



Campus expansion



Fostering Regional Development, Design & Construction

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project profile

# Here's to your health

Tri-C is investing in its Eastern Campus in a major way, starting with a green facility that helps to remake the shape of the institution

BY CINDY GRAHL | EDITOR-IN-CHIEF

In an era of economic distress, with many people going back to school to learn new skills, community colleges are adapting by building. And since one of the essential career categories in Ohio is health-care, our institutions of higher learning are keeping up.

The Health Careers and Technology Center is the initial kickoff to Phase One of Tri-C's master plan, including demolition of the MetroHealth 200,000-sf skilled nursing facility and nurses' dormitory, as well as existing underground service tunnels, and redeveloping the 41-acre site successfully. Conversant with Ohio HB 251 requiring schools to address energy conservation issues, the HCT building is hoped to achieve a minimum of LEED Silver rating. It will house classrooms, labs and offices for the physician's assistant, physical therapy and occupational therapy disciplines, to serve programs such as massotherapy and pharmacy technician training. Construction began in January 2009, and it will open next spring. It is one of six commissioned LEED projects for the college. URS collaborated with Tri-C on the design of the new 61,500-sf building, with a construction cost of \$13.5 million that will bring together programming from several locations and buildings. Consolidating the health careers programs will create academic synergies within the new building. The project is a massive experience, involving no fewer than 16 primes and 50 subcontractors, and the project pays out a million dollars a month, it is said. Gilbane serves as owner's representa-

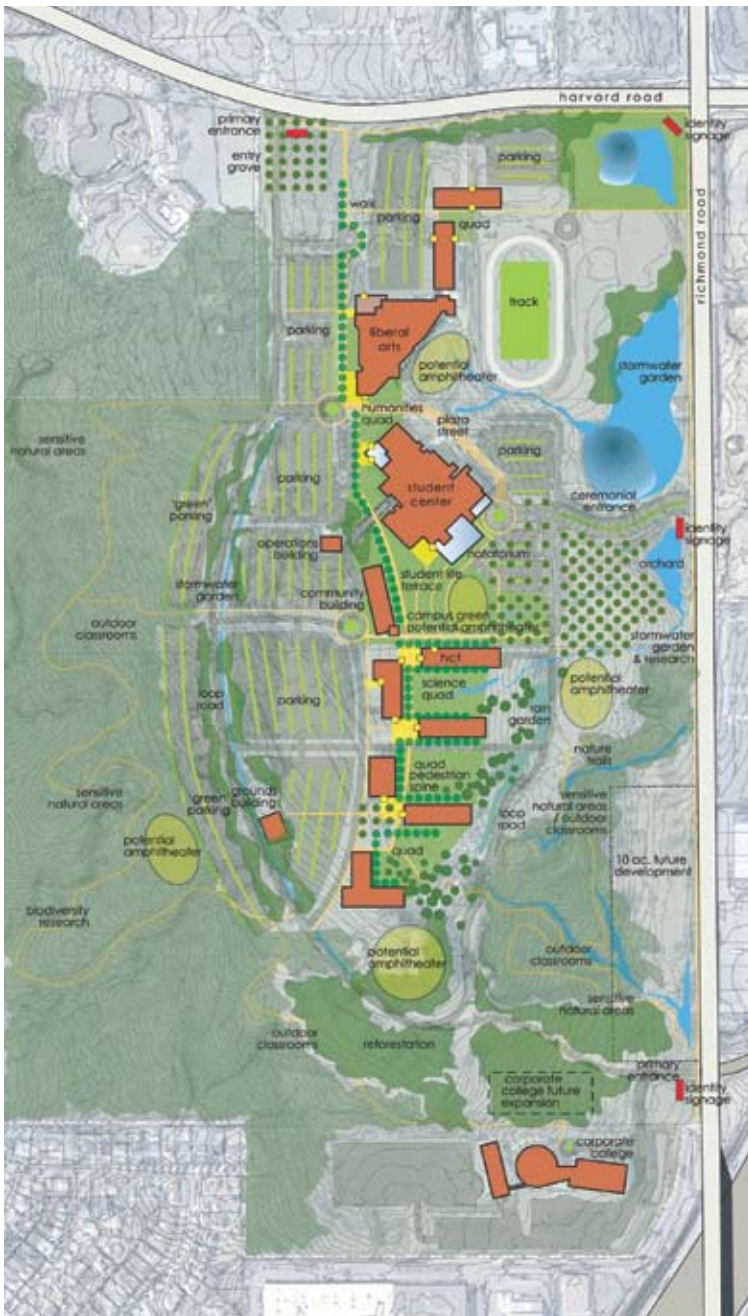


The HCT building is situated on a prime spot for sustainable landscaping.

All images Courtesy of URS Corporation

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– Dave Kleckner, of Gilbane



The reconfigured campus offers walkability and a sustainable drainage system.

itive, with Ozanne as the construction manager, DLZ Inc. as the civil engineer and Horizon Engineering as the commissioning consultant. Dave Kleckner, of Gilbane, says it was a design/build project. “The best thing about it is the way the LEED components are integrated into the building to serve academic functions,” he says. “For instance, the roof, cistern and landscape are

all teaching tools.” Here’s how it all plays out:

**Sustainable sites.** It is built on a former brownfield cleaned under a Clean Ohio grant, with close proximity to mass transit. The site restores meadowland over a formerly paved area, with the inclusion of several rain gardens and swales.

Permeable pavers and a partial vegetative roof on the sec-

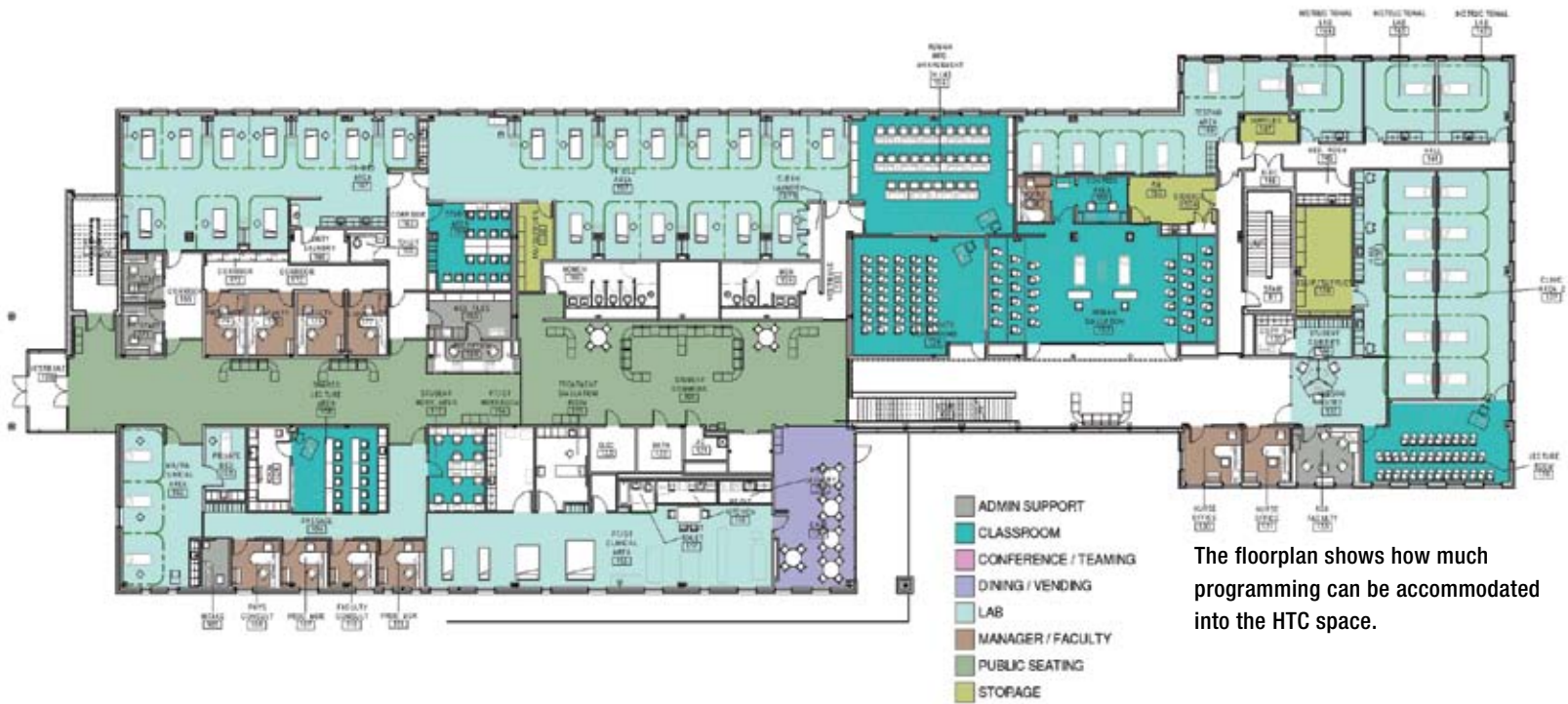
ond floor add to student enjoyment as well as to green points, as does the rest of the roof, which is done in reflective membrane. This cost an extra \$20 per square foot, but it will prolong the life of the roof, and help the school reduce its payments to the sewer district for stormwater footage. The views from up here are outstanding, as the site provides a tree-lined vista of one of the highest points in Cuyahoga County. Adjacent to the garden roof area is an Innovation Conference Room that shares that expansive view. “The roof is accessed directly through the second floor atrium, and it allows students to see firsthand some of the physical sciences taught in the classrooms inside the building,” says Ozanne’s Paul Stimac. The project is hoped to earn 12 of 14 site points.

According to URS’s Randy Doi, Tri-C East had a green infrastructure plan for the site that would give it the look of a four-year institution, with landscaped quads meant for walking along a pedestrian spine and a landscape plan that took in the sweep all the way down to the Corporate College East site to the south. An existing parking lot was used, so as not to disturb a green area. Parking is kept to the side of the lot, not surrounding the buildings as it might in a typical commuter community college, added Brad Gellert, AIA, NCARB, LEED AP, and director of green building services for URS.

**Water efficiency.** One unique area near an exterior door leading to the grounds is an area landscaped by Tri-C students and planted by science and landscape tech enrollees to function as a combined outdoor learning area and botany garden. Overall, native plants are used, and a high-efficiency irrigation system reduces watering needs by 50%. Says Gilbane’s Kleckner, several team members worked to select the diverse plants, and the project met budget while requiring little maintenance.

High-efficiency plumbing fixtures use 44% less water than a baseline thanks to water efficient restrooms, says Stimac. Water for the cooling towers is potable to meet code demands. A rainwater collection cistern couples with a site irrigation system eliminates need for potable water for irrigation, and condensate from pipes also flows into the cistern. A total of 4 of 5 points, including an exemplary point for exceeding efficiency, is the hoped-for LEED contribution.

**Energy and atmosphere.** A computer simulation helped the college determine the shape and siting of the building to maximize energy efficiency, says Gellert, and two stories were considered optimum. A split-level design used the smaller floor on the lower level, while the second floor has the major biology and physiology labs. The building is designed to run on an east-west axis, with smaller offices to the south and larger lab and classroom spaces to the north,



The floorplan shows how much programming can be accommodated into the HTC space.

for added control of light. Daylight can get into the center of the building, via an atrium and a clerestory. The atrium also stands as a centerpiece for the building and a place for people to assemble. The big stairway in the center of the space, says Kleckner, invites students to climb—and get exercise.

Also key to lighting are the light monitors used in the first part of the building, says URS's Randy Doi; they add light without fear of water leakage. The large windows to the south have coated glass, with mechanical shades on the northside windows. More daylight harvesting was considered, but it would have added \$45,000 to the cost. Also, says Gellert, as programmatic and privacy needs of the patients meant that certain compromises had to be made, so the project will probably not get a daylighting credit. The external lighting conforms to anti-light pollution standards.

Efficient HVAC will provide a 34% energy savings over baseline, meeting the needs of HB 251, and earning an annual utility savings of \$15,000. The school now has 99% efficient condensing boilers, saving on space needed for them, and VAV boxes with occupancy sensors that measure CO<sub>2</sub>. These are more complex and costly than rooftop units when first costs are considered, but their life-cycle cost is lower—and they are expected to

improve student performance by adding comfort. Variable frequency drives in the boiler and cooling system allow for softer starts and thus provide no huge energy spikes, and less noise. The system is configured to serve an additional building as well as new structures are added to campus.

Use of an independent commissioning agent allows the project to earn an additional point for enhanced commissioning, for 7 of 17 energy and atmosphere points. Future plans could add solar power, or a wind turbine, if money becomes available.

Also innovative are the communications connections built into the system to service programming, says Stimac. The HCT, living up to the second last word in its name, will contain state-of-the-art audio, visual, and communication capabilities.

**Materials and resources.** Reclamation of at least 75% of construction waste is part of this project's expectation of earning 5 of 13 possible LEED points here, with recycled and regional materials used whenever possible. Materials demolished from the old MetroHealth site were recycled for use with the new building. Ozanne, which has great experience in green construction, was easily able to work with Rosby's on the recycling effort, says Stimac, simplifying all-important LEED documentation.

## Project specs:

### Health Careers and Technology Center

**Owner:** Cuyahoga Community College

**Owner's rep:** Gilbane

**Architect:** URS

**CM:** Ozanne

**Size:** 61,500-sf

**Cost:** \$13.5 million

#### Vendors:

- Apple Mobile Leasing
- Mr. Excavator
- McKinney Drilling Co.
- West Asphalt Paving, LLC
- Big Trees Inc.
- Cleveland Cement Contractors
- C.T. Taylor Construction
- Giambone Masonry
- Art Iron
- EPI of Cleveland
- T&F Systems
- Carroll Glass
- Harmon Inc.
- RFC Contracting
- Frank Novak and Sons
- PK Mechanical
- Absolute Fire Protection
- United Mechanical Contractors
- Imperial Heating and Cooling
- V.I.P. Electric Co.



The first floor corridor, as depicted by URS, shows the atrium, stairway and daylighting.

**Indoor environmental quality.** HVAC ducts are being kept clean during construction by Ozanne. Occupancy sensors will control lighting, and control systems will also be used to monitor outdoor air use during operation. Low-VOC-emitting materials are being used, and occupants will have control over their own spaces, with the project expected to earn about 9 points of 15 in this category. Horizon Engineering is handling the enhanced commissioning and will provide a manual which will help the school's facilities manager run the building most efficiently.

**Innovation.** Several initiatives are being considered to add LEED credits, including green housekeeping, a tenant education program, and a hazardous waste reduction plan. Also unique are the school's use of the building as a teaching device for sustainable practices, vital in a building geared to bettering

the health of the community. Tri-C is now officially endorsed as a green building training site, so this facility adds that dimension to the school's appeal to student. Says Tri-C's Stephanie Strong-Corbett, "You can just tell just by looking at it that this building was meant to be green."

In Phase II, an outdoor amphitheater and Work Force Training/Career Center building and a natatorium will be built, on the 106 newly acquired acres, which include high quality wetlands as well as the old nursing site. This will be followed by an expansion of existing hospitality, arts, music and educational centers in a 10-year, \$54 million, master plan. An overall Tri-C plan also includes new facilities in Brunswick, on the West Shore and a downtown hospitality training center to prepare workers for the Medical Mart and casino. **BXM**



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