams of students will be assembled to prepare case studies of a campus building, focusing on energy consumption and water usage. The case study process will complement the theoretical understanding of the effects of building envelope, mechanical systems, lighting systems, and occupant usage patterns on energy consumption.

This course will be taught by a team of interdisciplinary faculty, including:

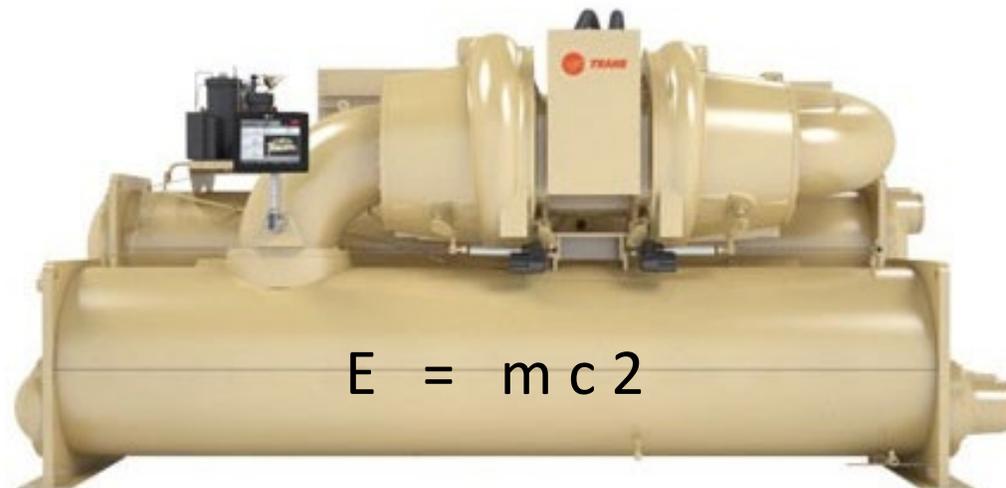
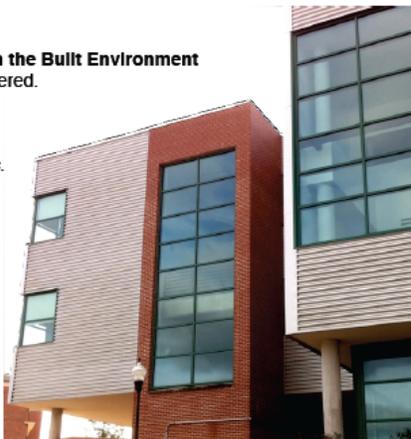
Bahar Armaghani,
LEED AP BD+C
USGBC LEED Faculty
College of DCP Faculty
Assist Dir Facilities Planning
Director, UF LEED Program

S.A. Sherif, Ph.D. Professor,
Mechanical & Aerospace
Engineering
Director, Industrial
Assessment Center
University of Florida

Michael Richmond, RA
NCARB, LEED AP BD+C
Adjunct Assistant Professor
School of Architecture
College of Design
Construction & Planning

To register, please contact GSoA Graduate Program assistant Becky Hudson
bhuds@dcp.ufl.edu. Reference the course section number 038D.

Course development and implementation supported through a grant by **SIEMENS**



Wrap-Up & Questions



Thank You!

Jennifer Meisenhelder

University of Florida

Assistant Director Facility Operations

jmeisenhelder@ufl.edu

(352) 294-0622

Marc Craddock

Siemens

Team Leader – Higher Education

marc.craddock@siemens.com

(407) 718-8774