

Greening the Campus—Value Added

*College of Lake County's New LEED Platinum Science and Engineering Building
and Other Sustainable Initiatives are Paying Off*

PRESENTERS:

KEN GOTSCH, *CLC VP—Administrative Affairs* | **MIKE WELCH**, *CLC Director of Facilities*

SCOT PARKER, *Principal at Legat Architects* | **BRUCE LOCKE**, *Managing Director at Tactus, Inc.*

2019 ICCCF0 Spring Conference

May 2, 2019

Agenda

- 1** CLC Overview
- 2** Sustainability Overview
- 3** Greening the Campus
- 4** Enhancing the Bottom Line
- 5** LEED Platinum Science & Engineering Building

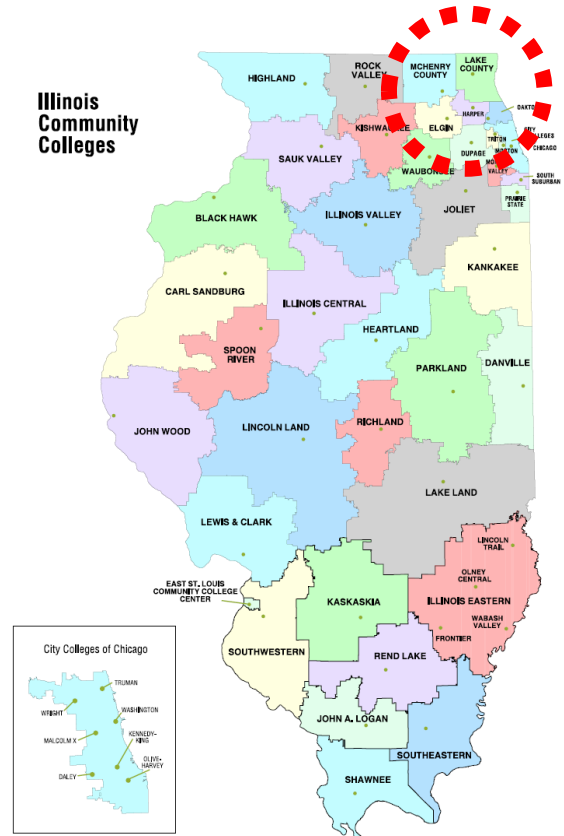


CLC Overview

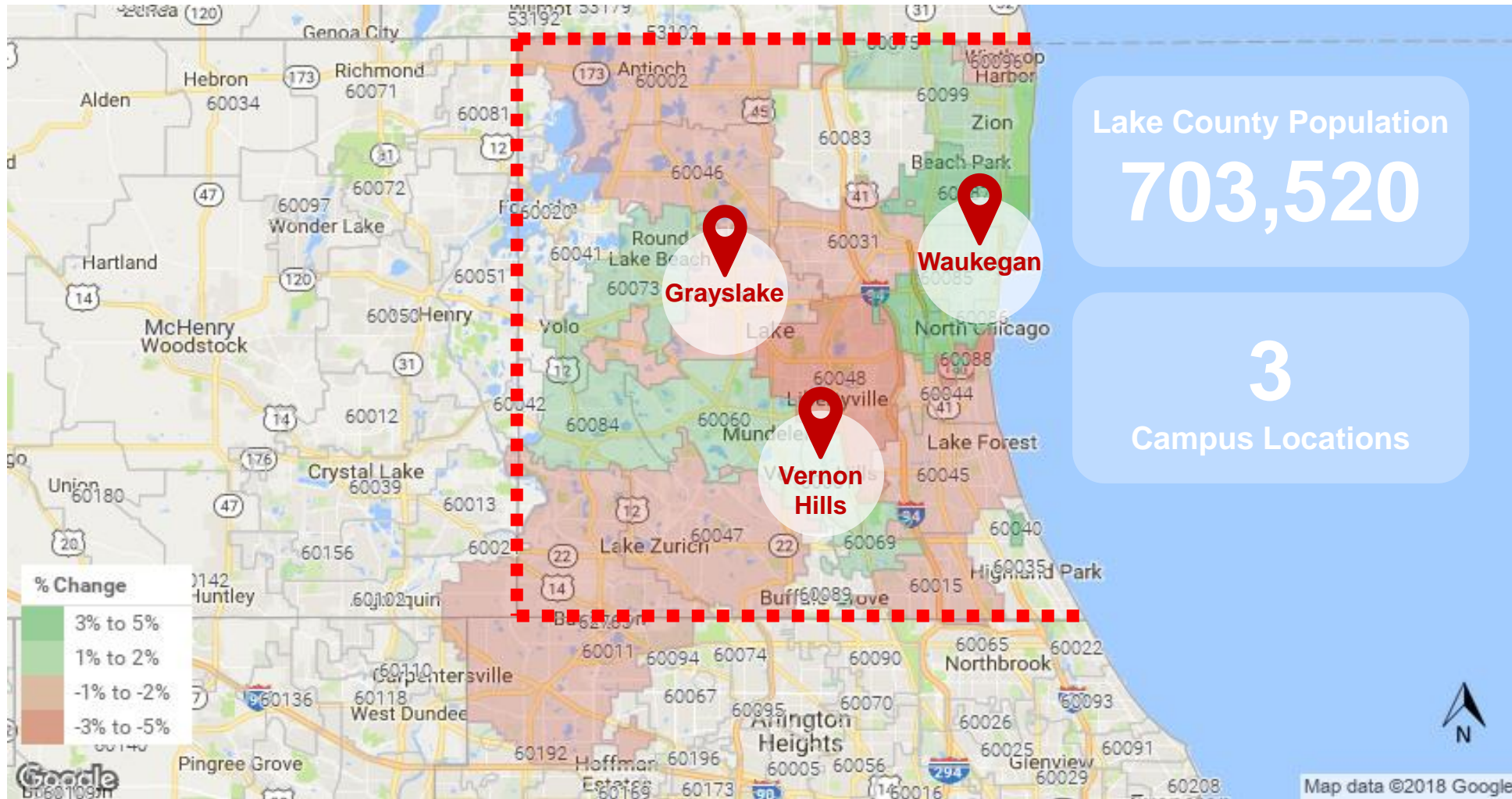


CLC Overview

Comprehensive,
public
community
college located
in northeastern
Illinois



CLC Overview



CLC Overview

Mission

The College of Lake County is a comprehensive community college that delivers high quality, accessible learning opportunities to **advance student success and strengthen the diverse communities we serve.**

Vision

The College of Lake County strives to be an innovative educational institution offering exceptional learning experiences and **to be widely recognized for student success, business and community partnerships** and for the achievements of faculty, staff and alumni.



CLC Overview

- Serves more than 40,000 community members
- Fall 2018: 14,194 total students with 8,019 FTE pursuing a credential
 - 59 Associate Degrees
 - 119 Certificate Programs
 - 25+ Guaranteed Transfer Agreements
 - 17 High School Districts (Superintendents)
 - 23 High Schools (Principals)



CLC Overview

- **Priority Objectives**

- Advance **student learning**, success and completion
- Maximize **educational opportunity** and equity in student outcomes
- Promote excellence in the areas of Diversity, Global Engagement, **Sustainability**, and Wellness as strengths within the College and Lake County Community
- Enable a **culture of innovation, excellence**, and continuous improvement

- **Strategic Plan 2019-2023 and 50th Anniversary**

- CLC will launch its 2019-2023 strategic plan in conjunction with its 50th anniversary celebration in 2019



CLC Overview

A life-changing path

The College of Lake County provides students with a life-changing path from dreams to bright futures.



Sustainability Overview



Sustainability is the Guide and Resource for the College as Living Laboratory

- *Foundation* of the college and natural resources provide the context
- *Institutional values* and *governance* provide direction and structure
- Campus facilities, grounds, and operations can go hand in hand with curriculum
- Sustainability extends into our community and linkage with our local employers



Sustainable CLC

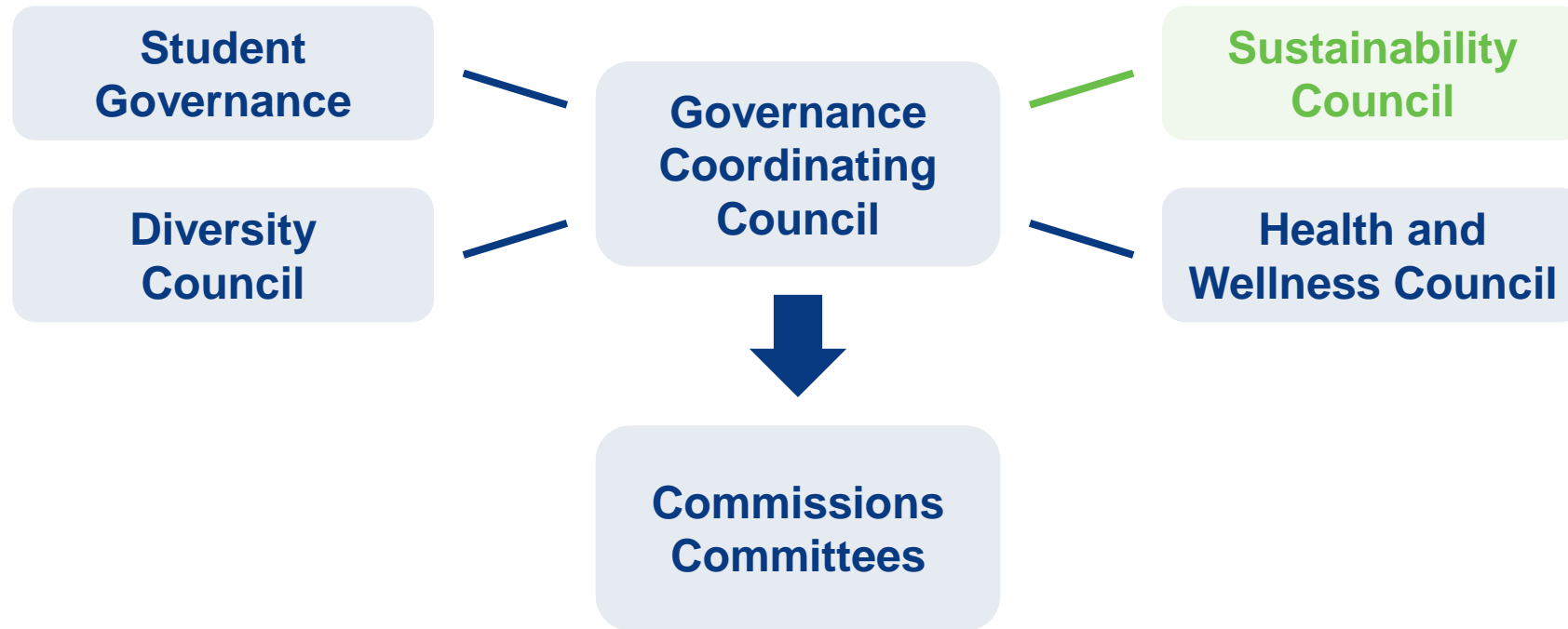
It's who we are. In our strategic goals.

Promote excellence in the areas of diversity, global engagement, *sustainability* and wellness.

*The college will strive to build an inclusive community that recognizes, values and respects people of all cultures and ways of life, while cultivating social justice, global citizenship and *Environmental responsibility*.*

“Sustainability is baked into our DNA at CLC.” – Dr. Lori Suddick

Shared Governance Reflects Strategic Priorities



CLC is a *Living Laboratory*



Community Demonstrations:

- Efficient Buildings
- Renewable Energy
- Stormwater Management
- Much more...

Student Instruction:

- Technology
- English
- Math
- Economics
- More...

Greening the Campus

Begins with Greening our Campus



Greening Our Campus: Geothermal Heat Exchange System



Greening Our Campus: Energy Efficiency



Installing LED
Lighting Upgrades

Greening Our Campus: Rethinking Transportation



Greening Our Campus: Farm ↔ Food Service

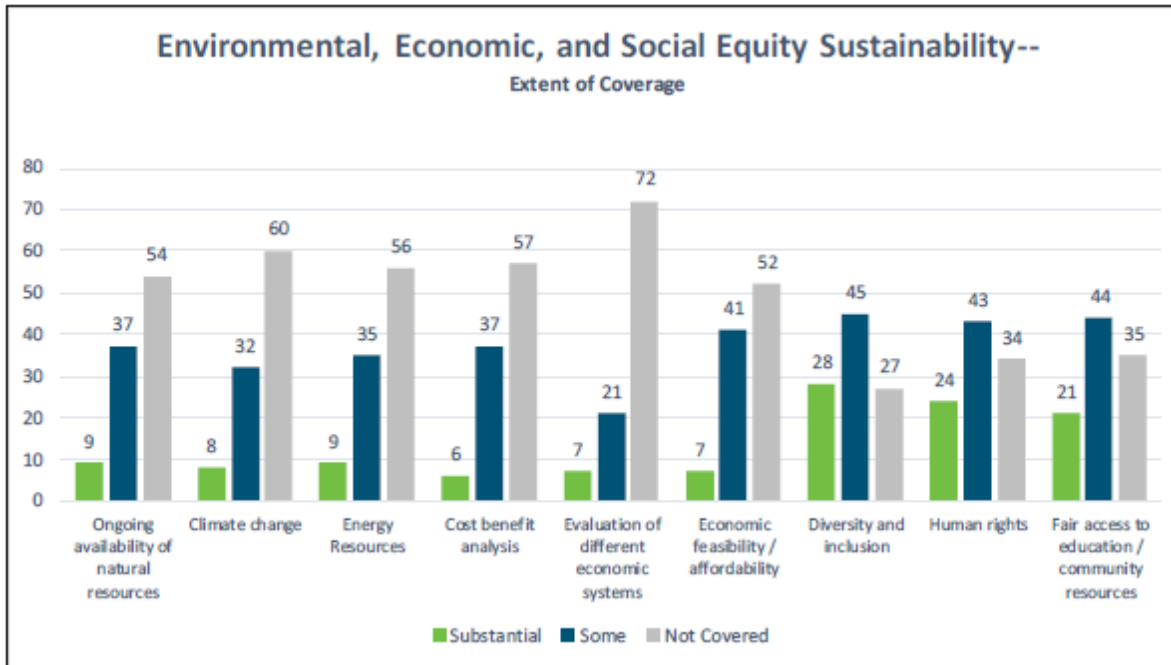


Greening Our Campus: New Technology also a Living Laboratory

Training and Operations



Greening Our Curriculum



“With the incorporation of sustainability in the curriculum student knowledge inquiry, topic creativity, critical thinking, research performance, and presentation development and delivery were significantly improved.”

AQIP FY17 — Kari Proft

Living Laboratory: Biology–In Our Back Yard



Living Laboratory: Green Roofs



- Southlake and Science Building
- Cool in summer
- Absorb rain water
- Shield UV rays
- Teaching Students
- Community demonstration

Living Laboratory: Sustainable Landscaping



- Reduce maintenance over long term
- Reduce emissions
- Improve habitat for biodiversity
- Improve stormwater management

Sustainable CLC: In the classroom

Certificate Program:

*Alternative Energy Technologies,
1 year program*

- **Subject matter:** Study of wind, solar and geothermal energy sources. Emphasis on electricity production and conductivity
- **Careers:** Installation, manufacturing, supply chain management, operation and maintenance of equipment

Associate Degrees:

*Sustainability (Policy and Social Aspects) A.A.
Sustainability (Science and Technical Aspects) A.S.*

- General AA and AS coursework, with emphasis in
- **Natural sciences:** Geology, environmental biology, geography, meteorology, natural areas management
- **Social sciences:** Political science, social problems, anthropology, international-multicultural studies
- **Humanities:** Ethics

Partnership with Sustainability

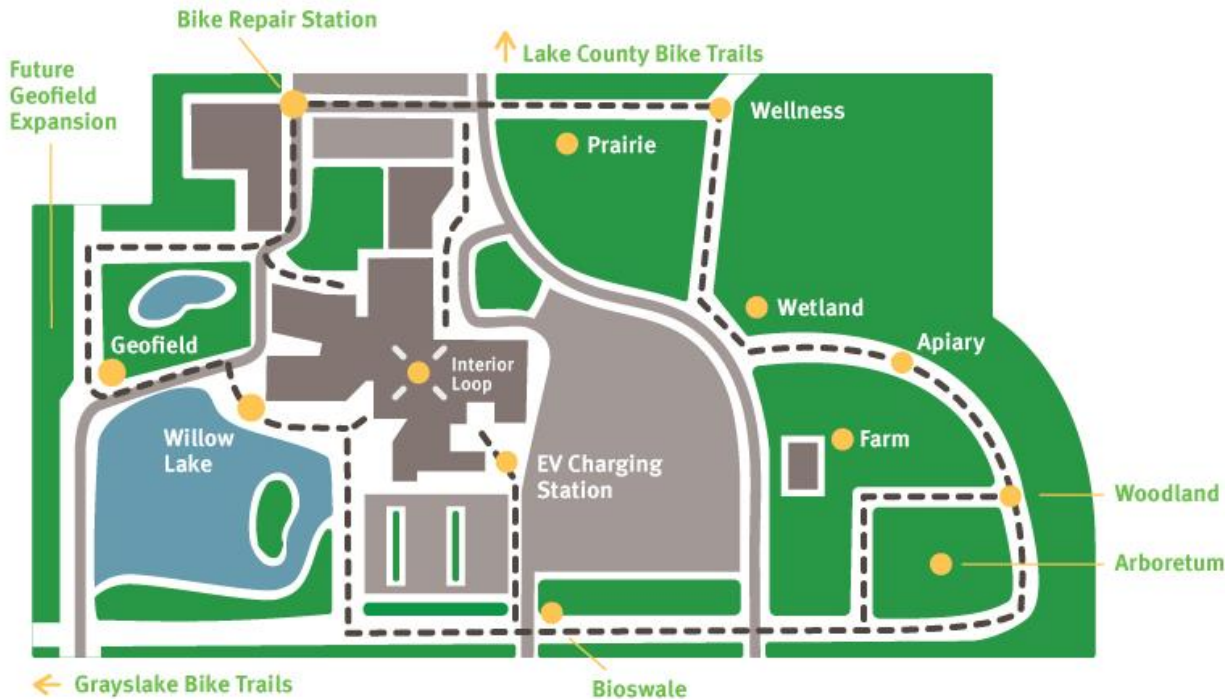


Sustainability Awards

- 2018 Rankings – 1st in Illinois
2nd in the Midwest
6th in USA, 8th in North America
- 2017 Chronicle Higher Ed – Placed 8th “Top Performing Institution for Sustainability”
- 2017 Stormwater Best Practices Award
- 2017 STARS Silver
- 2017 Emerald Award
- 2016 Green Genome Award
- 2015 Second Nature Climate Leadership
- 2014 Illinois Campus Sustainability – Gold



Greening our Community through the “Living Lab Trail”



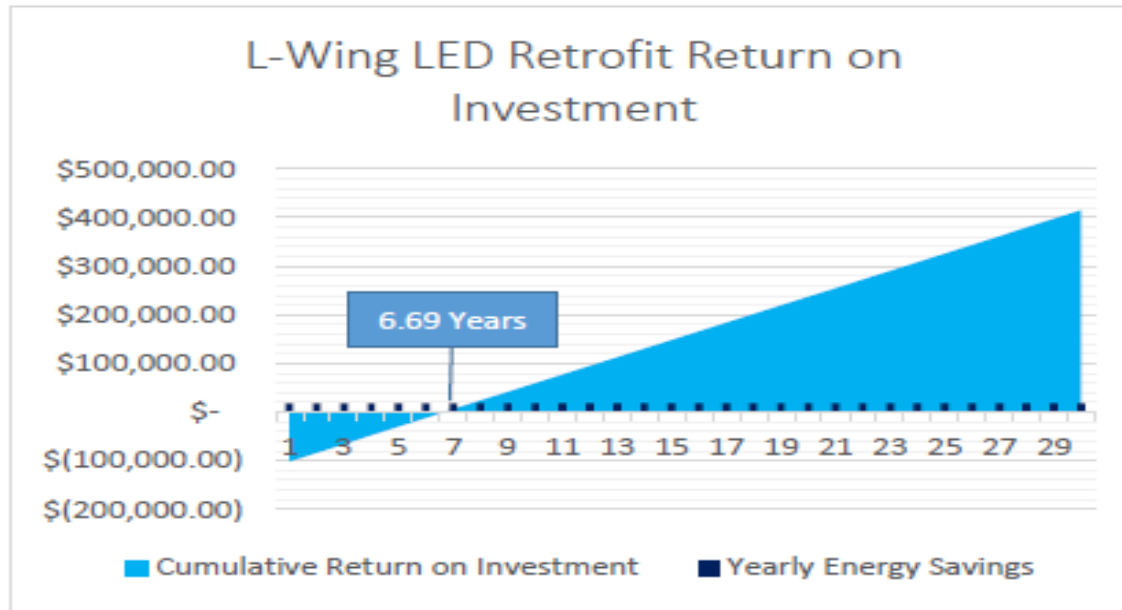
Interpretive Signage & Trail Completion

- Encourage exploration of:
 - Sustainability features
 - Wellness opportunities

Enhancing the Bottom Line



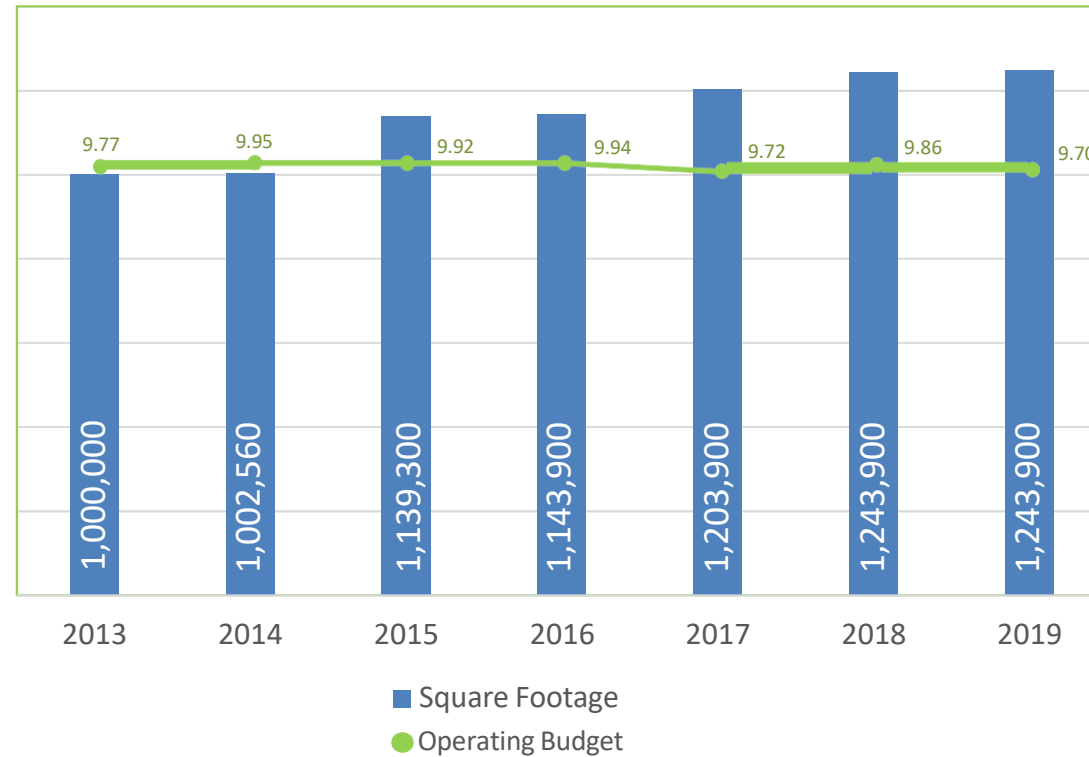
A Branding Opportunity that Helps Bottom Line:



- Support enrollment
- Student engagement supports retention
- Graduation and transfer successes
- Grants funding support
 - \$600,000 Green Fund
- Return on investments
 - LED retro fit 6.7 years

FY2020 Budget Draft Submission – Facilities Department Operating Expenditure Overview

Square Footage vs. Operating Budget



Department Cost Savings to the College

Electric

Year	Month	Usage	Cost	Square Footage
2014	July	2,276,455.16	\$ 189,402.19	1,000,000
	August	2,244,301.58	\$ 180,182.99	
2018	July	2,244,131.91	\$ 190,073.77	1,241,444
	August	1,794,862.46	\$ 155,769.54	

Gas

Year	Month	Usage	Cost	Square Footage
2014	July	44,108.64	\$ 29,683.15	1,000,000
	August	40,636.04	\$ 25,863.83	
2018	July	21,246.00	\$ 14,319.43	1,241,444
	August	23,351.40	\$ 15,207.89	

LEED Platinum Science & Engineering Building



Partnership with the Capital Development Board



1995
Performing Arts Center | \$29,000,000



2005
Technology Building | \$35,000,000



2017
Science & Engineering Building | \$25,000,000



2021
Lakeshore Campus Expansion | \$48,000,000

A sustainable commitment to the community that anchors the south end of campus



LEED Platinum Certification



Variable Speed Exhaust Fans

Geothermal Field

Green Roof

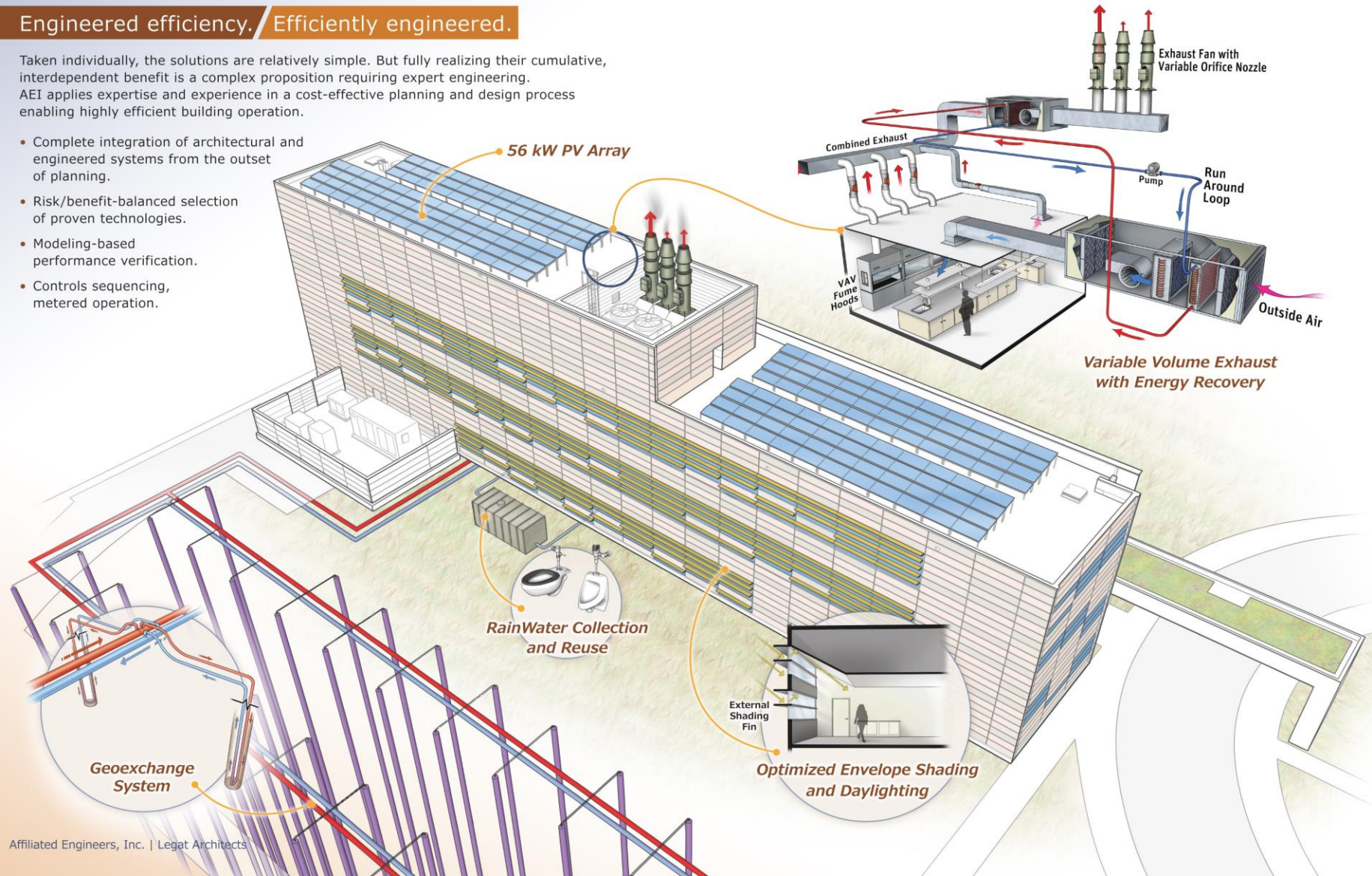
Photovoltaic Array

A Partnership with the Environment

Engineered efficiency. Efficiently engineered.

Taken individually, the solutions are relatively simple. But fully realizing their cumulative, interdependent benefit is a complex proposition requiring expert engineering. AEI applies expertise and experience in a cost-effective planning and design process enabling highly efficient building operation.

- Complete integration of architectural and engineered systems from the outset of planning.
- Risk/benefit-balanced selection of proven technologies.
- Modeling-based performance verification.
- Controls sequencing, metered operation.



Building as a Living Laboratory for Sustainability



Photovoltaic Array



Auxiliary Boilers



Variable Volume Exhaust System



Rainwater Harvesting System

An architectural expression of STEM education

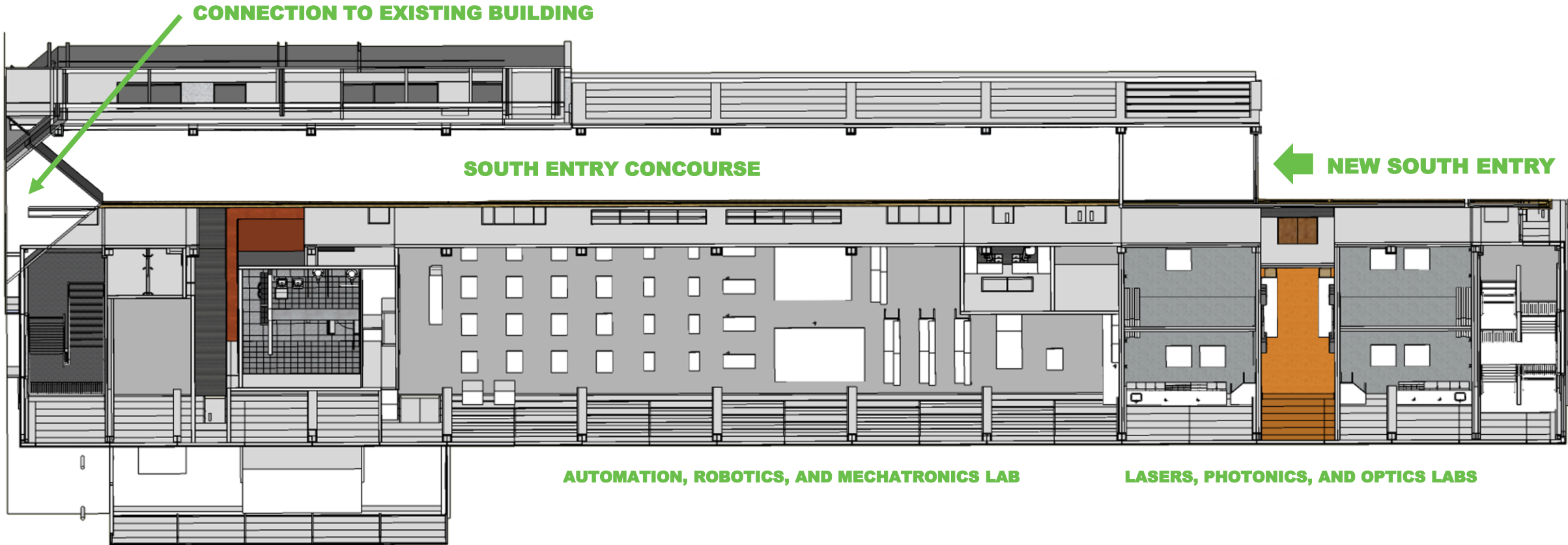


- Materials that respect the existing campus
- A new campus entry adjacent to parking



A new entry experience and building organizer

First Floor Plan



Lasers, Photonics, and Optics Lab

NSF Grant-funded
Equipment



Automation, Robotics and Mechatronics Lab



Automation, Robotics and Mechatronics Lab

Mechatronics:

Combines mechanics, electronics
and control technologies

Program emphasizes broad,
hands-on systems-level knowledge
and troubleshooting

Automation Cell:

Teaches operation and
troubleshooting

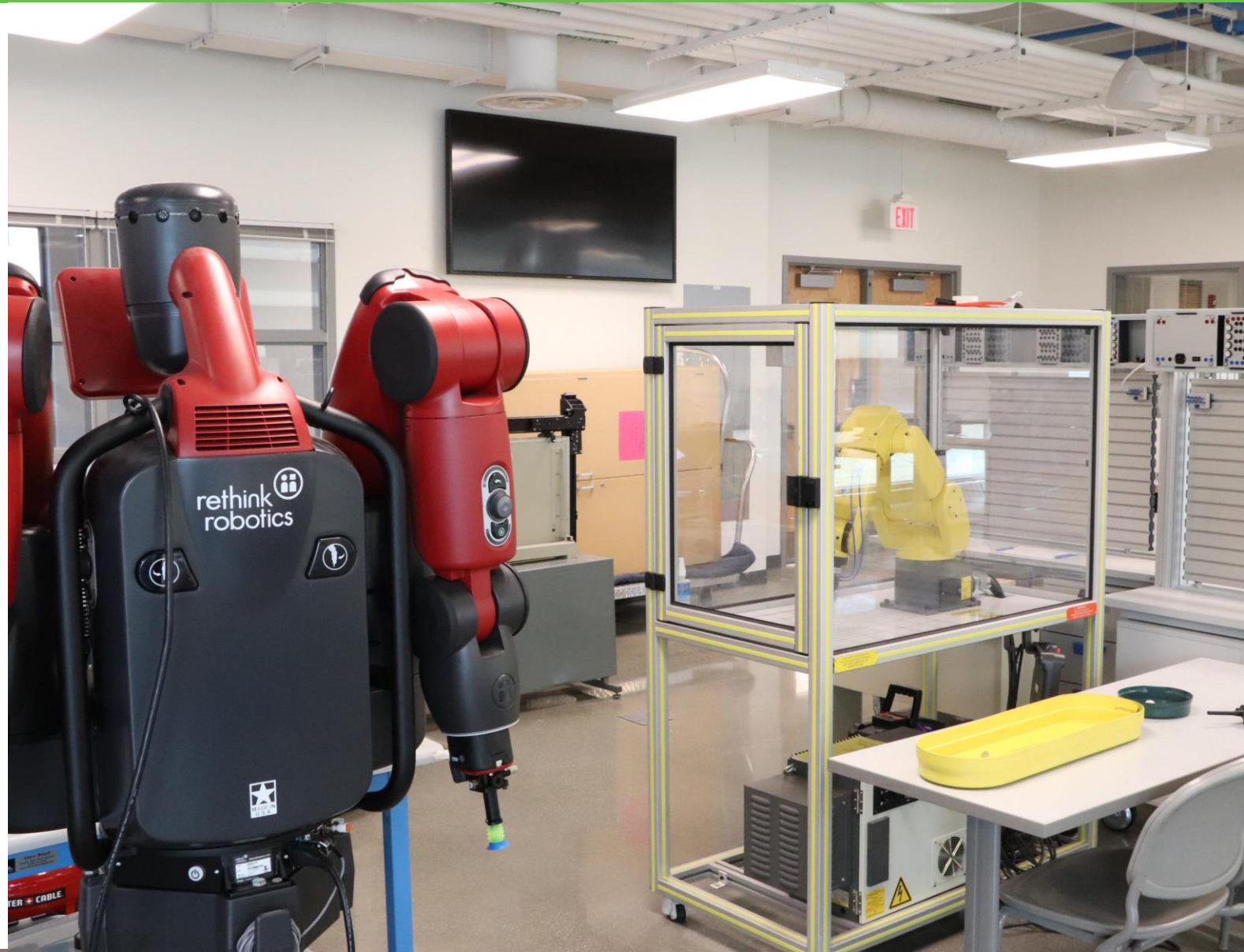
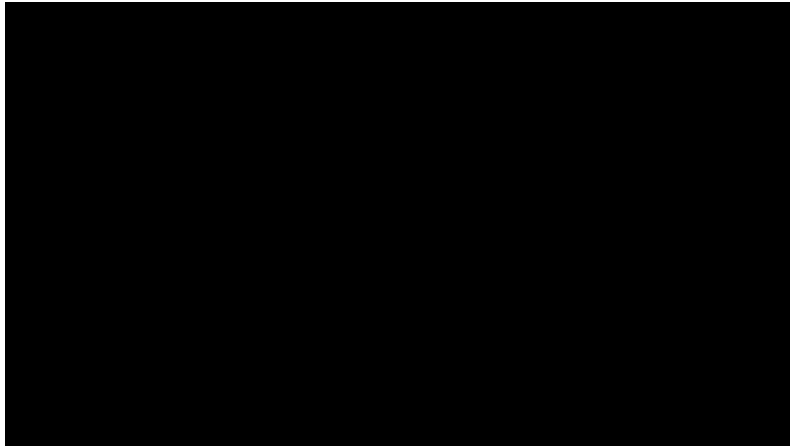
Cutting-edge manufacturing
workplace experience



Automation, Robotics and Mechatronics Lab

“BAXTER” — Humanoid Robot

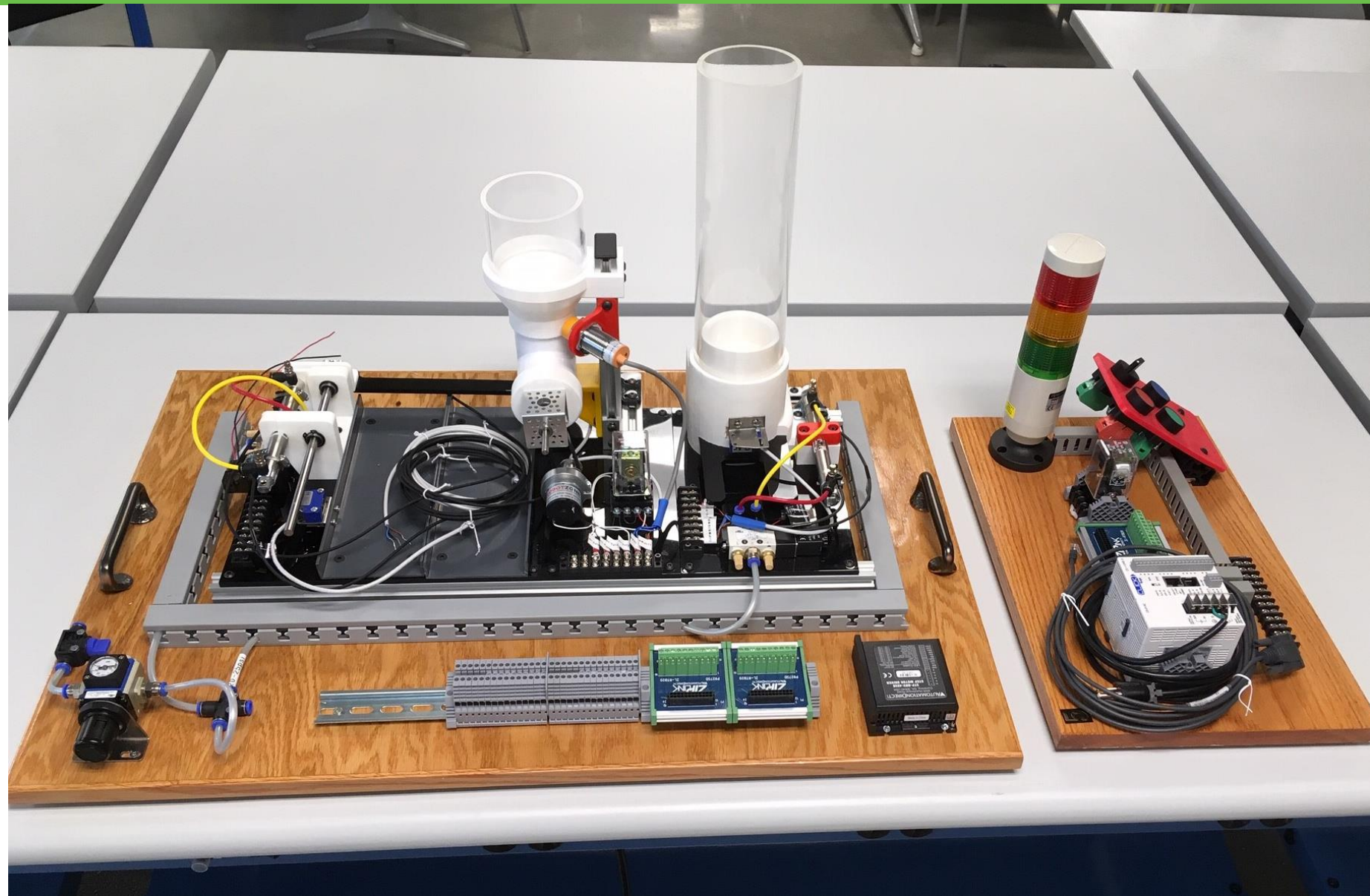
“FANUC” — Robotic Arm



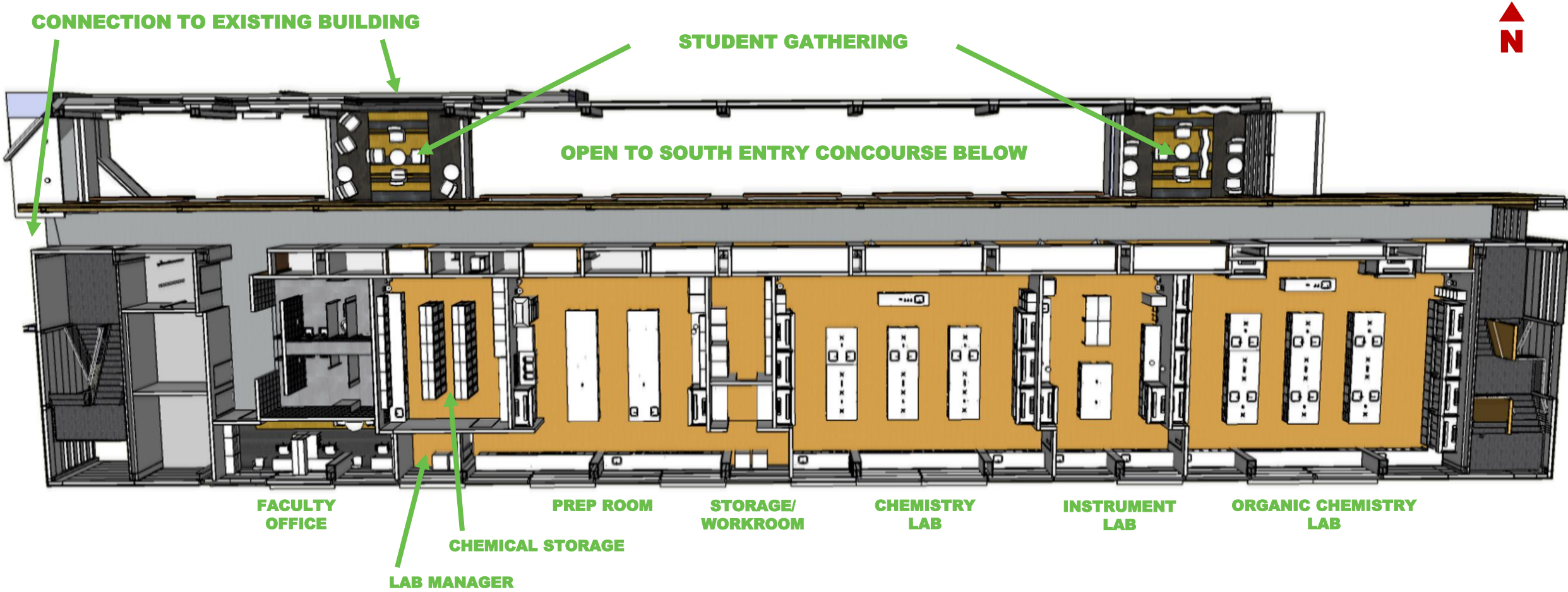
Mechatronics “Trainer”

NSF Grant-funded

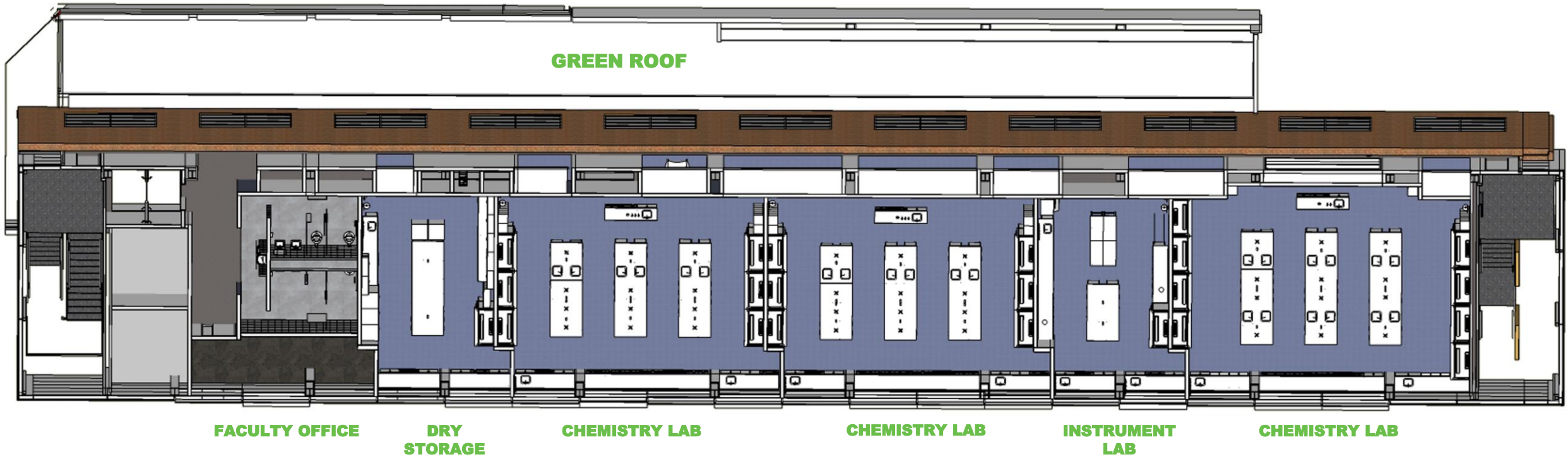
Used for dual credit in
local high schools



Second Floor Plan



Third Floor Plan



Science labs designed to maximize daylighting and daylight-harvesting



State-of-the-art Science teaching labs compatible with 4-year institutions





Thank You