

Lean Project Vignette

Richardson College for the Environment, University of Winnipeg (2009-2013)

Conditions of Satisfaction – Highlights

We needed our team to deliver a signature technically complex high performance building to a very tight schedule and low budget, that is why we were an early adopter of lean and more integrated project delivery practices in Canada.
(Sherman Kreiner – Managing Director U of W Community Renewal Corporation)

- 14,000m² technically complex building for \$3200/m² with less than a \$750k contingency
- Include a Vivarium, Green house, 70% laboratory space and 65 fume hoods
- Be highly efficient and meet Kyoto Protocol commitments
- Accommodate the needs of three science departments and deliver on time to meet cast in stone occupancy dates
- Create the types of stories that demonstrate leadership in the community and satisfy the needs of the major contributors to the project



Lean Organization, Procurement & Terms

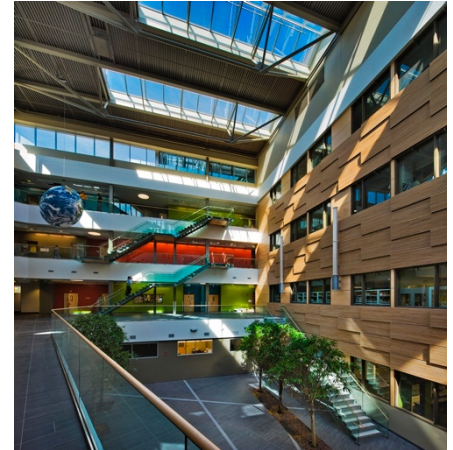
The U of W adopted a lean relational contracting approach with all main sub-trade partners on board to deliver exceptional value to target cost. The team were hired based upon a request for qualifications that included an interview, open book profit and cost sharing, design assist fee and the ability to tender if project costing was not acceptable. All of the seven sub-trades that were selected by this approach participated in the project.

The project was delivered with a CCDC2 contract with supplementary general conditions that included a commitment to highly collaborative lean project delivery practices. The executive team and task teams met bi-weekly for focused all hands on board work sessions to create a best value project and deliver to an extremely low budget and aggressive schedule.

Lean Project Systems

The team were provided training on the Lean Integrated Project Delivery approach and met regularly in intense focused work sessions.

- Relational contracting with total commitment of team members
- Collaborative design and decision making to achieve clearly defined project requirements to target cost
- LPD enable the team to get into the ground to meet schedule while having confidence that a signature building could be delivered to budget
- Prefabricated elements to improve quality and schedule
- Commitment to minimum changes and delivered with less than a 2% construction contingency



Green - Sustainability

Project features include redevelopment of the downtown core, recycling homes on the site for affordable housing, use of the roller rink for a beautiful feature wall in the Atrium. Efficiency measures include an innovative three tier laboratory ventilation system with heat recovery of fume hood air. The transformational features include community engagement and the adoption of lean practices to achieve high level of sustainability at less cost.

- U of W commitment to Kyoto Protocol baseline levels
- Delivered one of North America's most energy efficient laboratory projects at 59% less energy despite budget challenges
- Exceeded LEED Silver minimum, Got GOLD
- Social responsibility including a high level of community engagement in a core neighborhood
- Innovation in recycling homes on the site, use of roller rink floors in construction and high performance laboratory design

