



## Climate, Energy, and the Healthy Modern Learning Environment



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# Agenda

1. Modern learning environment
2. Green rating systems
3. Existing Buildings
4. Planning for the future
5. Case Study: BCIT HSC

# The Modern Learning Environment





# Modern Learning

- Increased focus on overall student wellbeing
- Continued support for sustainability certification systems, beyond and including Leadership in Energy and Environmental Design (LEED ®)
- Development of forward-thinking climate leadership plans
- Evaluation of existing building stock and retrofit opportunities

# Green Rating Systems

# Current Leaders



University of Lethbridge Academic Science and Academic Building, Lethbridge, AB – Pursuing LEED 2009 certification

# Emerging Innovators



University of Northern British Columbia Innovation Research Laboratory, Prince George, BC – Passive House Certified



# Emerging Innovators

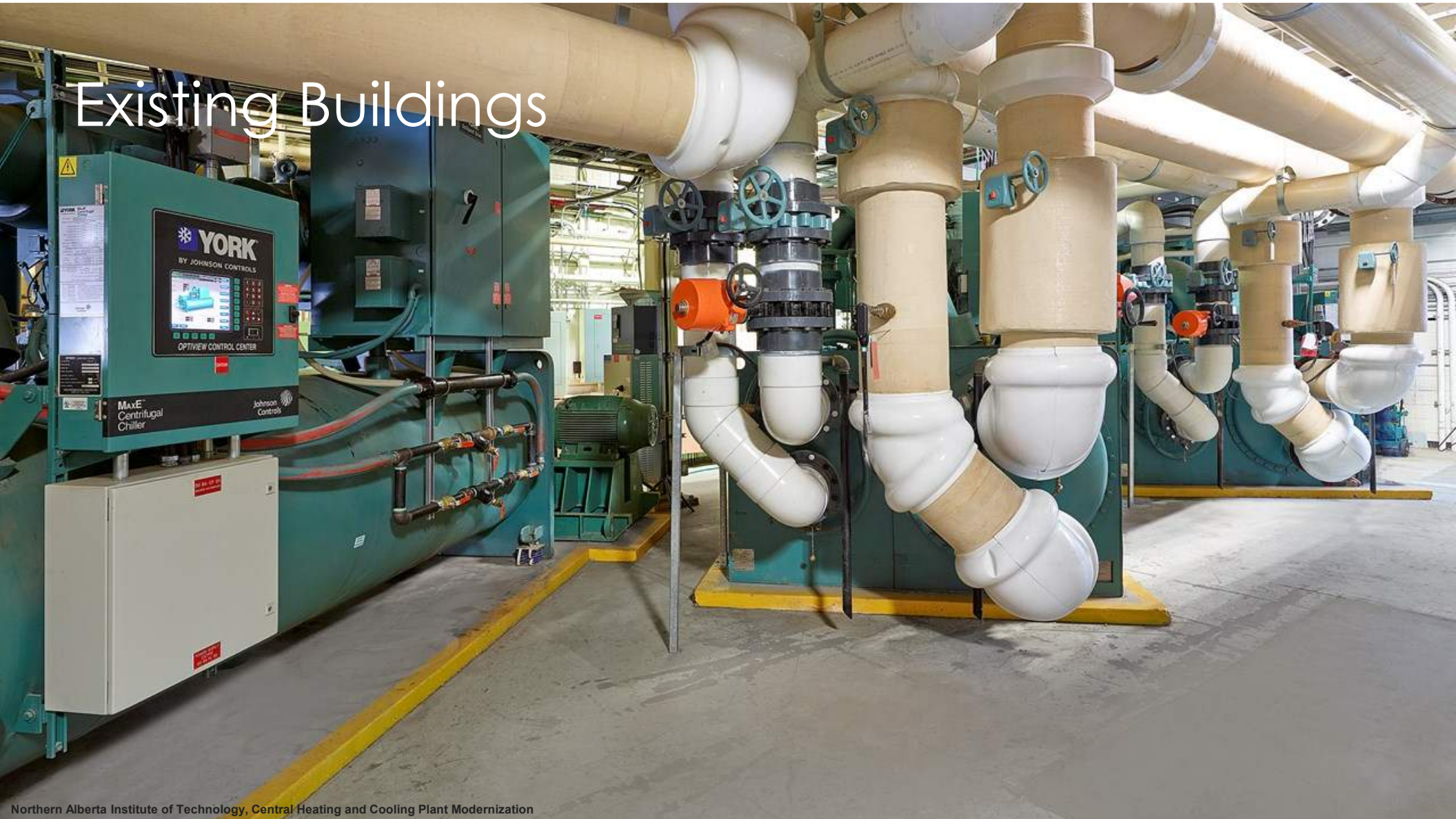


University of British Columbia Brock Commons/Tallwood House, Vancouver, BC – Pursuing LEEDv4 BD+C; mass timber building. Architect: Acton Ostry Architects.



Existing Buildings: A mineable resource

# Existing Buildings



British Columbia Institute of Technology:  
Health Sciences Centre



# BCIT's Vision: Healthy, high performing, and green

## Health and Wellbeing

- Significant focus on occupant health and wellbeing
- Pursuing the WELL Building Standard, a building rating system exclusively focused on health and wellbeing.

## High Performing

- Using our energy performance expertise to inform the design, creating a high performing building.
- Use LEED v4 for BD+C to establish and track energy performance, without seeking certification
- Near Net-zero Carbon continues to be supported through energy efficient design.

## Green

- Incorporating best practices from sustainability into construction documents.

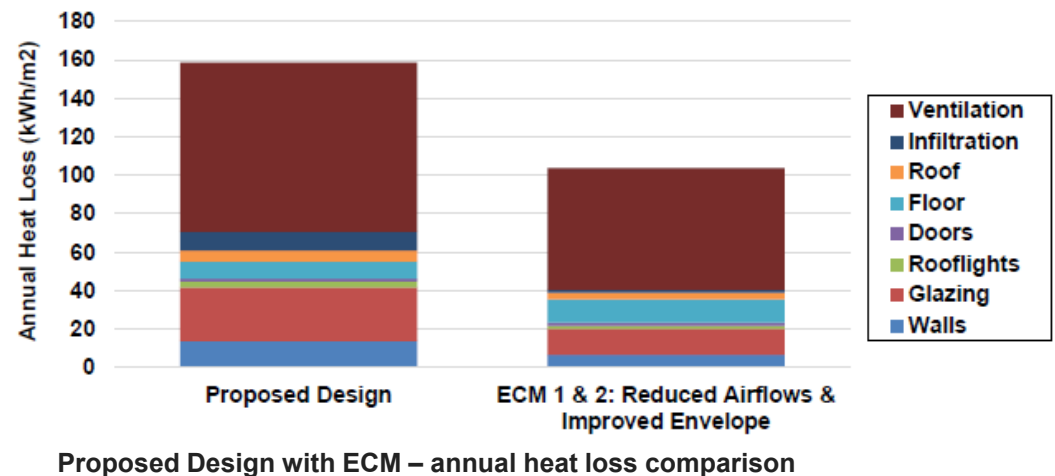
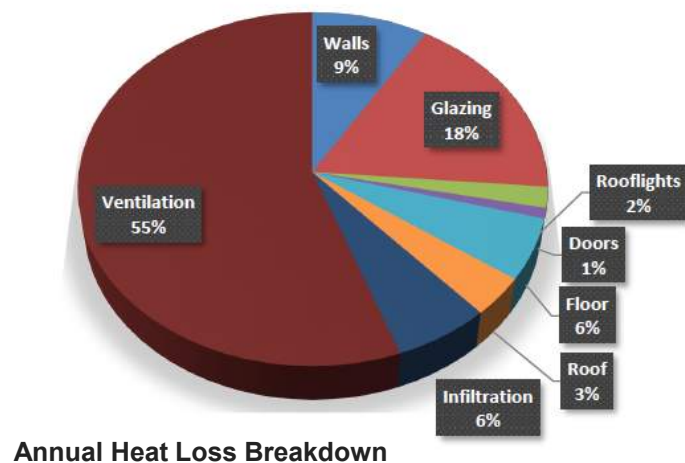
# Benefits of Healthy Buildings

Use this building as a means to:

- Attract and retain faculty and staff
- Attract local and international students
- Improve performance and creativity
- Reduce stress
- Increase overall physiological and psychological health and wellbeing

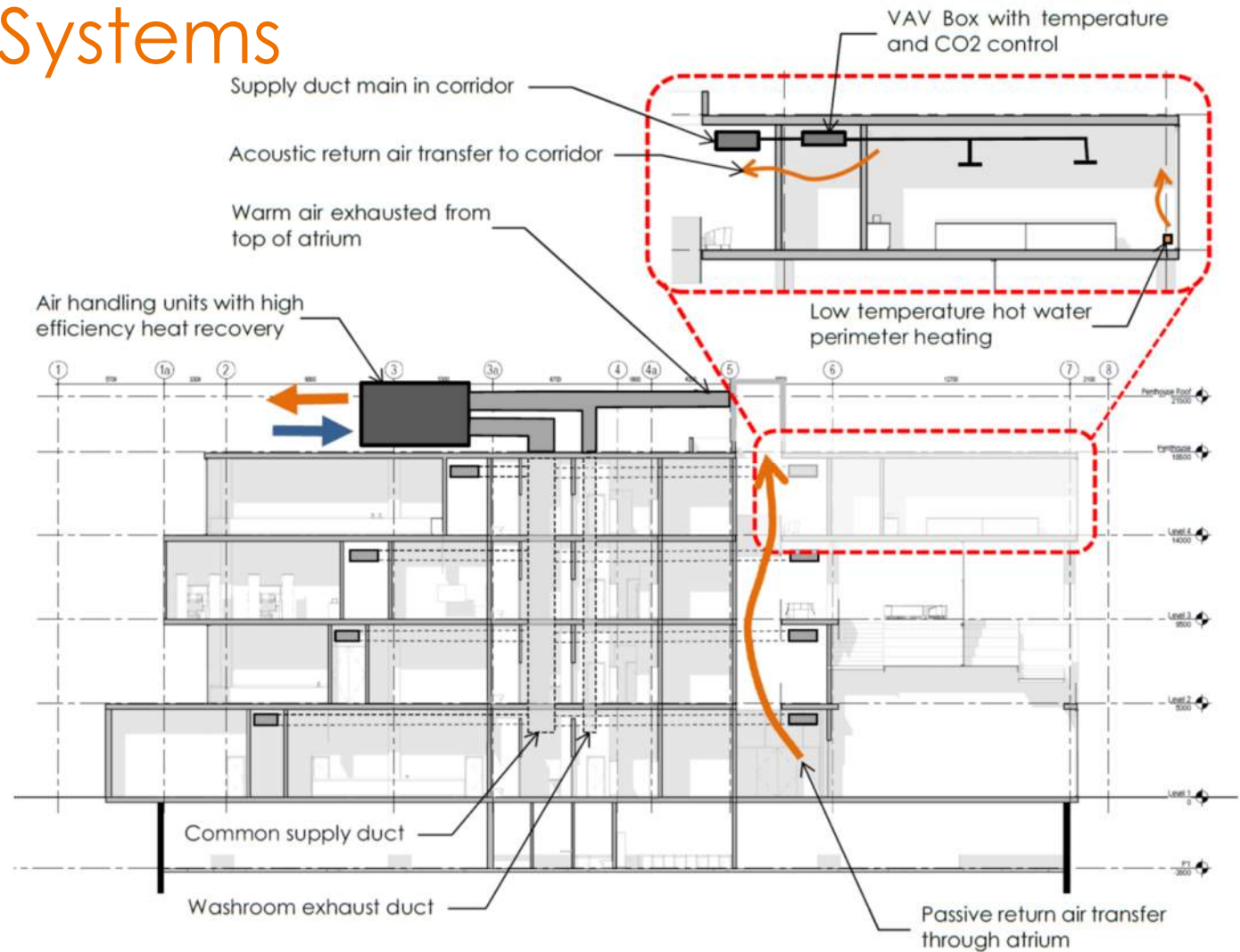
# Step code review

- BCIT HSC has about 30% lab / workshop spaces which need high ventilation rates, so our total outdoor vent rate is around twice ASHRAE 62 minimum. We have the benefit of being able to transfer air from classrooms to labs.
- BCIT HSC meets Step 4. The TEDI is the real challenge. We can get to Step 4 with a virtually passive house standard envelope and minimum outdoor air but not with labs or workshops with high process ventilation requirements included.

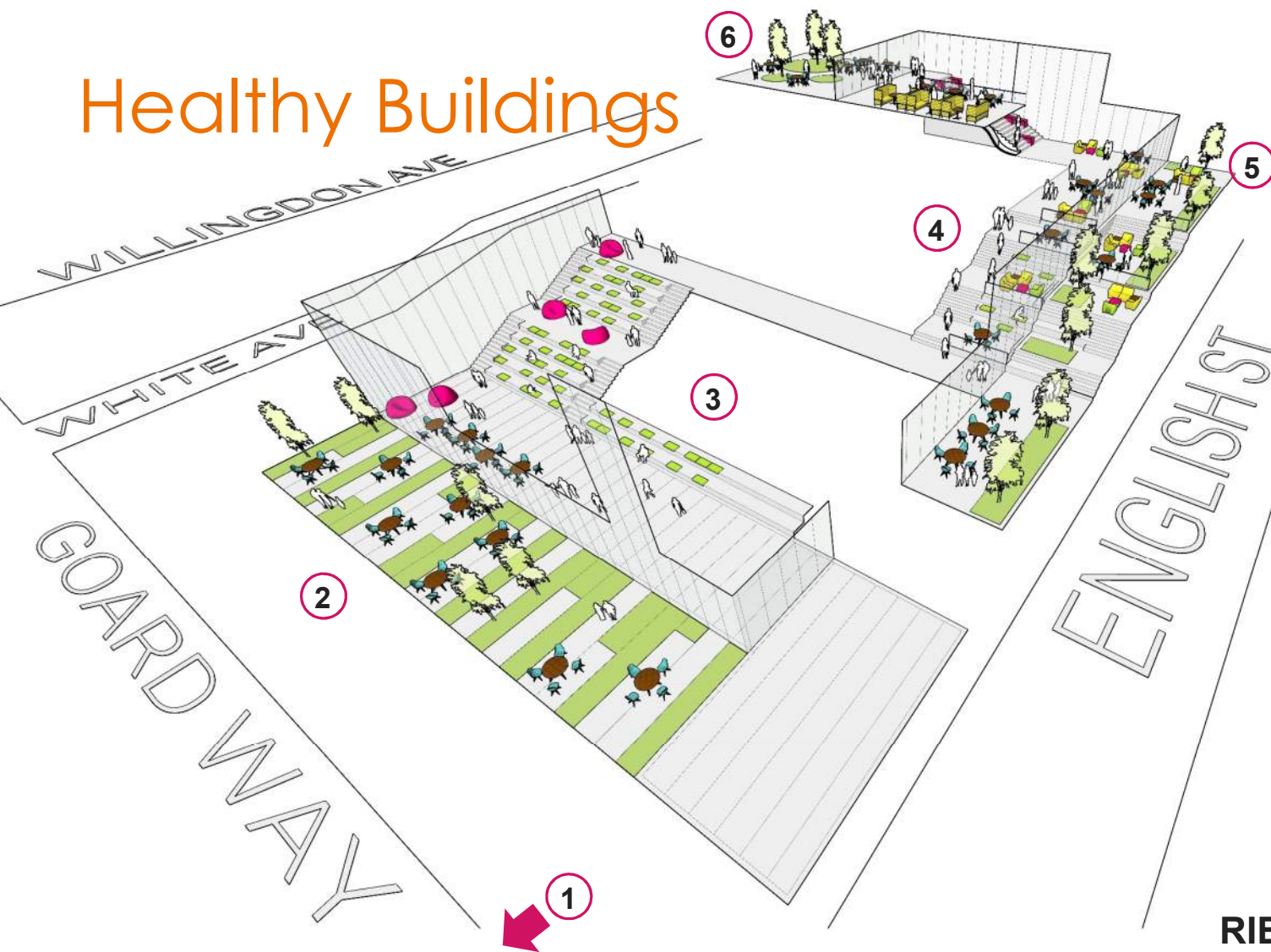




# Mechanical Systems



# Healthy Buildings



- 1 Plaza: traditional plants, aboriginal art, gathering space, etc.
- 2 Project Site: traditional & medicinal plants, gathering space.
- 3 Building level 1: feature wall, wood building soffits, natural colors.
- 4 Building level 1 to 4: feature wall and atrium
- 5 Building level 3 outdoor covered terrace, gathering space
- 6 Building level 6 outdoor terrace: medicinal plants, gathering space

**RIBBON OF CONNECTIVITY**

# Sustainability







# Meet the Panelists

## Panel

## Moderator



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# Thank you!

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