

Investigate :: Innovate :: Create

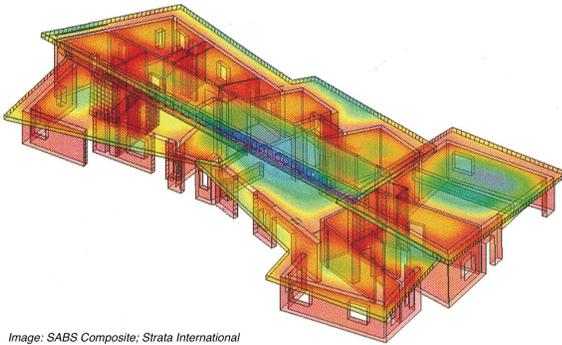


Image: SABS Composite; Strata International

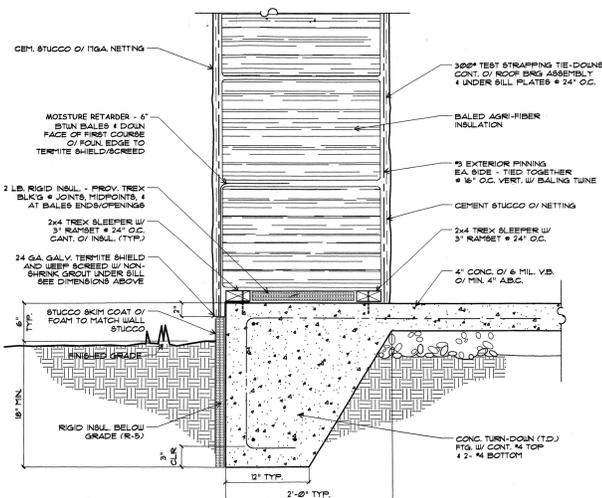
"The structure(s) we seek depend on their form (to be) stable, not an awkward accumulation of material. There is nothing more noble and elegant than this: (response) through form."
- Eladio Dieste

Inquiry: In what ways can deeply understanding a construction system inform the design of a building? In what ways can the design intent of a building inform the choice of systems to construct it with? These and similar questions will be central to the explorations in this design studio, focused on design with innovations and alternatives in building construction materials, technologies, and systems.

Project: The Center for Building Technology Innovation (CBTI) is intended to be a research and testing facility at the University of Oregon, that supports academic and practical exploration of innovations and alternatives in building technologies and systems, both high-tech and low-tech. It may also act as a logistical and practical workshop in support of explorations of existing School of Architecture and Environment research centers on building energy efficiency, human health in buildings, and design-build programs. The facility will primarily provide highly adaptable workshop-style lab space, bays for various large-scale testing apparatus, and large-scale sheltered space for constructing over-size fabrications and testing mock-ups. It will also house studio, classroom and office space, as well as facilities to support construction and testing activities that occur off-site. The facility is intended as a place to develop, build and test large-scale prototypes of building systems with minimal limitations, while also demonstrating, in its own design and construction, alternatives and innovations in building technology and systems. In hopes of engaging the broader public in its activities, it will include a modest educational interface for visits by educational groups and the general public, for demonstrations and workshops.



Image: Earth block, Wallmakers, & Anand Jaju



1 typ. strawbale(s.b.) wall
scale: 1/2" = 1'-0"

Image: Strawbale; Tom Hahn

Format: In the early part of the studio, each student will select an innovative or alternative building material, technology or system, ranging from straw-bale to the latest composites, and research its capacities and limitations, and its current uses in construction. This will be followed by design of the building that uses a student-developed innovation of that system. Projects will also explore and develop synergies of systems for energy-, water- and materials efficiency, both at the site and building scale, based on the framework of the AIA-COTE Top Ten for Students competition, potentially allowing final projects to be eligible for submission to the 2020 COTE-TTS competition. The work will conclude with development of construction drawing detailing of that system for a portion of the building, along with full design presentation documentation of the entire project and site. The project documentation will also include diagramming of the ecological responses of the design, and the synergies among those responses.