OSWEGO
STATE UNIVERSITY OF NEW YORK

Residence Hall and Academic Facilities Master Plan Update

December 2023

JMZ architects | planners

HANBURY

SUNY Oswego

Residence Hall and Academic Facilities Master Plan Update

December 2023

7060 State Route 104
Oswego, NY 13126-3599

Dr Peter Nwosu, President

The following individuals served on the Steering Committee:

J. Mitchell Fields	Associate Vice President for Facilities Services
Allen Bradberry	Director of Major Projects
Kathleen Kerr	Vice President for Student Affairs
Victoria Furlong	Chief Financial Officer
Becky Waters	Assistant Vice President for Financial Operation
Scott Furlong	Provost and Vice President for Academic Affairs
Mary Toale	Officer-in-Charge through August 2023

Dormitory Authority of the State of New York
515 Broadway
Albany, NY 12207-2964
(518) 257-3000

Harry Ellsworth, RA, LEED AP Project Manager

State University Construction Fund
353 Broadway
Albany, New York 12246
(518) 320-1774

James Shaughnessy, Capital Program Manager

Prepared by:

JMZ Architects and Planners, P.C.
190 Glen Street - P.O. Box 725
Glens Falls, New York 12801
(518) 793-0786

Tenée Casaccio, AIA, President
Sarah Mojzer, AIA, Project Planner

Residence Hall Specialist
Hanbury
120 Atlantic Street, Suite 100
Norfolk, VA 23510
(757) 321-9600

Buddy Hall, ASLA, Principal

Financial Analyst
Wachalski Advisory
1158 West Farwell
Chicago, IL 60626
(773) 856-0891

Greg Wachalski, AIA, Principal

Mechanical, Plumbing, and Electrical Engineers
Setty & Associates, LTD, P.C.
575 S. Charles Street
Suite 403
Baltimore, MD 21201
(667) 309-6036

Shari Sharafi, PE, LEED GA, CBCxP
Associate Director of Engineering

Cost Estimating
Trophy Point
4588 South Park Avenue
Blasdell, New York 14219
(716) 823-0006

Joe Dommer
Executive Vice President

Table of Contents

Executive Summary

Purpose of the Study

The 2020s started with a worldwide pandemic, unexpected inflation, and higher education enrollment uncertainties. These challenges affected colleges and universities worldwide, and were felt at SUNY Oswego. The College seized the opportunity to address facilities maintenance issues while the campus was vacant, advancing projects like restroom renovations in Funnelle Hall and the comprehensive renovation of Hewitt Hall.

In 2022, leadership in SUNY Oswego Facilities Services initiated this unique facilities master plan - the first of its kind in the SUNY system - to merge residence hall and academic facilities plans into one comprehensive report.

The consultant team of JMZ Architects and Planners, Hanbury, Wachalski Advisory, and Setty & Associates Consulting Engineers was selected to prepare this Residence Hall and Facilities Master Plan Update to unite recommendations from three past reports and new recommendations for residence halls and student engagement spaces.

- 2017 Laker Hall Program Study
- 2017 Lee Hall Program Study
- 2021 Academic Buildings Master Plan Update
- Current residence hall and student engagement recommendations

The Oswego Color Run is an annual fall tradition.

Process and Priorities

In November 2022, the consultant team convened on-campus with representatives from the Dormitory Authority of the State of New York (DASNY), the State University Construction Fund (SUCF), and the SUNY Oswego steering committee. The team reviewed the project goals and performed the first set of student focus groups. The planning team conducted walk-throughs of every building to document existing conditions.

Visioning sessions and student focus groups continued through spring 2023. Meanwhile, the team gathered residence life information and prepared initial financial models.

Early in June 2023, the team presented options for potential residence hall and academic building projects. Funding models were presented. Through summer 2023, SUNY Oswego considered which funding model to adopt. The institution faced a decision: continue with a planned partial renovation of Seneca Residence Hall, which would consume the entirety of Oswego's funding capacity; or, delay renovation of Seneca Hall in order to enable a more substantial residence hall renovation in the next decade.

SUNY Oswego opted to postpone the Seneca Hall partial renovation project. Through August and September 2023, the planning team prepared residence hall project recommendations that satisfied SUNY Oswego's spending and savings goals while enabling distributed projects to improve first impressions, student experience, and student success.

Academic building recommendations from the 2017 and 2021 studies were refined to reflect SUNY Oswego's current and planned capital projects.

Completed in fall 2023, this combined SUNY Oswego Residence Hall and Academic Facilities Plan Update charts steps to:

- Adjust residence hall spending and revenue to enable a $50 million capital project in the 2030s;
- Employ the most efficient combination of cash expenditure and DASNY-administered SUNY bonds to achieve critical maintenance goals and create more engaging student spaces in residence halls; and,
- Prioritize academic building renovations through 2032.

The steering committee set six focused, practical priorities for this plan. In addition, enhancement projects are suggested to advance the goal of making SUNY Oswego a beautiful place to live, work, and visit.

Residence Hall Priorities

- Extend the useful life of buildings and their systems. Increase accessibility and inclusiveness
- Advance the goal of providing equity in residence halls campuswide.
- Make the best possible use of student engagement space.

Academic Building Priorities

- Incorporate recommendations from the 2021 Academic Building Master Plan Update and the 2017 Lee Hall and Laker Hall studies.
- Anticipate instructional space needs that could arise from enrollment growth.
- Improve utilization of the College's student engagement spaces.

Campus Enhancements

Enhancement projects are intended to improve visitors' first impressions, enhance the student experience, and promote student success.

Oswego's natural beauty, architectural heritage, and regional history help students form bonds that last beyond their years as Lakers. The campus has an essential "Oswegoness" rooted in innovation, art, and inquiry. These qualities should be on-display as the College renews its aging buildings.

Components of the Report

Project Descriptions

Recommended Projects

These capital projects prolong a building's useful life and improve safety and wellbeing of its occupants. In addition, recommended projects create swing space to enable completion of renovations elsewhere on campus.

Enhancement Projects

These are elective projects that can be implemented independently or alongside recommended projects. They include both interior and exterior improvements.

Recommendations Timelines

Timelines display the proposed start year, duration, and 2023 project costs for residence hall and academic projects.

Project Matrix

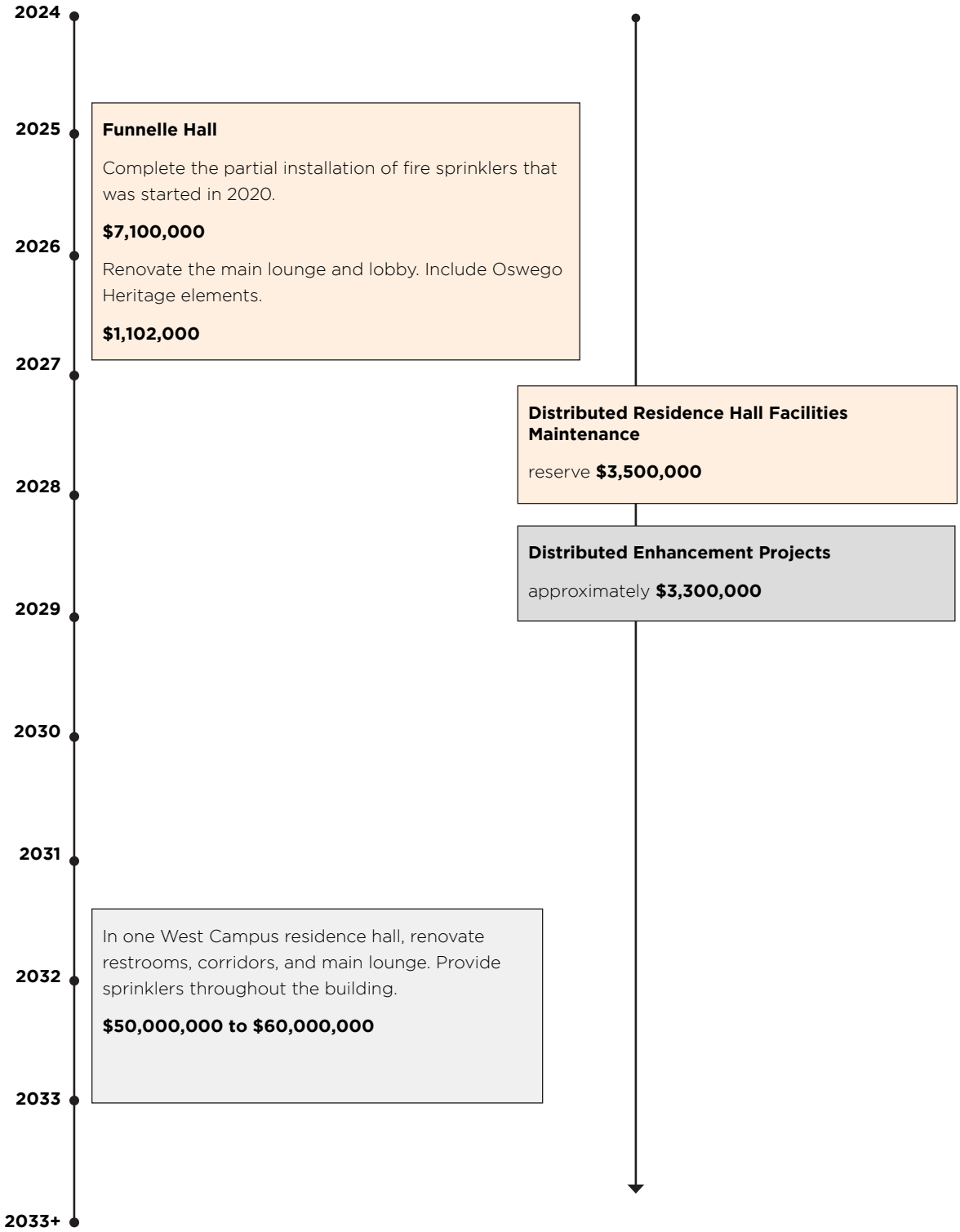
These pages display recommended projects alongside enhancement projects for residence halls, academic buildings, and landscape projects.

Appendix

The appendix includes detailed analyses to support plan recommendations.

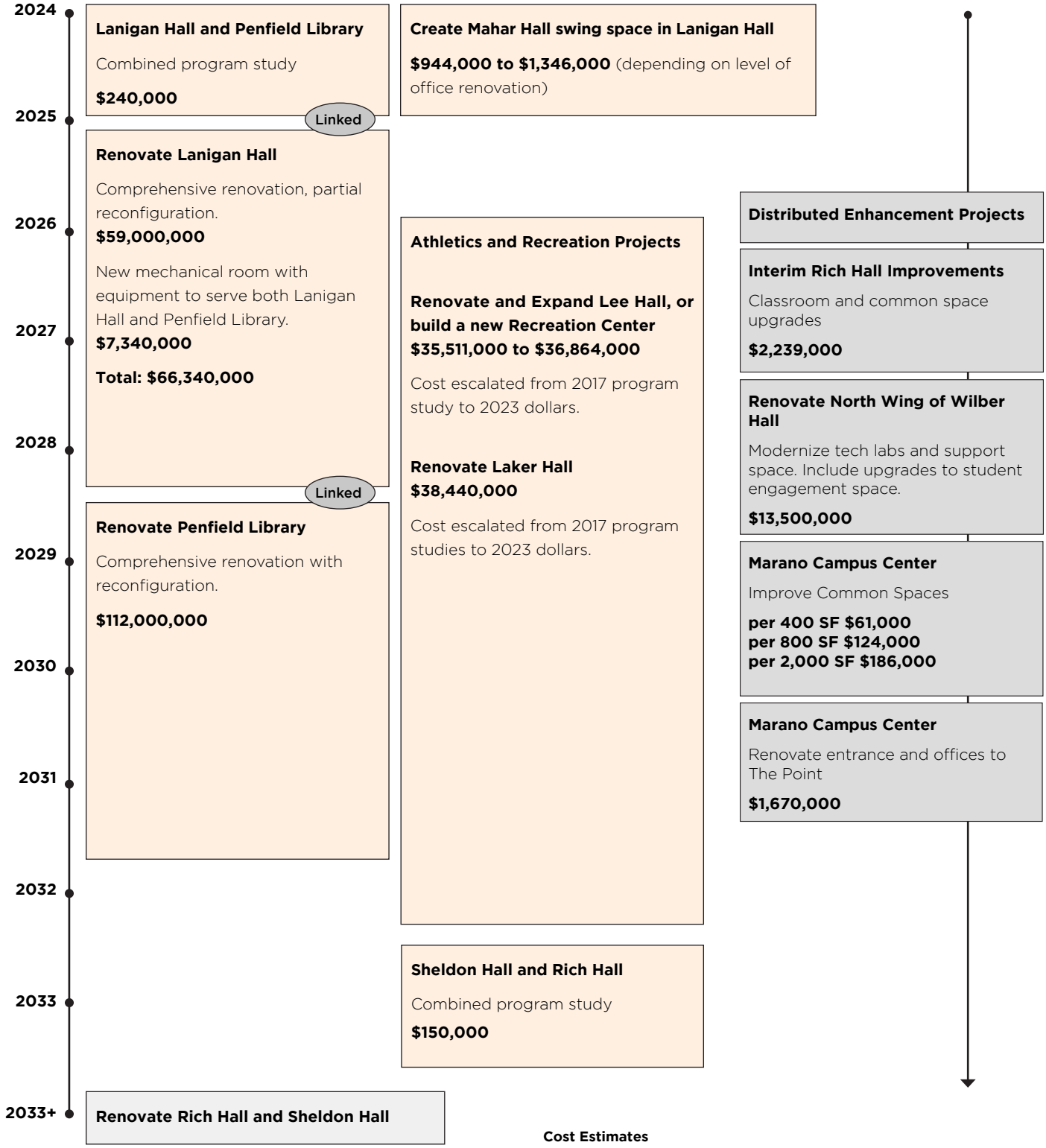
- Residence Hall Campus Engagement and Peer Analysis summarizes results of online student surveys, in-person student focus groups, and comparisons to peer institutions.
- Residence Hall Financial Analysis pro formas are included along with the slides from financial analysis presentations.
- Residence Hall Existing Conditions Reports compile data collected in the 2022-2023 building walk-throughs.
- Residence Hall Building Reports and Enhancement Projects compile building characteristics, key existing conditions findings, and recommended projects. Enhancement projects are listed, referencing specific rooms and additional cost estimate detail, where required. Inspiration pictures are provided to guide campus decisions. Funnelle Hall is excluded from this appendix; its report is part of Project Descriptions.
- Academic Building Existing Conditions Summaries are excerpted from the 2021 Academic Building Master Plan Update and include updated 2023 facilities maintenance recommendations.
- The Instructional Space Utilization report shows fall 2022 utilization of classrooms and class laboratories, in aggregate and room-by-room.
- Components of the Estimate of Probable Cost includes unit costs along with contingencies and additional expenses.
- The Facilities Maintenance, Clean Energy Master Plan, and Recommended Project Combined Timeline is a tool for SUNY Oswego to evaluate implementation strategies from multiple sources.

Residence Hall Recommendations Timeline



Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Academic Buildings Recommendations Timeline



Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Residence Hall Project Matrix

The total estimated cost of recommended projects, in 2023 dollars, is $8,202,000.

Enhancement project costs shown below apply to average square footages of the types of spaces listed, Main Lounges for example. Appendix D, Residence Hall Suitability Reports, suggests ideal enhancement projects for each building, applied to specific rooms, with room-specific cost estimates.

Recommendations are listed in **red.**
Enhancement projects are shown in black.

			Improve Existing Student Engagement Spaces							Create a New Community Kitchen	
			First Steps	Moderate Improvements	Major Improvements	Option	Option	À la carte	À la carte		
	Finish Funnelle Hall sprinkler installation	Oswego Heritage Projects	Upgrade furniture only in main lounge	Upgrade finishes and fixtures in main lounge	Renovate/ reconfigure main lounge to create activity zones in main lounge	Create glass enclosed study/meeting space(s) within main lounge*	Upgrade finishes and fixtures in study lounges	Upgrade lounge furniture, per 800 SF	Upgrade lounge finishes and fixtures, per 800 SF	Build a new kitchen in an existing large lounge**	Repurpose floor kitchenettes to study nooks
Central											
Funnelle Hall	**$7,100,000**	**$116,000**	$243,000	**$382,000**	$737,000	$233,000	$193,000	$62,000	$87,000	$287,000	
Hart Hall		$116,000	$243,000	$382,000	$737,000	$233,000	$133,000	$62,000	$87,000	$287,000	$496,000
Lakeside											
Johnson Hall		$116,000	$90,000	$156,000		$116,000	$111,000	$62,000	$87,000	$272,000	$248,000
Riggs Hall		$116,000	$119,000	$187,000			$62,000	$62,000	$87,000	$272,000	$248,000
Scales Hall		$116,000									
Waterbury Hall		$116,000									
Lakeside Dining Hall		$116,000		$182,000	$351,500	$116,000		$62,000	$87,000		
West Campus											
Cayuga		$116,000	$95,000	$150,000	$290,000	$116,000	$157,000	$62,000	$87,000	$287,000	
Oneida		$116,000	$122,000	$193,000	$372,000		$86,000	$62,000	$87,000	$287,000	$50,000
Onondaga		$116,000	$164,000	$258,000	$498,000	$116,000	$429,000	$62,000	$87,000	$287,000	
Seneca		$116,000		$239,000	$461,000	$116,000		$62,000	$87,000	$287,000	
Village Townhouses		$116,000						$62,000	$87,000		
Mackin Complex											

Total Funding	**$15,000,000**
Recommendations	**$8,202,000**
Reserve for Facilities Maintenance	$3,500,000
Potential Remainder	$3,298,000

* Johnson Hall, create in LOU1A. Lakeside DH, create in Meeting Rooms 005 and 006.
** Oneida Hall, create in unused computer lab ICC-BC.

Improve Building Approaches, Lobbies, and Access to the Outdoors											
Moderate Improvements	Moderate Improvements	Major Improvements	First Steps								
Improve building entrance	Lobby renovation	New entrance addition with lobby renovation	Add access control at outdoor leisure areas	Create an 800 SF residence hall patio (lighting, covered area, landscaping)	Create accessible residence room doors (group of 50 rooms = $450,000)	Create a two-story lounge	Convert six student rooms to floor lounges	Convert first floor study lounges to student rooms	Create music practice rooms	Only facilities maintenance is needed	Decommission Building(s)
$610,000	**$604,000**	$3,284,000	$8,500	$130,000	$1,872,000						
$610,000	$639,000	$3,284,000	$8,500		$1,872,000						
			$8,500								
			$8,500								
			$8,500							X	
			$8,500							X	
			$8,500						$335,000		
$610,000	$591,000	$3,284,000	$8,500	$130,000	$1,701,000		$1,314,000	$425,000			
$610,000	$555,000	$3,284,000	$8,500	$130,000	$2,097,000						
$610,000	$1,447,000	$3,284,000	$8,500	$130,000	$2,889,000	$3,414,000			$168,000		
$610,000	$1,388,000	$3,284,000	$8,500	$130,000	$2,700,000				$168,000		
										X	
											X

Cost Estimates

Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Academic and Athletic/Recreation Building Project Matrix

Recommendations are listed in **red.**

Enhancement projects are shown in black.

						Swing Space for Mahar Hall		Academic Space Modernization
	Associated Study/ Current Condition	Program Study	Comprehensive Renovation (before 2032)	Comprehensive Renovation (after 2032)	Oswego Heritage Projects	Instructional Space and Faculty Offices	Option: Additional Temporary Offices	Modernize Technology Labs
Rich Hall	2021	**$150,000**		X	**$116,000**			
Sheldon Hall				X				
Lanigan Hall		**$240,000**	**$59,000,000**			**$944,000**	$402,000	
Penfield Library			**$112,000,000**					
Lanigan/Penfield shared mechanical plant			**$7,340,000**					
Lee Hall	2017		**$35,511,000**					
Laker Hall			**$38,440,000**					
Marano Campus Ctr.	2021				**$116,000**			
Mahar Hall	Renovation Planned							
Hewitt Hall	Newly Renovated							
Tyler Hall	Newly Renovated							
Culkin Hall	Good Condition							
Park Hall	Good Condition							
Wilber Hall	Good Condition				**$116,000**			**$13,500,000**

Recommendations	
Program Studies	**$390,000**
Targeted Renovations	**$18,832,000**
Comprehensive Renovations	**$252,291,000**
Total	**$271,513,000**

Landscape Project Matrix

All landscape projects are enhancement projects.

	Crushed Gravel Walk	Large patio: Create 800 SF brick patio, low walls, landscape plantings, lighting, wifi	Large patio: Add 240 SF shade structure at large patio	Medium patio: Create 400 SF brick patio, low walls, lighting, wifi	Add hardscape, trees, lighting, wifi, and landscape plantings. Restore lawn.	Add hardscape, trees, lighting, wifi, and landscape plantings. Create tiered lawns and seating.	Activity Pavilion with lighting and wifi	Restore hardscape, redesign landscape, add amenities, lighting, wifi
West Campus Residential Quad					$2,973,000		$388,000	
West Campus Residential Patios		$130,000	$82,000					
West Campus Academic Plaza								$3,200,000
Hart & Funnelle Resident Retreats				$75,000				
Hart/Cooper/ Funnelle North Patio and landscape improvements		$130,000			$800,000			
Central Campus Lawn/Extend Sculpture Garden						$1,158,000		
Lakeside Path	$181,000						$388,000	
Rebuild West Campus Bridge								

Interim Projects in Rich Hall						
Renovate Lobbies and Student Engagement Space	Restore windows to seven classrooms	Renovate entrance to The Point	À la carte: Renovate Student Engagement Spaces 400 SF	À la carte: Renovate Student Engagement Spaces 800 SF	À la carte: Renovate Student Engagement Spaces 1,200 SF	Only facilities maintenance is needed
$1,220,000	**$903,000**		$61,000	$124,000	$186,000	
		$1,670,000	**$61,000**	$124,000	**$186,000**	
						X
						X
						X
						X
						X

Reconstruct bridge, coordinate with Clean Energy Master Plan for passage of utilities	À la carte: per 1,000 SF of Landscape Beds	À la carte: 160 SF brick patio	À la carte: 160 SF covered brick patio with seat walls and landscaping	À la carte: Remove of overgrowth to improve views, per 10,000 SF	À la carte: 20 linear feet of low seat wall
	$7,000	$11,000	$77,600	$30,000	$23,000
$2,400,000					

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

OSWEGO
STATE UNIVERSITY OF NEW YORK

Analysis and Findings

Analysis and Findings

SUNY Oswego's Beginning

The Oswego Primary Teachers' Training School was founded in 1861, located in the City of Oswego. The city was built on land that was inhabited by indigenous peoples for thousands of years and developed from a fur trading outpost to a busy industrial and shipping hub.

In 1913, Edward Austin Sheldon moved the School to property west of the city and constructed Sheldon Hall near his own home, Shady Shore, on the shore of Lake Ontario. The lakeside setting offers a unique connection to nature and views of Oswego's famous sunsets. The State of New York recognized the School as a degree-granting institution in 1942, which started SUNY Oswego's expansion into the graduate degree-granting college it is today.

Enrollment surged between 1960 and 1970 when the baby boom generation reached college age. Since 1980, however, enrollment has stayed around 8,000 students, trending downward from a peak of nearly 9,000 students in 1990. Data reported to IPEDS (a national collection of higher education data) shows that in fall 2015, 18 percent of Oswego students were participating in some type of online education. In fall 2021, 55 percent were taking at least one course online. SUNY Oswego course schedules confirm that online course delivery has persisted post-pandemic. In fall 2022, 27 percent of courses were delivered online.

Looking Ahead

Today, statewide and regional demographics suggest there will be fewer college-age individuals in the area in the future. SUNY Oswego continues to innovate, adding online programs, graduate degrees, and creating experience-based on-campus programs to attract exceptional students from New York, the United States, and abroad.

Hands-on, interdisciplinary, academic programs are present in every School at SUNY Oswego. It is one of the few colleges in the SUNY system to offer a four-year degree in Technology Education. Rigorous academics, creative spirit, and innovative instruction are part of what makes SUNY Oswego stand out from the crowd.

Dr. Peter Nwosu, inaugurated in 2023, is SUNY Oswego's eleventh president. In his introductory letter to the Oswego community, he emphasized the College's success in fulfilling its promise to provide access to quality higher education that transforms ordinary lives, ignites extraordinary possibilities, enriches the civic and cultural life of the community, and advances the region's economy. Under President Nwosu's leadership, SUNY Oswego will deliver on this promise for decades to come.

On September 8, 2023, President Peter Nwosu welcomed the SUNY Oswego community in the annual Torchlight Ceremony.

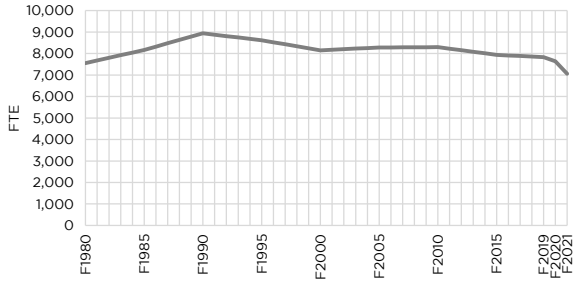
The original Oswego Normal School (halfwaybrook.com)

Edward Austin Sheldon is surrounded by teachers and students in this 1890s photo.(oswego.edu)

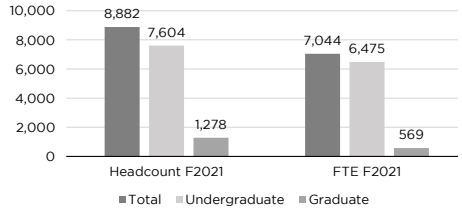
SUNY Oswego's graduation celebration in May 2023. SUNY Oswego celebrated graduation of 2,991 students in 2022. (oswego.edu)

Enrollment History

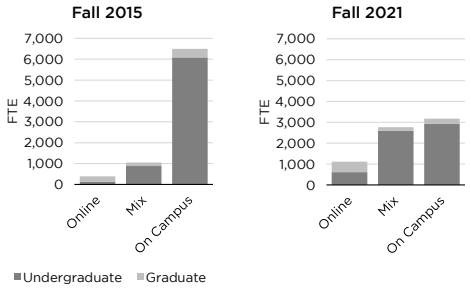
Fall Enrollment, 1980 to 2021 (Source: IPEDS)



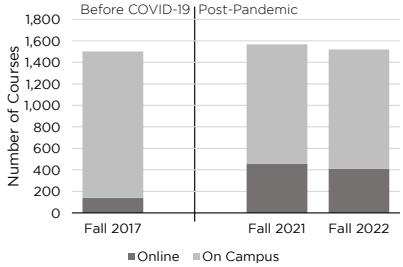
Fall 2021 Enrollment by student level (Source: IPEDS)



Online and On-Campus Instruction, by FTE (Source: IPEDS)



Online and On-Campus Instruction, by number of courses (Source: course schedules)



Campus Expansion

Up to 1960

493,000 Gross Square Feet (GSF)

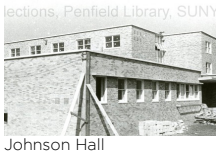
The first SUNY Oswego building on its current campus was Shady Shore, built in 1909 as the residence of the College founder, Edward Austin Sheldon. It was followed by Sheldon Hall, which housed all aspects of the Oswego Normal School, and Park Hall, which housed industrial arts.

Following World War II, wood-framed barracks housed veterans attending college under the GI Bill. Permanent residence halls, a gym, and dining halls were built in the 1950s. These masonry structures resemble the international style of architecture, with flat, untextured exteriors and pattern expressed through materials and structure.


Shady Shore


Sheldon Hall, Park Hall


Lakeside Dining Hall


Johnson Hall


Mackin Complex


Lee Hall

1960 to 1969

2,324,000 GSF added

New construction totaling over two million gross square feet was added to meet the demand that arose when the baby boomer generation reached college age. Piez Hall, a science building, and Swetman Hall, a lab school, were constructed. Two residence hall towers, Funnelle Hall and Hart Hall, expanded capacity.

The West Campus was designed by the architectural firm Skidmore, Owings & Merrill in the Brutalist style. Envisioned to be spare, efficient buildings and to create an egalitarian social environment, Brutalist structures express structure through strong horizontal and vertical elements. Over one million gross square feet of SUNY Oswego's West Campus structures were built in the Brutalist style.


Swetman Hall, Poucher Hall


Piez Hall


Hart Hall, Funnelle Hall


West Campus


Tyler Hall


Hewitt Hall, Culkin Hall

1970 to 1999

120,000 GSF (excludes Snygg Hall) added

Little construction occurred at SUNY Oswego in the end of the 20th century. Oneida Hall was the last residence hall to be constructed on West Campus. Snygg Hall expanded academic capacity in the center of campus; it was demolished in the 2010s to make way for the Shineman Center. Smaller construction projects, like a maintenance garage on the east edge of campus, were also completed.


Cayuga Hall


Snygg Hall


Maintenance Garage

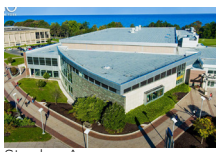
2000 to 2023

510,000 GSF added

In the 2000s, SUNY Oswego renovated many of its oldest buildings. Swetman Hall became the Marano Campus Center. The Stanley Arena was added for large events. Wilber Hall and Park Hall were renovated. Shineman Center, which encompassed a renovated Piez Hall, replaced Snygg Hall.

Johnson and Riggs residence halls were reimagined in a lodge-like style, creating an inviting community overlooking the lake. Later, Waterbury and Scales were renovated to express their architectural roots in a fresh, modern style.

The Village Townhouses were built for upper-level students and graduate students. Off-campus, Rice Creek Field Station was constructed to support academics, research, and community environmental education.


Stanley Arena


Shineman Center


Village Townhomes

First developed area of Campus, early 1900s

Major Campus expansion, 1960s

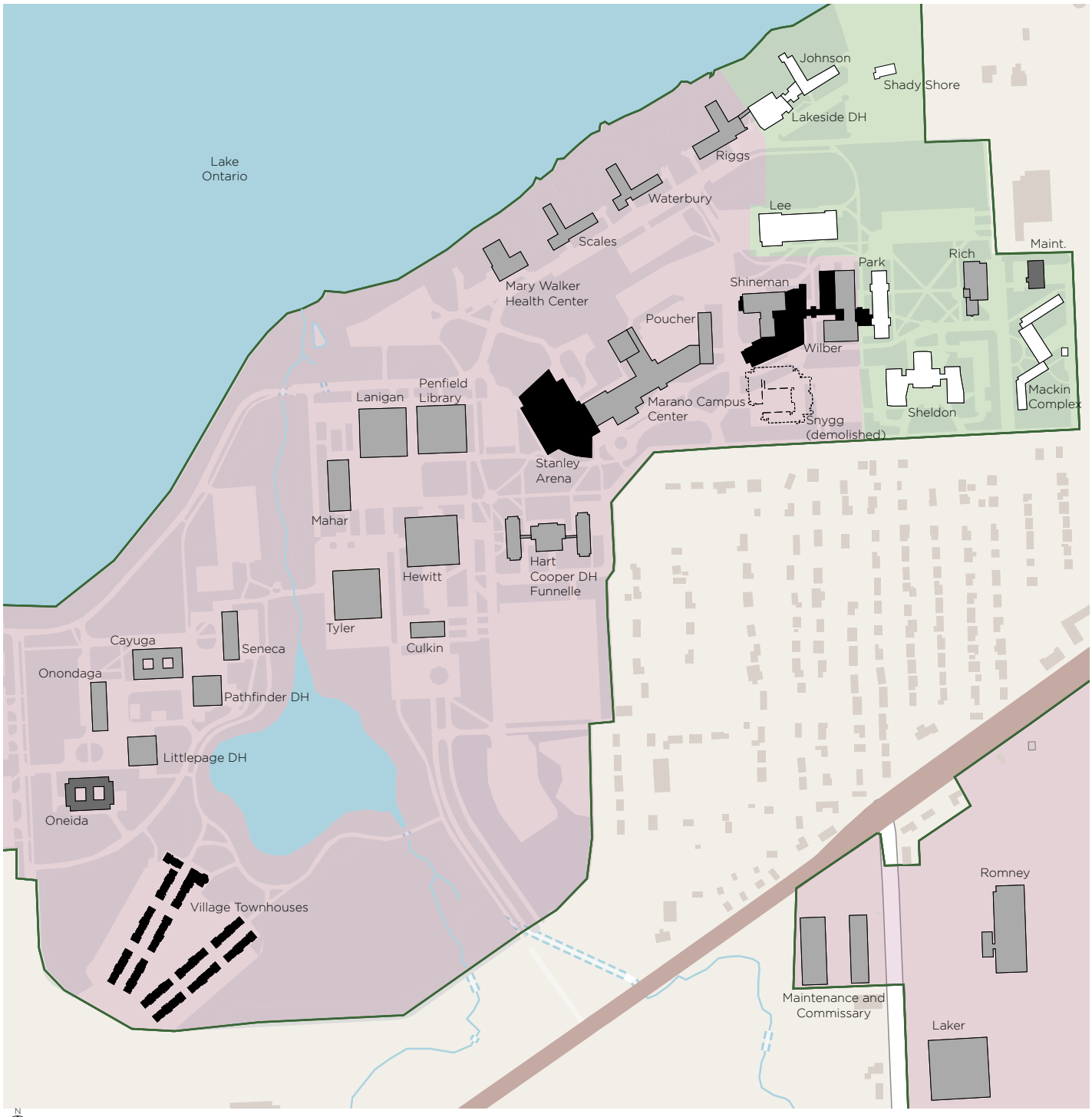
Built before 1960

Built in the 1960s

Built in the 1970s, 1980s, and 1990s

Built in 2000 or later

Campus Expansion



N

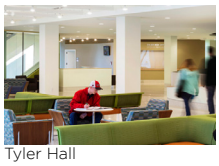
DEVELOPMENT PROGRESS
NTS

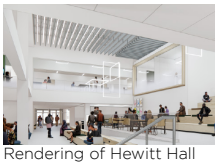
Campuswide Building Condition Summary

Recently Renovated Buildings

■ Like New

Four buildings have been renovated in the past decade and are in like-new condition: Tyler Hall, Hewitt Hall (reopening in 2024), Waterbury Hall, and Scales Hall. Mahar Hall, a classroom and faculty office building, is scheduled for renovation in the mid-2020s, and is assumed, therefore, to be like new for the purposes of this plan.


Tyler Hall


Rendering of Hewitt Hall


Waterbury Hall


Scales Hall


Mahar Hall

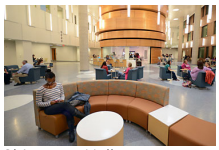
Predictive Maintenance and Preventive Maintenance Phase

■ Good Condition

Buildings constructed or renovated in the 2000s and early 2010s are in good condition. Using building automation system data, predictive maintenance can help maintenance staff plan system upgrades.


Marano Campus Center


Culkin Hall


Shineman Hall


Wilber Hall


Park Hall


Riggs Hall

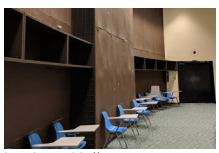

Mary Walker Health Center


Village Townhouses

Modernization Needed

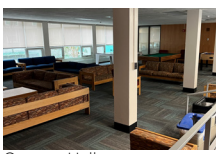
■ Multiple deficiencies

Many SUNY Oswego buildings have not had comprehensive renovations in recent decades. Marked in red on the site plan, these structures total nearly 1.7 million GSF. While portions of these buildings have been upgraded over time, additional modernization is required to create fully accessible, climate controlled, fire protected, energy efficient buildings.


Lanigan Hall

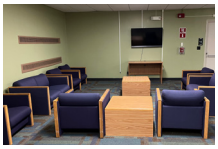

Funnelle Hall


Sheldon Hall


Cayuga Hall


Lee Hall


Penfield Library


Hart Hall


Laker Hall


Onondaga Hall


Rich Hall

Like New Good Condition Multiple deficiencies

Building Condition

BUILDING CONDITION
NTS

2023 Online Survey and Campus Engagement

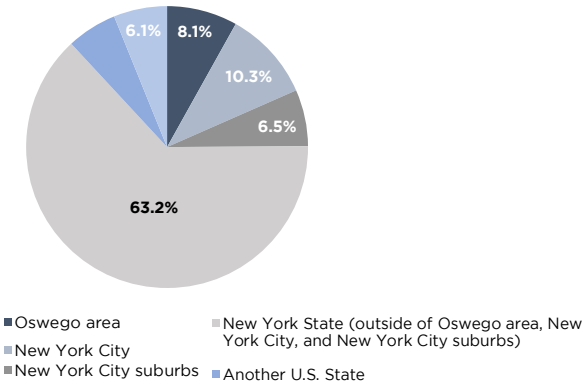
The planning team gathered insights from SUNY Oswego students on residence life topics through in-person focus groups and in an online survey.

Online Survey

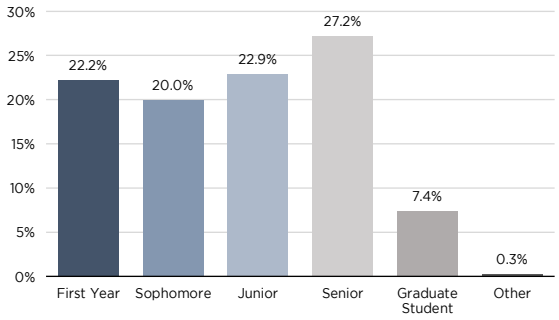
Survey invitations were sent to the 6,476 students enrolled in spring 2023; 815 students responded (12.5 percent). More than 27 percent of respondents were seniors. Seventy-two percent of respondents lived on-campus. The major takeaways were:

- Over 70 percent of respondents indicated the availability of quality on-campus housing was an important or very important factor in their decision to attend SUNY Oswego.
- Students living on campus were less satisfied with their living conditions than students living off-campus.
- Only 27 percent of on-campus residents reported being very satisfied with their housing, while 44 percent of off-campus students were very satisfied.

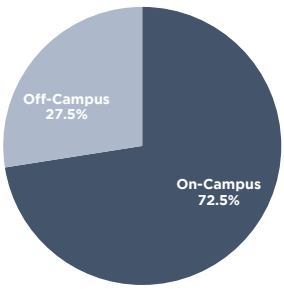
Where is your permanent home?



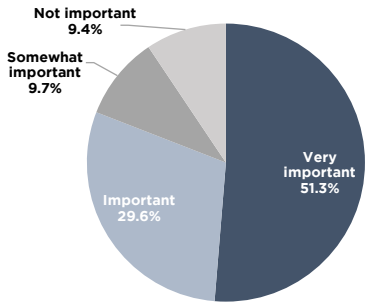
Enrollment Level



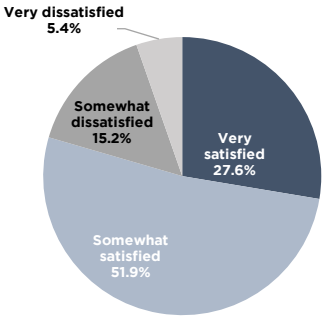
Where do you live?



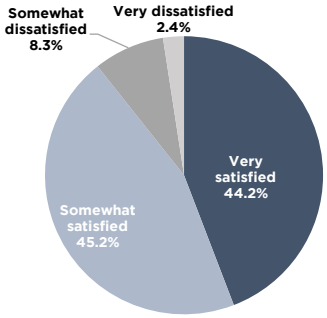
How important was quality on-campus housing in your decision to attend SUNY Oswego?



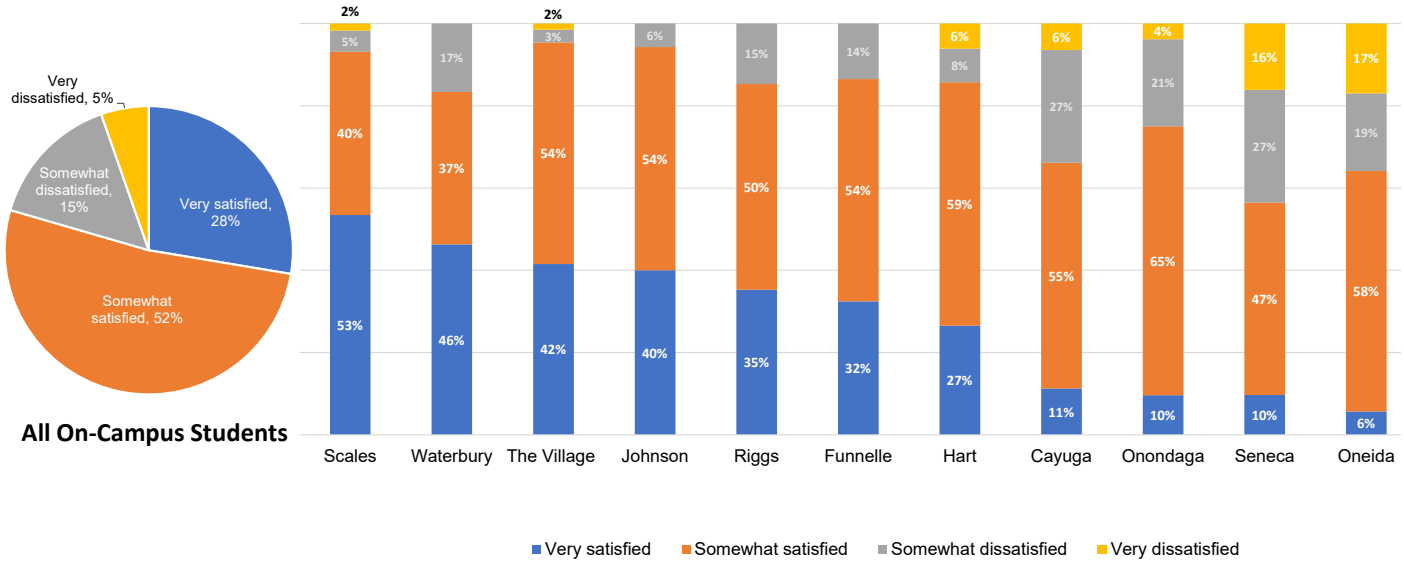
How satisfied are you with your current ON-CAMPUS living conditions?



How satisfied are you with your current OFF-CAMPUS living conditions?

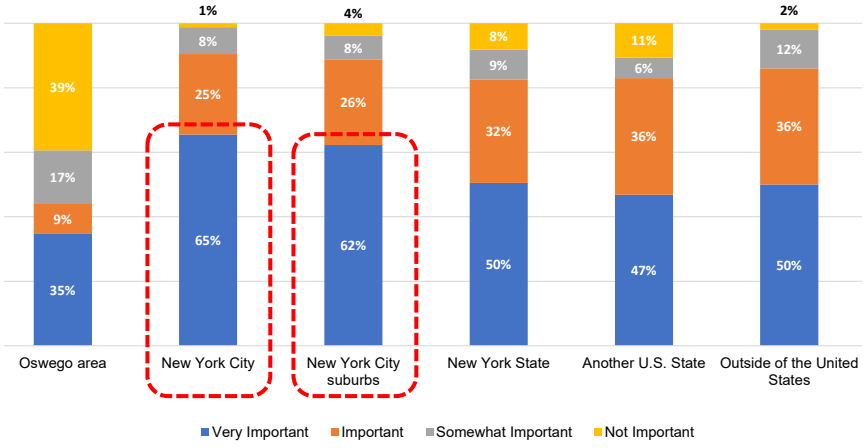


On-Campus Residents' Satisfaction with Housing

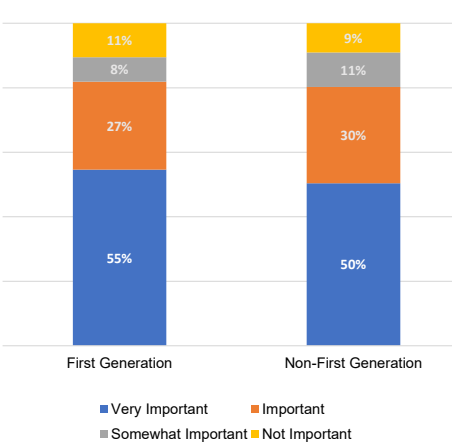


Importance of Housing

How important was the availability of quality on-campus housing in your decision to attend SUNY Oswego?



By Area of Origin

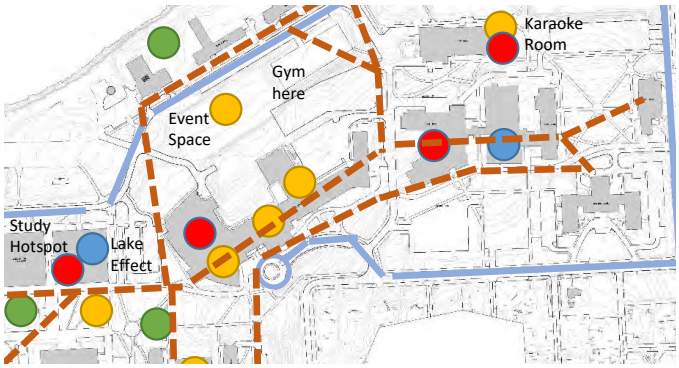


By First/Non-first Generation Student

Student Focus Groups

Evening student focus groups were held in residence halls in March 2023. Students collaborated on an exercise called "Map My Day" in which they traced their typical paths and destinations. They used stickers to mark features they wish were present in their residence halls. In open discussion, they expressed the features that would improve their residence life experience.

Map My Day



Students' priorities

- Bathroom improvements are needed on West Campus.
  - Benches within the shower rooms
  - Gender-neutral bathrooms
  - Showers with robe hooks, shelves, and lockable doors
- Students request air conditioning.
- Better kitchens were requested.
- Students emphasized that facilities in East, Center, and West communities are not equal; West Campus residence halls are not desirable.
- Bus service should extend to weekends.
- Study lounges in West Campus residence halls are poorly furnished and are not comfortable. West Campus residents go elsewhere to study.
- Athletes tend to crowd fitness facilities, leaving little capacity for recreational use.
- Filtered water in residence halls was requested.
- The outdoor spaces are limited to grass. More amenities are needed at leisure and recreation spaces.
- The bridge to West Campus is deteriorating.
- Some residence halls look run-down from the outside. Exterior improvements are needed.
- Interior common spaces can feel dark and gloomy. Better lighting and more glass are needed.

Desirable features in residence halls

3 Votes

More spaces like this, more light is more productivity, more glass

3 Votes

Community spaces

4 Votes

6 Votes

Warm and comfortable

4 Votes

More rocking chairs, like at Wilber Hall

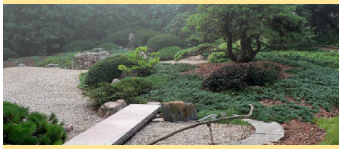
4 Votes

More outdoor seating

6 Votes

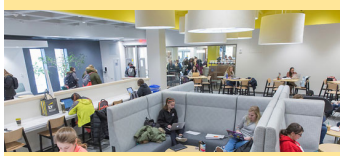
Collaborative areas

9 Votes



More peaceful outdoor spaces, lakeside spaces

7 Votes



Spaces like this in the big basement lounges - needs good tech access

7 Votes

Include one of these in every residential community

9 Votes

Outdoor relaxation

9 Votes

Laundry on every floor that has windows and study area

Residence Life Workshop

Residence Life staff and Master Plan Steering Committee members attended an on-campus workshop in March 2023. They identified aspirations for the future of Oswego residence life by listing strengths, weaknesses, opportunities, and threats.

The following goals were established for the Master Plan.

Five Year Goals

- Refresh, renovate, and re-brand residence halls.
- Create equity in amenities and quality between residence halls.
- Have a strong first- and second-year residence program.
- Create living-learning opportunities.
- Potentially, include faculty residence space.

Ten Year Goals

- Improve the recreation/fitness center in Lee Hall.
- Continue to renovate residence halls.
- Consider incorporating workforce housing on-campus.
- Further develop the connection of academics and residence life.
- Explore the alternatives for using Lonis and Moreland. Are there any viable uses?

Summary of Campus Input

Student Experience

- Emphasize safety and wellness.
- Make living on-campus a benefit.
- Enhance the sense of community.
- Make residence halls inviting and comfortable.
- Present on-campus living as a four year-long experience.
- Promote a sense of belonging.
- Promote student success through
  - Integrating learning/living-learning communities
  - Tutoring and study spaces
  - Connections to Oswego culture and academic programs

Finance

- Examine residence hall pricing compared to value.
- Evaluate the Oswego Guarantee (a fixed rate for on-campus living for every student for four years). Does it influence students' decisions to attend Oswego?
- There are few financial resources to improve residence halls. The facilities differ greatly from building-to-building, yet students pay the same rates.

Institutional Coordination

- Align with strategic priorities
- Collaborate with dining
- Link to academic programs

Facilities Needs

- Improve West Campus conditions
- Upgrade quality of study spaces in residence halls
- Replace furnishings in many common spaces
- Enhance outdoor spaces
- Continue to make accessibility upgrades
- Continue to improve sustainability
- Increase access to fitness and recreation
- Continue to upgrade IT infrastructure

Residence Hall Capacity

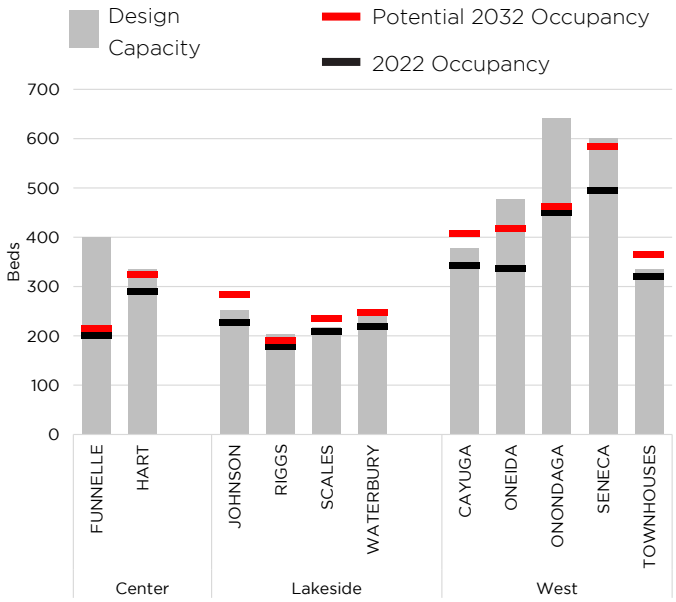
In 2018, SUNY Oswego housed 4,077 students in residence halls. In fall 2022, 3,290 students resided on campus. First-year and sophomore students are required to live on-campus. Campuswide design capacity is 4,103 students. In fall 2022 an additional 813 students could have lived on campus. In the near term, this unused capacity can serve as swing space for residence hall renovations. Long term, SUNY Oswego seeks to increase on-campus residents to 3,700 students in the next decade through the following methods:

- Increase the percentage of students who choose to live on-campus after their sophomore year.
- Attract additional graduate students to residence hall living.

Central Community and West Community residence halls require modernization. Following the COVID-19 pandemic, high inflation and supply chain challenges increased the cost of construction materials and labor. On average, non-residential construction costs increased 35 percent nationwide between August 2020 and August 2023. The inflation curve flattened in January 2023, which could bode well for future construction projects.

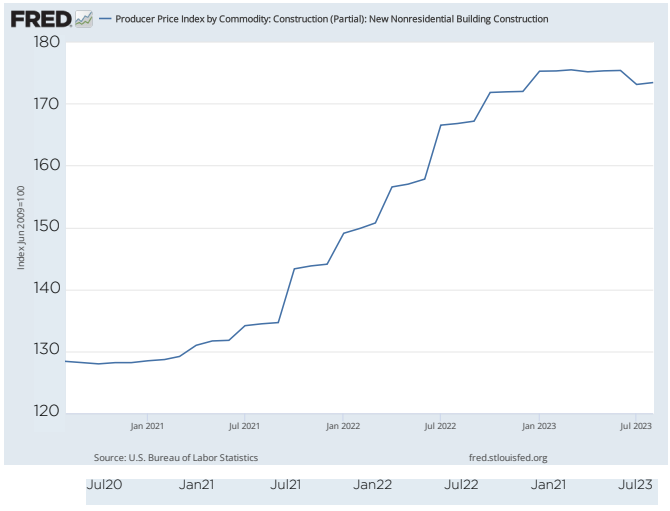
High construction costs have reduced the spending power of SUNY Oswego's cash reserves. Low enrollment growth means revenue from residence halls may not grow substantially compared to the costs of operation. These factors prompted SUNY Oswego to set a very conservative budget for residence hall improvements.

Residence Hall Capacity and Occupancy



Producer Price Index, Non-Residential Construction August 2020 to August 2023

Source: fred.stlouisfed.org



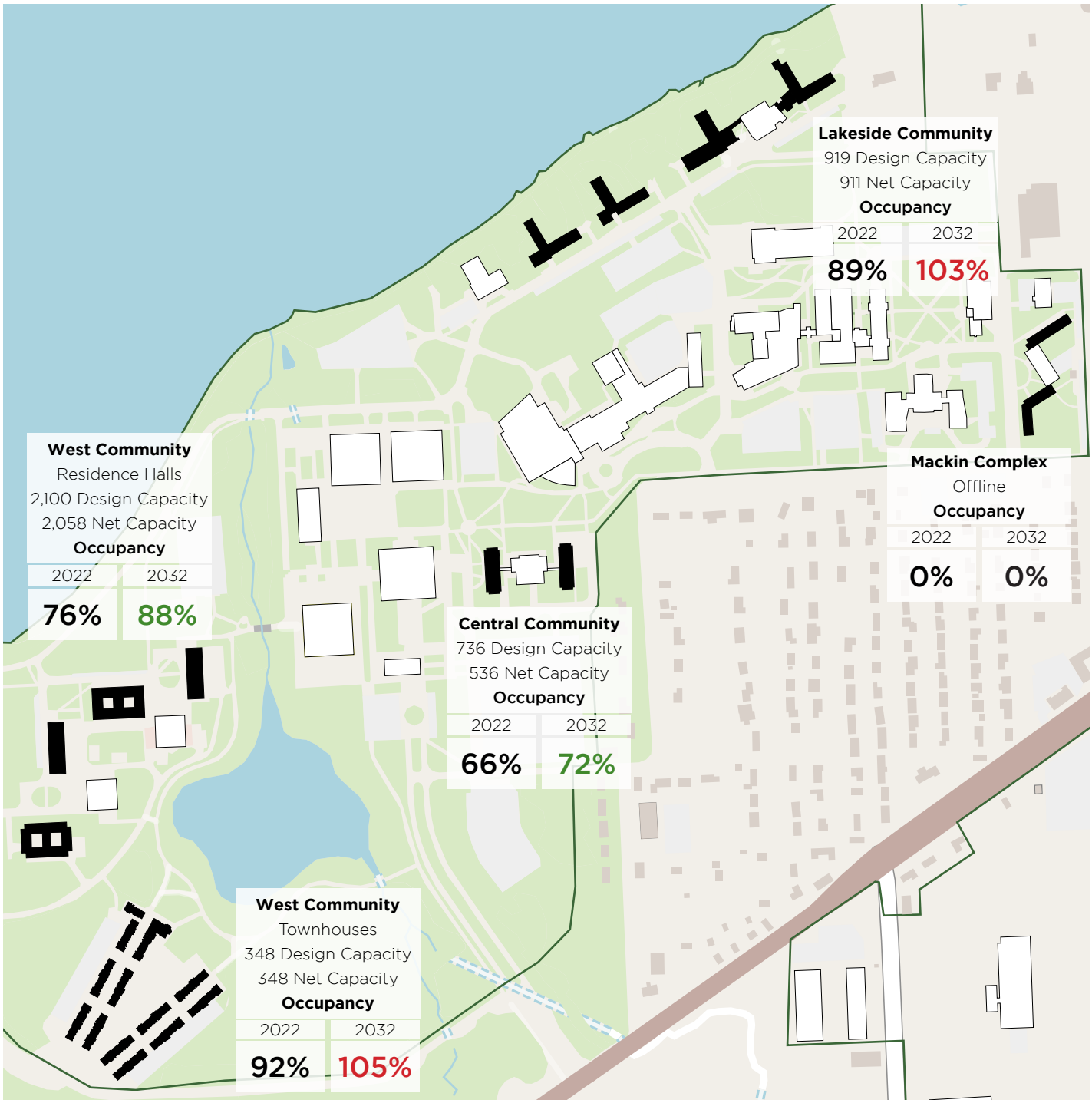
Financial Analysis

Introduction

Wachalski Advisory, Inc.("WA") is a real estate consulting practice providing a wide range of capital planning and project implementation services to higher education institutions across the United States. In the Fall of 2022, WA was retained by SUNY Oswego ("University", "Oswego"), as a sub-consultant to JMZ Architects, to provide planning and needs assessment for student housing as part of a campus-wide Master Plan ("Project"). During the course of the Project, WA provided the following services:

- Review of existing facilities and operations including detailed campus and housing tours,
- Strategic visioning with the University's key stakeholders,
- Off-campus housing market review,
- Peer institution housing program review,
- Student focus groups and a student survey,
- Demand analysis (housing program sizing),

Residence Hall Capacity and Occupancy



RESIDENCE HALL OCCUPANCY
NTS

- Detailed financial modeling, and
- Facility concept development.

WA's process and findings are outlined in Appendix A and Appendix B. This written report describes the entire financial model, including major assumptions, and recommendations.

Financial Model

Existing Conditions

Residence Life and Housing ("Housing") at SUNY Oswego operates approximately 3,860 on-campus beds in 12 residential communities. Two buildings, Moreland Hall (153 beds) and Lonis Hall (137 beds), currently remain off line.

During the academic year 2022/2023, Housing generated approximately $30 million in revenues and accrued approximately $33M in expenses (including annual debt service payments) generating a $3M deficit.

Housing is required to maintain a Reserve Cash Balance of no less than $5 million. The cash balance at the beginning of 2022/2023 was approximately $23.5M and, due to the operating deficit, decreased to $20.5M. Housing is also required to maintain a Debt Coverage Ratio ("DCR") of no less than 1.20x. In 2022/2023, the DCR was 3.54. It is important to note that the beginning Cash Balance is factored into the DCR calculations, in addition to the operating revenues and expenses.

Operating Budget Details

The following items are included in Housing's cash flow/ operating budget:

Receipts:

- Room Rents and Deposits: these include room rental revenues, other revenues, bond payment reimbursement for the dining facility debt, and interest on the Reserve Cash Balance.
- Student Aid / Scholarships: cash contribution Housing makes to the University's Scholarship Fund.
- Assessments: University overhead charge and fringe benefits (shown as a category of Receipts as opposed to on the expense side).
- Miscellaneous: speculative revenues including guest and conference rentals.

Disbursements (including OTPS / NPS):

- Personal Services: full-time payroll.
- Temporary Services: personnel expenses covering graduate students and other student workers, as well as temporary staff.
- Contractual: outsourced services such as software contracts, maintenance, and pest control.
- Equipment: any equipment charges over $1,000.
- Supplies: relatively fixed charges for supplies needed for Housing's operations.
- Travel: travel expenses for professional staff.
- Utilities: annual allocation for utility charges based on the size of the Housing assets.

Transfers:

- Transfer From/To Facility to Hard Dollar: annual transfers for specific small capital projects such as landscaping, painting, carpet replacements, etc.
- Transfers to 074: transfers to a rehab and reserve fund.
- DASNY Overhead and Insurance Payments: annual payments, typically in the range of $450,000 - $500,000.
- Transfer to Dorm Debt Service Payments: annual debt services related to DASNY-administered SUNY bonds and SUNY Revolving Loan Repayment.

The table below displays Housing's 2022/2023 operating budget.

Operating Budget ($000s)	**2022 / 2023**
Beginning Cash Balance July 1	$23,461
Receipts	
Room Rents and Deposits	30,128
Student Aid / Scholarships	(4,909)
Assessments	(4,113)
Miscellaneous	222
Total Receipts	$21,328
Disbursements	
Personal Service	$6,250
Temporary Service	$912
OTPS / NPS	
Contractual	2,652
Equipment	353
Supplies	1,792
Travel	145
Utilities	1,896
OTPS / NPS Total	6,838
Total Disbursements	$14,000
Transfers	
Transfer From / (To) Facility to Hard Dollar	(1,400)
Transfer (To) 074	(300)
DASNY Overhead and Insurance Payments	(487)
Transfer to Dorm Debt Service Payments	(8,050)
Total Transfers	($10,237)
Surplus / (Deficit)	($2,909)
Ending Cash Balance June 30	$20,551

Financial Scenario Framework

In collaboration with the University, WA developed multiple financial scenarios that reconcile three critical feasibility components related to any contemplated capital projects. These include the following:

- Amount and sources of capital funding: the amount will have to be sufficient to cover the cost of meaningful improvement to the University's housing stock. The sources will include Housing's Cash Reserves, DASNY-administered SUNY bonds, and the SUNY Revolving Loan. The funding strategy will have to account for the minimum cash balance of at least $5 million in any year. In addition, the SUNY Revolving Loan is typically reserved for smaller, non-capital projects and may not be applicable to the larger master plan strategy.
- Annual cash flow: in any of the scenarios, the goal would be to improve cash flow and strive to generate an operating surplus, in addition to securing 1.20x DCR.
- Residential life outcomes: The quantity and quality of the housing stock will have to improve over time as a direct result of the capital projects. In addition, during the implementation of these projects, sufficient swing space will have to be provided to house the desired number of students without bringing back on-line Moreland Hall and Lonis Hall, which would require additional funding to make them habitable.

Preliminary financial modeling proved that a number of cash flow improving mechanism will have to be pursued to achieve the above objectives. WA suggests exploring a combination of these mechanisms to minimize the impact on the Housing or University operations. The financial model explores the following approaches:

- Modification of Oswego Guarantee: Oswego Guarantee is a policy based on which residents returning to housing enjoy the rental rate they "lock in" during their first year in University housing. Some modification of this policy would have positive impact on cash flow.
- Rental rate increase(s): any rental rate increases, beyond the typical annual escalation, would positively impact revenue generation and the net operating income ("NOI").
- Decrease in Housing's commitment to the University's Scholarship Fund: any reduction of the current $4.9M annual contribution would enhance Housing's cash flow.
- Decreases in selected operating costs: in order to improve the cash flow, certain reductions of operating costs should be considered. One option would be to re-assess Housing's commitment to fund personnel expenses, those less related to housing operations in particular.

Selected Financial Scenarios

To all the three financial scenarios detailed below, WA applied a combination of the following cash flow improving strategies (identical combination of these approaches was applied to each scenarios for direct comparison):

- Modification of Oswego Guarantee: While the rental rates for first-time students would increase at a typical rate of approximately 3% per year, returning student would enjoy a 1% lower escalation rate. In addition, the modification would be implemented over the course of four (4) years which would allow to keep the rates flat for those who already reside on campus. This modification would be initiated in the Fall of 2025.
- Rental rate increase(s): Two rental rate increase (above the typical 3% annual escalation) would be implemented: 5% in the Fall of 2025 and 4% in the Fall of 2026. Beyond Fall 2026, the escalation of 3% per year is projected.
- Decrease in Housing's commitment to the University's Scholarship Fund: A reduction of the scholarship commitment to $3.4M per year starting in FY25. The commitment would stay on that new level in the future.
- Decreases in selected operating costs: A reduction in the Dormitory Income Fund Reimbursable (DIFR) contribution to personnel costs by 10 percent (approximately $660,000 and corresponding fringe benefits) in FY26, no reductions thereafter (typical escalation of 3%).

$10 million Scenario

$10 million in capital funding would be obtained from the Reserve Account Cash Balance in FY26 with no additional debt. While Housing would maintain the DCR above 1.20x, the Reserve Cash Balance would fall to $4.7M, below the required $5 million making this scenario infeasible unless additional cash flow enhancements were pursued.

Potential Housing Capacity Strategy: If $10 million were spent on Funnelle Hall, the building (200 beds) would be off line during the 2025/2026 academic year, while the missing beds would be provided in Cayuga Hall (additional 123 beds) and Oneida Hall (additional 77 beds).

Under this scenario, additional capital funding, $10 million in Reserves and $40M in Debt, would likely become available in FY31 and FY32 respectively, if the FY27 Reserve Balance shortage were to be overcome.

Appendix B, Exhibit A displays the abbreviated pro forma for the $10 million Scenario.

$15 million Scenario

$15 million in capital funding would be obtained from two sources:

- Reserve Account Cash Balance - $7.5M in FY26 and
- DASNY-administered SUNY bonds - $7.5M, resulting in debt service payments of $447,000 starting in FY27 – assuming 30-year debt term and a 4.25% interest rate.

This scenario passes both the Reserve Cash Balance test and the DCR test.

Potential Housing Capacity Strategy

$15 million in capital funding would allow SUNY Oswego to continue the ongoing Funnelle Hall renovation effort. The 200-bed building would be off line during the 2025/2026 academic year. Funnelle's beds would be temporarily replaced by 123 additional beds in Cayuga Hall and 77 beds in Oneida Hall. Multiple smaller projects, or a more comprehensive renovation of another residence hall (for example Oneida Hall) could be pursued. The missing beds in Oneida Hall, 403 beds off line during the 2026/2027 academic year, could be temporarily provided in Cayuga Hall (123 beds in lounges), Johnson Hall (80 beds in tripled rooms), and in Funnelle Hall (200 beds in double occupancy after renovations).

Under this scenario, additional capital funding, $10 million in Reserves and $40M in Debt, would likely become available in FY31 and FY32 respectively.

Appendix B, Exhibit B displays the abbreviated pro forma for the $15 million scenario.

$30 million Scenario

$30 million in capital funding would be obtained from two sources:

- Reserve Account Cash Balance - $10 million in FY26 and
- DASNY-administered SUNY bonds - $20M, resulting in debt service payments of $1.19M starting in FY27 – assuming 30-year debt term and 4.25% interest rate.

While Housing would maintain the DCR above 1.20x, the Reserve Cash Balance would fall below the required $5 million in FY27, FY28, and FY29 making this scenario infeasible unless additional cash flow enhancements were pursued.

Housing Capacity Strategy

$30 million in capital funding would allow Oswego to address Seneca Hall renovation needs. The building (607 beds) would remain off line during the 2025/2026 and 2026/2027 academic years. Swing space would be provided in the following buildings: Cayuga Hall (123 beds in lounges), Oneida Hall (88 beds in lounges), Funnelle Hall (400 beds in double occupancy), Johnson Hall (114 beds in tripled rooms), and Hart Hall (82 beds in tripled rooms).

If the FY27, FY28, and FY29 Reserve Balance shortages were to be overcome, additional capital funding, $10 million in Reserves and $40M in Debt, would likely become available in FY33 and FY34 respectively.

Appendix B, Exhibit C displays the abbreviated pro forma for the $30 million Scenario.

Recommendation

Based on the financial analysis, only the $15 million scenario passes the $5 million Reserve Cash Balance and the 1.20x DCR tests. At the same time, $15 million in capital funding is sufficient to complete the Funnelle Hall partial sprinkler installation and pursue additional meaningful projects. For these reasons, our team recommends the $15 million scenario for consideration within the Master Plan implementation framework.

Instructional Space Utilization

Efficient scheduling of instructional space allows institutions to improve utilization of physical resources. At times when demand is low, such as the years following the recent pandemic, institutions can shift instruction to enable building renovations and upgrades. When instructional demand and enrollment are high, increasing hours and seat fill in strategic locations can allow institutions to absorb growth.

SUNY Oswego achieved relatively efficient use of its instructional spaces in fall 2022, compared to many peers in the SUNY system. However, on-average there were unused hours and seats in SUNY Oswego's classrooms, lecture halls, and class laboratories.

In fall 2022, Hewitt Hall was closed for renovation. Hewitt Hall's academic programs were distributed campuswide, increasing hourly use of scheduled spaces. When Hewitt Hall reopens, its newly-available instructional spaces will reduce the load on other classrooms and labs.

SUNY issues instructional space utilization targets for seat fill and hourly use:

- Eighty percent of classroom and lecture hall seats should be filled when rooms are in use.
- Classrooms and lecture halls should be used 30 hours per week for scheduled instruction.
- Eighty percent of class laboratory seats should be filled when rooms are in use.
- Class laboratories should be used 24 hours per week for scheduled instruction.

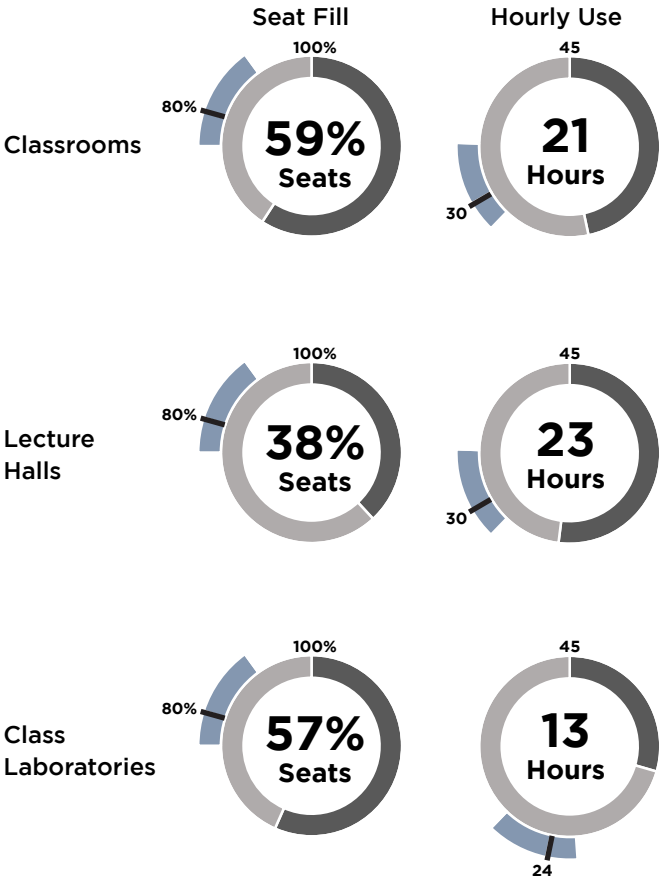
On average, classrooms were in use 21 hours per week in fall 2022. Classrooms were 59 percent full when scheduled. Lecture halls were in use for 23 hours per week at 38 percent seat fill, on average. Class laboratories were used for 13 hours per week at 37 percent seat fill. Instructional space had more efficient hourly use than seat fill. Section enrollment could increase, on average, to better fill empty classroom seats.

A weekly student contact hour (WSCH) is a measure of aggregate instructional space capacity and demand. A WSCH is equal to one student occupying one seat for one hour. Fall 2022 instructional demand equaled 50 percent of the SUNY target utilization of scheduled classrooms and lecture halls. Class Lab demand was 44 percent of target utilization.

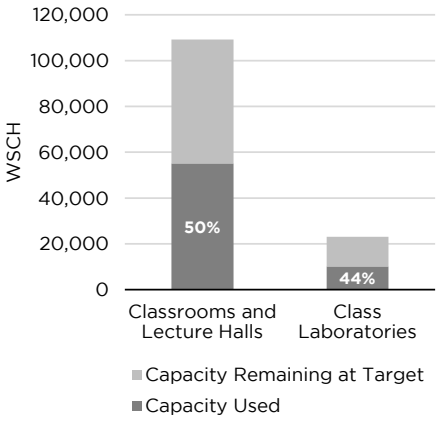
There is sufficient capacity campuswide to accommodate the planned renovation of Mahar Hall. When Mahar Hall is reoccupied after renovation, SUNY Oswego's fall 2022 demand would equal just under 50 percent of its available instructional capacity.

Most classrooms with seating capacity of 45 seats or more are on the east side of campus. Additional classrooms in this seating capacity range would be useful on the west side, though there are sufficient classrooms of this size campuswide to meet demand.

Average Utilization Rates of Instructional Spaces
Fall 2022



Weekly Student Contact Hour Utilization and Capacity
Fall 2022



Summary

- Enrollment fell from a peak of 9,000 full-time equivalent students (FTE) in 1990 to 7,000 FTEs in 2021. Growth in online programs and graduate enrollment could prompt growth in the future, yet the number of on-campus students is not expected to surpass the 1990 peak.
- By area,
  - 29.7 percent of SUNY Oswego space was built before 2000 and has not been comprehensively renovated since construction.
  - 55.5 percent was built before 2000, but has been modernized since.
  - The remaining 14.8 percent was built after 2000.
- In focus groups and surveys, students expressed dissatisfaction with the disparity in quality between the West Campus Community and the Lakeside Community, and with West Campus residence halls overall.
- Students requested simple amenities like benches in the bathrooms, kitchen upgrades, water filters, and updated furniture.
- The steering committee and campus leadership prioritized the need to make living on-campus a student's first choice. Housing should be seen as a benefit.
- Campus leadership are willing to consider changes to residence life financial practices to enable more robust capital improvements to aging residence halls.
- Based on SUNY instructional space utilization targets, SUNY Oswego has sufficient capacity to accommodate potential growth. Facilities conditions and demand for specific academic programs affects real-time availability of individual classrooms, lecture halls, and labs.

Conclusions

Residence Halls

The College can spend $15 million on near-term residence hall improvement projects. By withdrawing $7.5 million from its cash reserves and financing $7.5 million with SUNY bonds (administered by DASNY), SUNY Oswego can make improvements to life safety by completing the partially-installed Funnelle Hall sprinklers on residence floors. In addition, improvements can be made in Funnelle Hall and other residence halls to enhance aesthetics and address facilities maintenance needs.

Spending and revenue changes will be required to enable future capital projects in residence halls:

- Starting in 2025, restructure the Oswego Guarantee by implementing a reduced annual rate of housing cost increase instead of a fixed four-year housing rate.
- Over two years, implement a rental rate increase: 5% in the Fall of 2025 and 4% in the Fall of 2026.
- Decrease Housing's commitment to the University's Scholarship Fund to $3.4M per year starting in FY25.
- Decrease the Dormitory Income Fund Reimbursable (DIFR) contribution to personnel costs by 10 percent (approximately $660,000 and corresponding fringe benefits) in FY26, no reductions thereafter (typical escalation of 3%).

Academic Buildings

In academic buildings, the ten-year priority is to continue renovating SUNY Oswego's oldest structures. Lanigan Hall and Penfield Library program studies and renovations are recommended to take place before 2030. Lee Hall and Laker Hall comprehensive renovations are recommended to start within the decade. Comprehensive renovations at Sheldon Hall and Rich Hall are recommended for long-range implementation.

OSWEGO
STATE UNIVERSITY OF NEW YORK

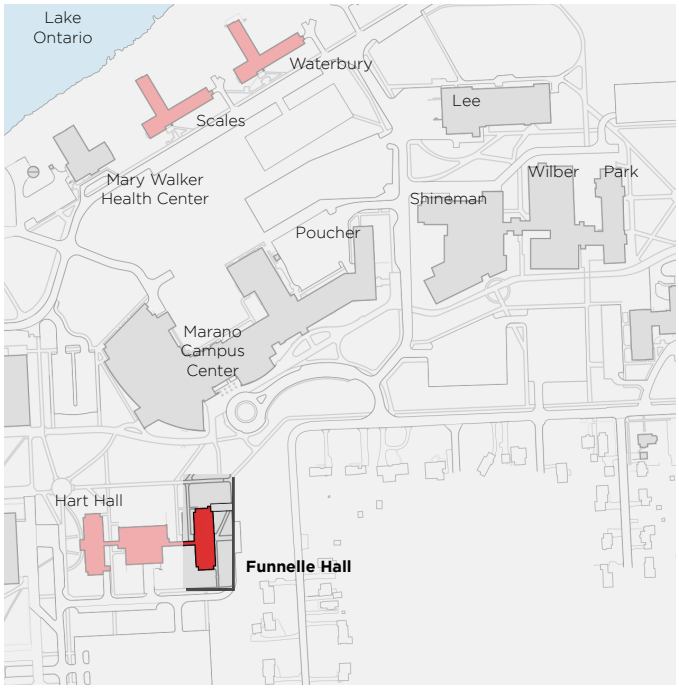
Project Descriptions

Residence Hall Recommendation
Funnelle Hall Sprinkler Completion and Common Space Renovation

Funnelle Hall was constructed in the 1960s, renovated in the 1990s, and further improved in 2020. Of Oswego's six residence halls built in the 1960s, Funnelle is the closest to being a fully-modernized structure. However, the fire sprinkler system on residence floors was only roughed-in during the 2020 work.

Completing the sprinkler project will activate the investment Oswego made in 2020 and will protect the building and its occupants in the event of a fire. With only 200 residents to relocate, vacating Funnelle Hall to complete the sprinkler project can be easily accomplished.

It is recommended that a capital investment be made in Funnelle Hall: complete the partial sprinkler installation, lobby and lounge improvements, and facilities maintenance projects.



N
LOCATION PLAN
NTS

Assets

- Large multipurpose lounge off lobby
- Updated common baths
- Nice small group study rooms on residence floors
- Central location, convenient to dining, fitness, academics, and events

Challenges

- Additional work is required to complete and activate the partially-installed sprinkler system.
- Need to improve site lighting
- Lack of identity and sense of place, inside and outside
- Lounges need updated furniture similar to that used in Seneca basement lounge.
- Residence floor lounges need updated finishes. Wood paneling is out-of-date.
- Residence room doors are not ADA-compliant.
- Assume hazardous materials abatement will accompany any demolition.
- Trash cans are front and center in view.

Archive photograph of Funnelle Hall from the Penfield Library digital archive (digitallibrary.oswego.edu)

Facilities Maintenance Needs

SUNY Oswego reported planned facilities maintenance projects, totaling $3,100,000

- Perform heating system repairs and maintenance.
- Add digital code key boxes.
- Major elevator upgrade/replacement
- Rebuild door controllers, relays, and wiring.
- Replace west exterior doors and hardware.
- Add bottle filling stations.

In addition, engineers recommend planning for the following systems upgrades:

- Complete the sprinkler system installation.
- Anticipate replacing the emergency generator in the next decade. It is nearing the end of its useful life.
- Replace electrical panelboards in the next decade.
- When systems are upgraded, implement recommendations of the Clean Energy Master Plan.
- In the 2030s, replace cooling equipment for IT rooms.
- In the 2040s:
  - Replace fire alarm.
  - Replace major heating equipment.
  - Replace heating and ventilating units. Implement demand control ventilation.
  - Replace domestic water service and hot water tank.
  - Replace the aging portions of the fire protection system (any components original to the 1997-98 installation).

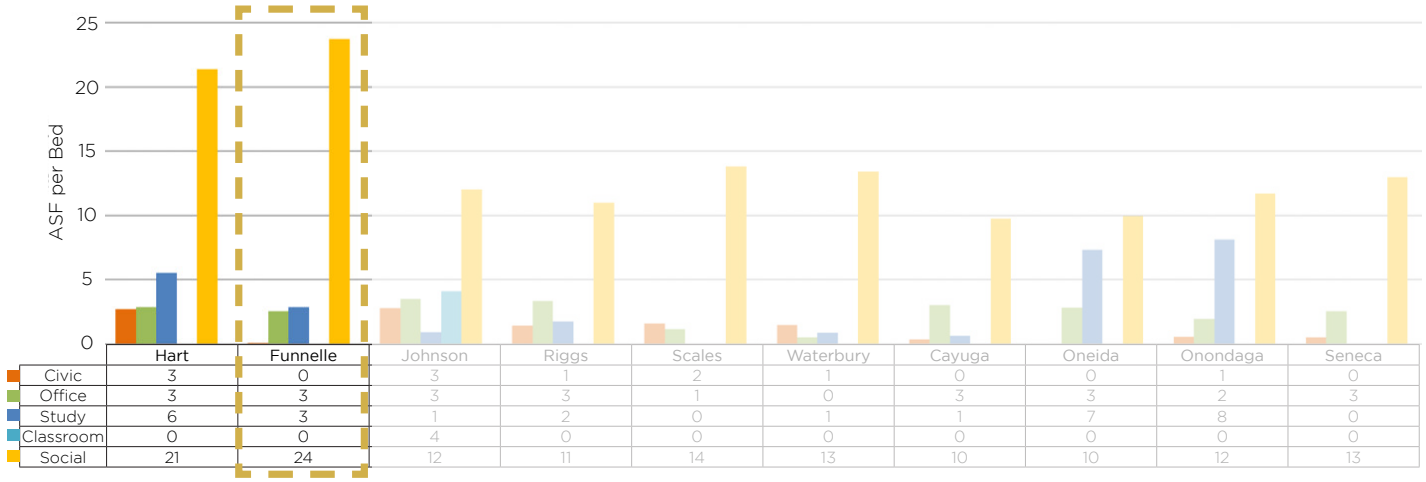
Space Allocation

Funnelle Hall has a higher proportion of social space per bed than any other residence hall on campus. It has relatively little study space per bed, compared to Hart Hall. Its central location could make it a valuable resource for residence life activities, potentially bringing better utilization to its very large lounges.

Bed Count

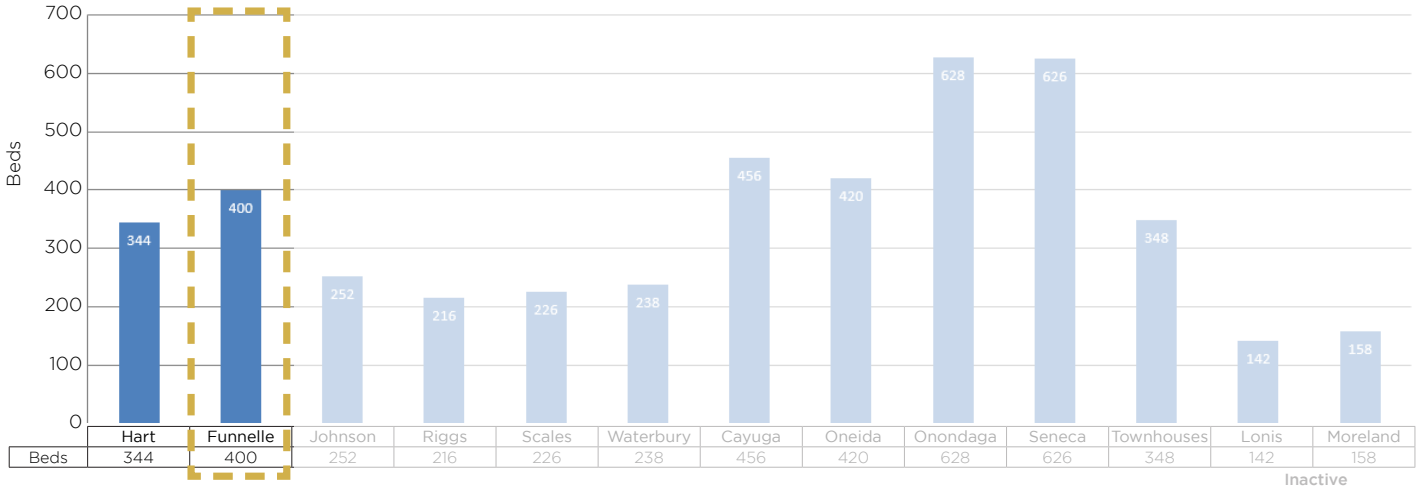
Funnelle has a 400-bed capacity at double occupancy. With only 200 beds in use in 2023, it is SUNY Oswego's only single-occupancy residence hall.

Funnelle Hall Space Allocation



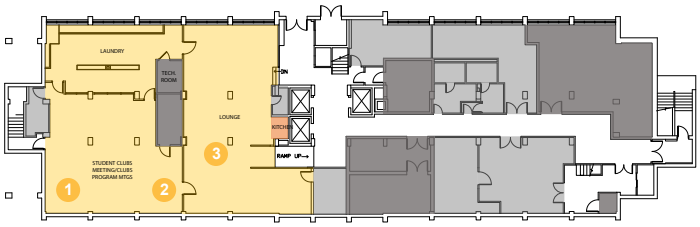
	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca
Civic	3	0	3	1	2	1	0	0	1	0
Office	3	3	3	3	1	0	3	3	2	3
Study	6	3	1	2	0	1	1	7	8	0
Classroom	0	0	4	0	0	0	0	0	0	0
Social	21	24	12	11	14	13	10	10	12	13

Funnelle Hall Bed Count

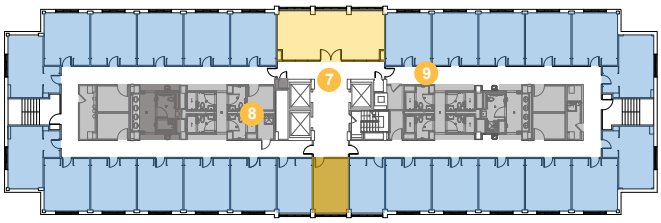


	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca	Townhouses	Lonis	Moreland
Beds	344	400	252	216	226	238	456	420	628	626	348	142	158
												Inactive	

Existing Floor Plans



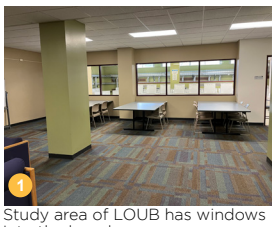
N **BASEMENT**
NTS



N **TYPICAL RESIDENCE HALL FLOOR**
NTS

N **FIRST FLOOR**
NTS

- STUDENT LIVING UNIT
- LOUNGE
- KITCHEN
- CLASSROOM / SEMINAR
- ADMIN OFFICE
- STAFF RESIDENCE
- GUEST RESIDENCE
- RECREATION ROOM
- STUDY
- SUPPORT SPACES
- MEP SYSTEMS
- FOOD SERVICE



Study area of LOUB has windows into the laundry room.

TV area of LOUB is not separated from the study area. Furniture is outdated and the TV is too small.

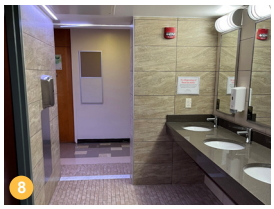
There is a large lounge and gathering area outside kitchen KITB.

A view of the main desk from the first floor lobby. Finishes are original.

Main Lounge LOU1 is very large. It has many furniture groupings but lacks definition of space uses.

View into LOU1 from the lobby.

Each residence floor has a large lounge (like LOU2W) and a study room (like STU2C).



Bathrooms on all residence floors were updated in 2020.

Corridors were renovated in 2020. Sprinklers were roughed-in but not completed.

Funnelle Hall Recommended Projects

The major improvements listed below are projects that will prolong the life of Funnelle Hall and improve its appearance.

Facilities Maintenance	
SUNY Oswego invested in bathroom upgrades and partially roughed-in fire sprinkler piping on residence floors. To prevent a stranded investment, complete the sprinkler installation on residence floors. Include fire pump, generator, abatement, and associated finishes and student room casework. $7,100,000	
Subtotal	**$7,100,000**

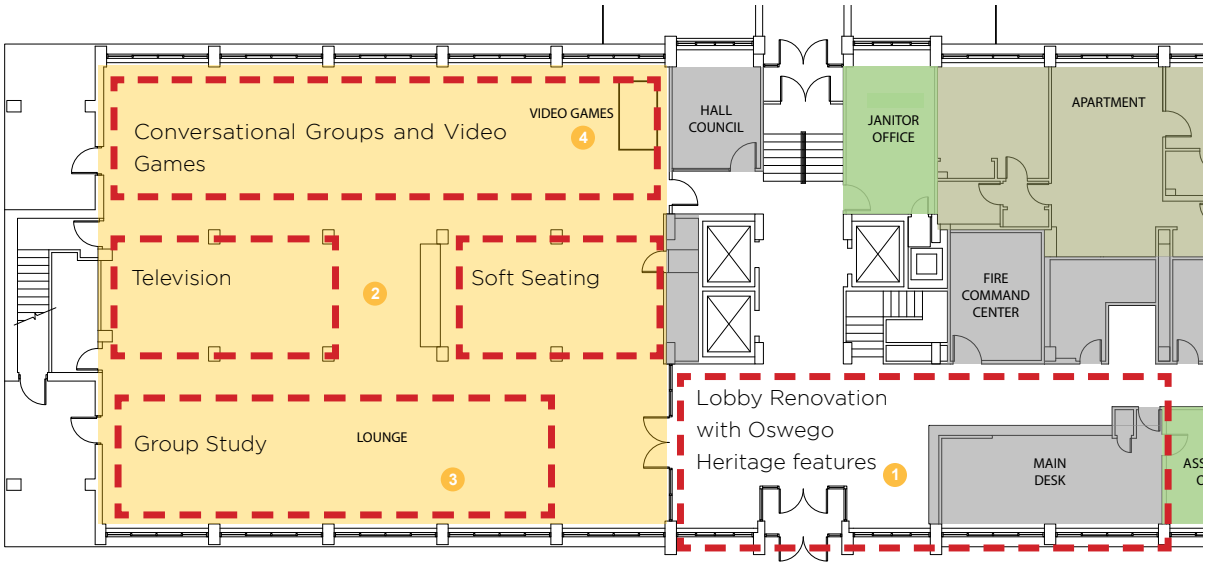
Student Experience Improvements	
First Steps	**Major Improvements**
Move game tables from the first floor main lounge into the basement TV lounge.	Renovate the Main Lobby and Main Desk. Include Oswego Heritage features. $675,000 Replace west exterior doors and hardware. $45,000
Provide a larger TV in the TV lounge. Repaint TV lounge and provide new furniture.	Renovate the Main Lounge. Use finishes, furniture, and fixtures to create activity zones. $382,000
Subtotal	**$1,100,000**

Total	$8,202,000

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Swing Space Required

Recommended projects will require 12 to 18 months to complete. Funnelle Hall's 200 residents will need to occupy vacant beds in other residence halls during renovations.

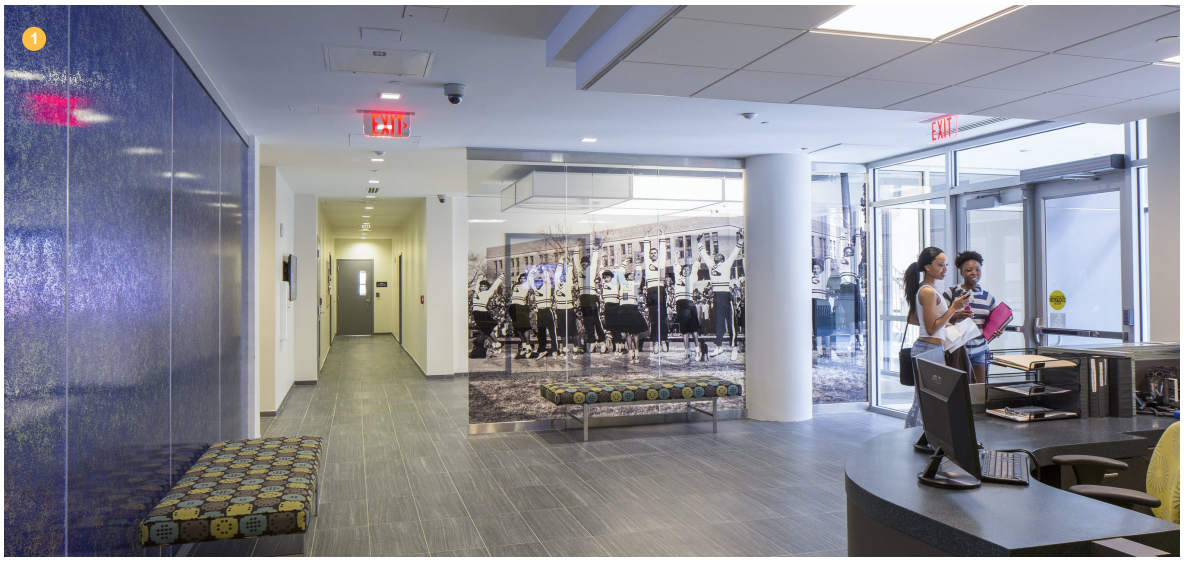


Areas of Main Lounge and Lobby Improvements

N **FIRST FLOOR**
NTS

Funnelle Hall Inspiration

Example photographs below are a combination of projects designed by the planning team and other architects.



Residence hall lobby at Howard University that includes fresh, modern finishes and University heritage graphics

Options to divide the space in the large main lounge into functional areas for multiple activities.

Insert a games area in one corner of the main lounge.

Funnelle Hall Enhancement Projects

Enhancement projects can be grouped with other renovations or implemented one-at-a-time..

Widen residence room doors for accessibility and provide ADA clear floor area at all student rooms. If the project is phased, allow $450,000 per 50 rooms. To convert all student rooms in Funnelle Hall at once, allow:

$1,872,000

Replace finishes and fixtures in study lounges.

$193,000

Create a community kitchen and improve social lounge in basement KIT-B and LOU-B .

$575,000

Upgrade lounges on student residence floors.

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Create an enclosed kitchen to improve exhaust and create a community social space. This industrial style could complement the basement location of Funnelle's kitchen.

A modernized residence hall kitchen at the University of Wisconsin-Eau Claire

Academic Building Recommendations

Recommendations for academic buildings capture the findings and recommendations in the 2021 Academic Building Master Plan Update. Additional recommendations are made in this study to improve student engagement space.

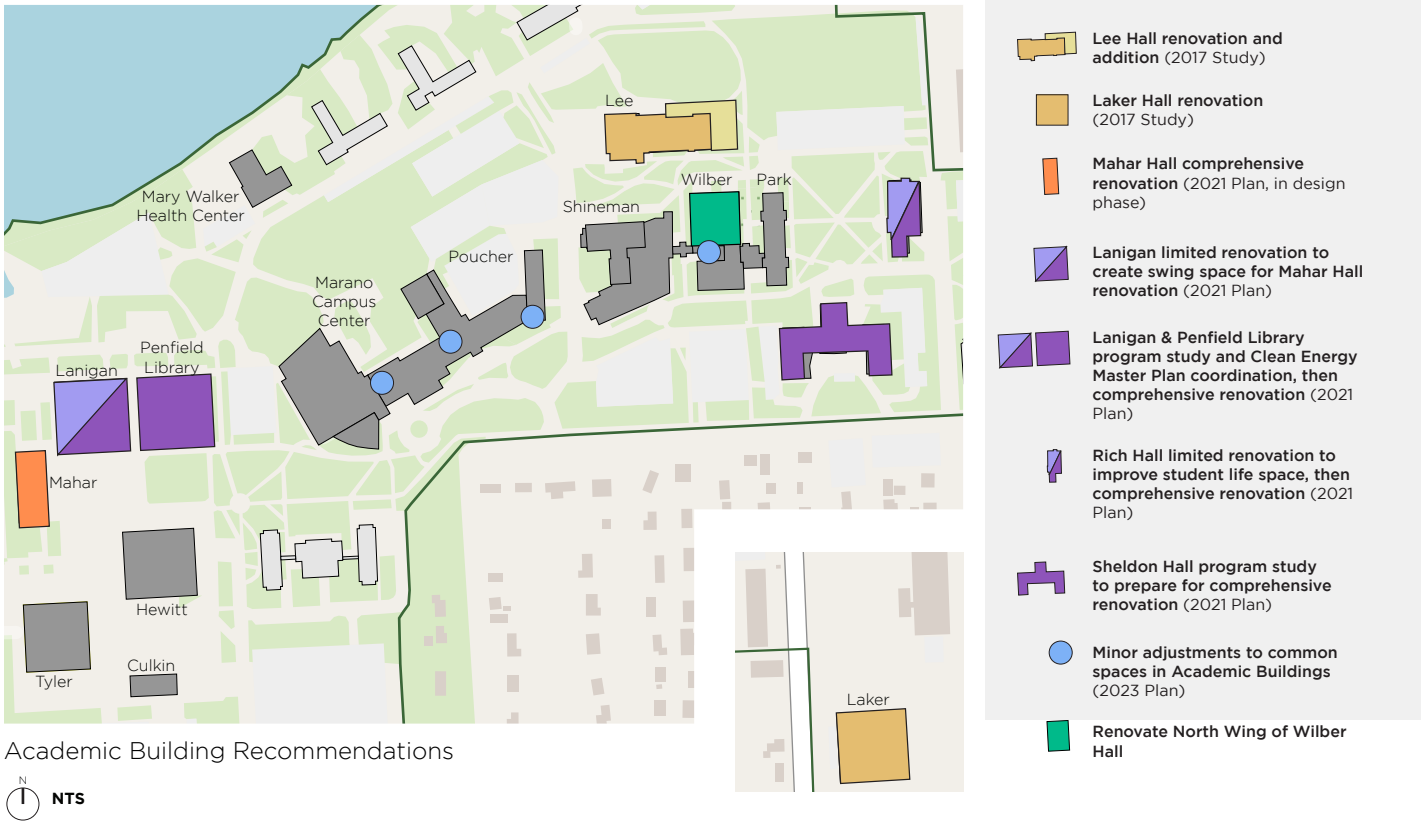
The most pressing needs in 2021 remain in 2023.

- Comprehensive renovation of Lanigan Hall is badly needed. Building systems and finishes are beyond their expected functional life. The building envelope is deteriorating.
- Comprehensive renovation of Penfield Library is needed. It functions adequately, but three factors place Penfield directly behind Lanigan in renovation priority:
  - Its building systems are beyond their expected functional life.
  - Its space plan does not support the social and group study space demands of a modern university library.
  - Its finishes and fixtures, especially on the upper levels, are deteriorated and require replacement.

Recommendations from the 2017 Lee Hall and Laker Hall Program Studies remain. Renovations are required in both buildings.

SUNY Oswego plans to renovate Mahar Hall. As of fall 2023, the project is in the design phase.

Below, the site plan diagram illustrates the scope of work remaining from previous studies, and includes the additional recommendations of this study.

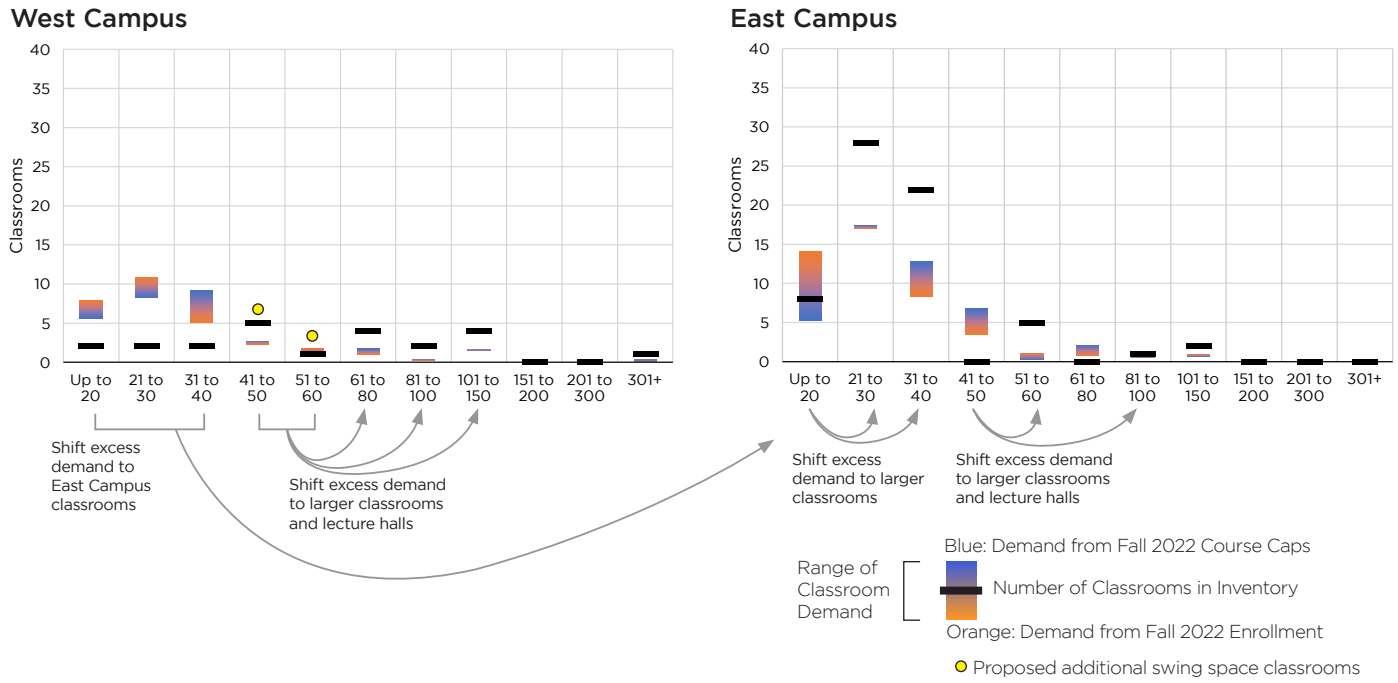


Academic Building Recommendations

N NTS

Instructional Space

Swing Space Needs



Instructional Space Recommendations

Classrooms

East Campus has sufficient classroom capacity to absorb lecture demand from Mahar Hall. There are surplus East Campus classrooms in the 21- to 30-seat and 31- to 40-seat capacity ranges. Except for Rich Hall classrooms, East Campus lecture spaces have modern furnishings. Instructors have access to flexible, active learning environments.

East Campus classrooms could approach 100 percent of target utilization when Mahar instruction moves over.

- No changes to classrooms are required on East Campus.
- Create four 45- to 55-seat swing space classrooms on the first floor of Lanigan Hall. This will ease the demand on East Campus and divert instruction from Lanigan Hall's large lecture spaces, which are in poor condition.

Class Laboratories

Shineman 212, used for Anatomy & Physiology instruction, exceeded utilization targets in fall 2017. By 2023, some instruction was shifted to Shineman classrooms 170 and 172. These classrooms exceeded hourly use targets.

- Consider creating an additional Anatomy & Physiology lab.
- Extend hourly use of Shineman 212 to 28 hours per week. Shift seminar and capstone proposal meetings to another room. By 2032, additional lab capacity may be required.

Park 101 is a computer aided drafting lab used for technology instruction. It was utilized to 104 percent of its target capacity in fall 2022. If demand increases, utilization could reach 115 percent by 2023.

- Identify another computer lab that can absorb eight additional hours of instruction.
- An additional CAD lab could be needed by 2032.

Poucher Hall 164 is a writing lab. It was utilized at 108 percent of target capacity in fall 2022.

- Identify an additional computer lab to absorb writing courses, or schedule evening course meetings.

Introductory chemistry used Shineman 104 and 106. If demand increase more than five percent in introductory chemistry, hourly use of these labs will need to increase to 28 hours per week. Evening lab meetings may be required.

West Campus Academic Buildings

Lanigan Hall

88,200 GSF 2 stories
Academics
Constructed: 1967

Penfield Library

192,298 GSF Basement plus 3 stories
Library
Constructed: 1968

N
LOCATION PLAN
NTS

Assets

- The twin buildings are landmark structures in a cohesive West Campus plan.
- Each building has potential views of Lake Ontario and SUNY Oswego.
- Each building is fundamentally suitable for its purpose.

Challenges

- Lanigan Hall finishes, fixtures, and furnishings are in very poor condition. It makes a bad first impression.
- Both buildings have potential asbestos in their floors. Based on building age, asbestos could be present elsewhere in the building.
- Neither building has a prominent main entrance.

Campus Connections

Both buildings' main entrances are virtually indistinguishable from other parts of their facades. Aside from the main entrances, occupants have little visual access - and no physical access to - the West Campus Plaza or outdoor amenities.

Student Engagement Spaces

Both Penfield Library and Lanigan Hall have a sufficient amount of space to have lively student areas. Finishes and furniture are in poor condition, and the spaces are not inviting. Penfield Library's Lake Effect Cafe, 24-hour study lounge, and Writing Center are busy destinations, yet the buzz of activity in each is completely self-contained. There is little energy evident on Penfield's first floor. Lanigan Hall is an inhospitable building. In its current state, none of its features invite people to linger.

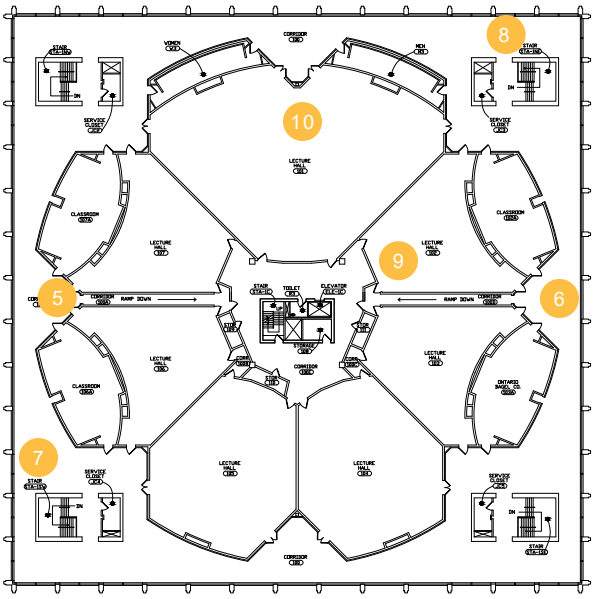
Above, an outdated lecture room in Lanigan Hall. Below, the interior of Penfield Library.

Lanigan Hall Existing Floor Plans

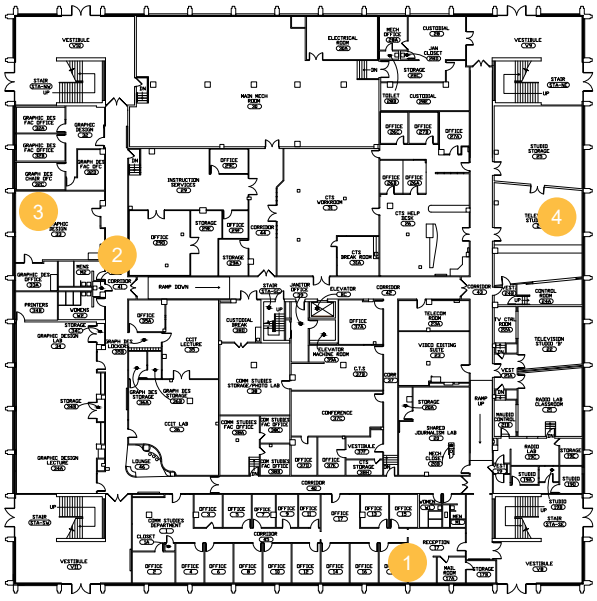
NTS

Plan/Photo Legend

1. High windows on the first floor lead occupants to feel they are in a basement. In reality, the floor is at grade.
2. First floor corridor with an updated ceiling.
3. and 4. High ceilings and large rooms on the first floor are good potential classrooms.
5. 6. and 7. Occupants can see from dark, canyon-like lobbies through the building to far-away views and natural light.
8. In the northeast corner, a view into Lanigan Hall's twin building, Penfield Library.
9. A smaller lecture hall with aging furnishings and deteriorating finishes.
10. The large main lecture hall.



Second Floor



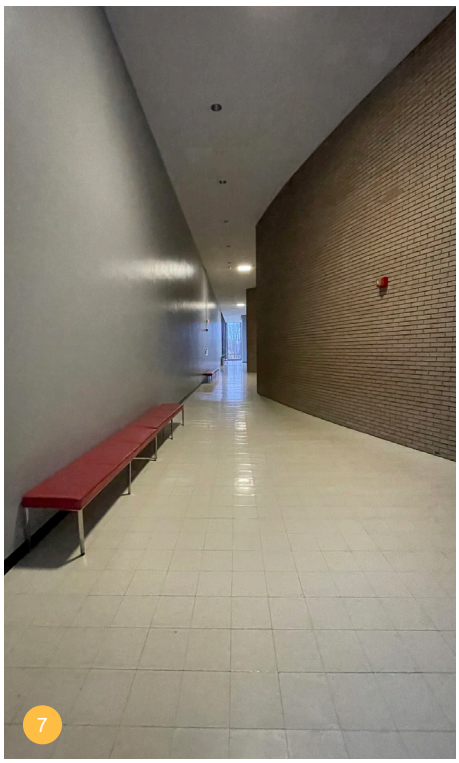
First Floor

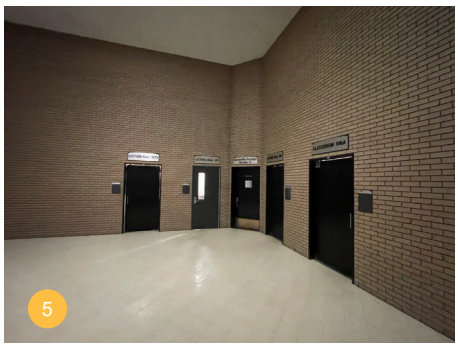

1

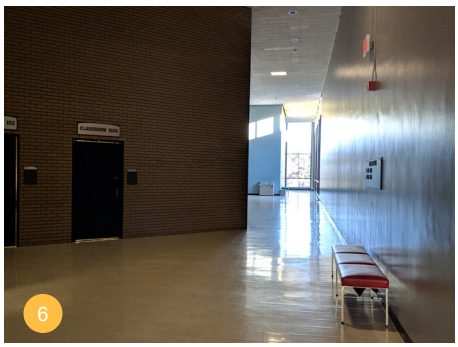

2


3

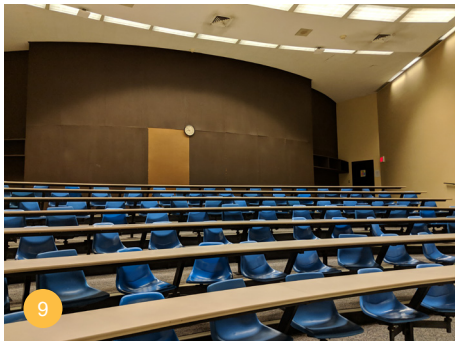

4


7


5


6


8


9

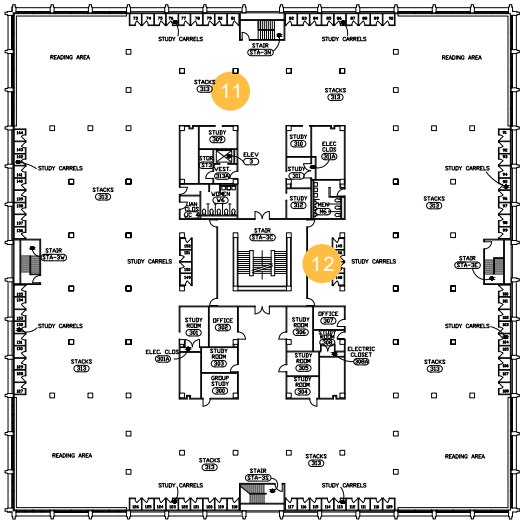

10

Penfield Library Existing Floor Plans

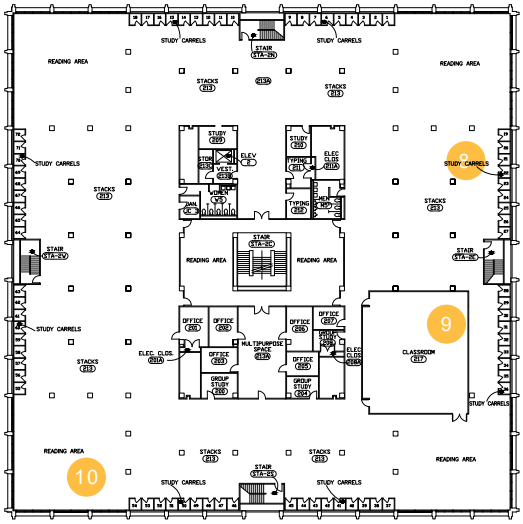
NTS

Plan/Photo Legend

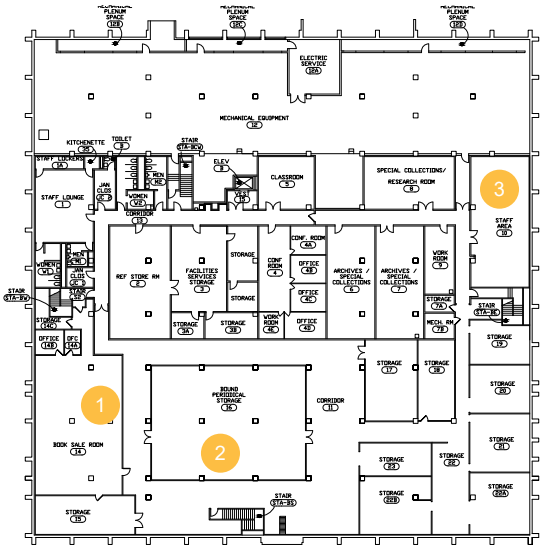
1. Underutilized storage space in the basement.
2. Archive and periodical storage is well organized.
3. Staff lounge in the basement
4. Library lobby is well lit and clean, but lacks visual connections to other parts of the building and the outdoors.
5. The northeast corner of the first floor houses a writing center that is busy and lively in the evenings. Its vibrant atmosphere is concealed behind a solid metal door.
6. An unsuitable classroom on the first floor.
7. High windows in first floor offices.
8. The second and third floors have generally open floors with low ceilings and little variation.
9. A second floor classroom.
10. A narrow area near the central core on the third floor houses a collection of decades-old furnishings.
11. and 12. Stacks are densely packed. Many banks of stacks do not have sufficient clear floor between them to meet ADA accessibility guidelines.



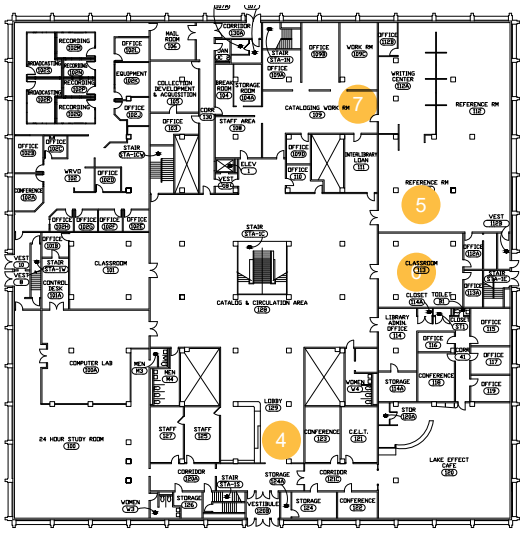
Third Floor



Second Floor



Basement



First Floor

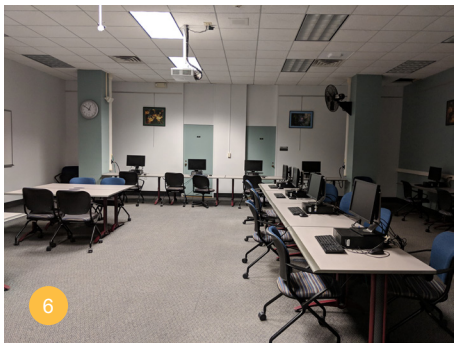

1


2


3


4


5


6


7


8


9


10


11


12

Lanigan Hall Existing Conditions

Functionality

The lecture hall floor of Lanigan Hall is suitable for its purpose. With comprehensive renovation, SUNY Oswego could become proud of the space. Lanigan's first floor has potential to be converted to other uses. It has high ceilings with high windows and its structural bays allow for very large rooms. It will be largely vacant when Hewitt Hall opens.

Lanigan 101 is a 400-seat lecture hall. Pedagogically, fixed-seat lecture halls are falling out of favor as they do not facilitate group work. SUNY Oswego is strategically moving away from high-enrollment lecture courses that would use a lecture hall of this capacity.

Exterior

The building envelope is in need of repair, cleaning, and modernization. New windows and exterior doors should be installed and the concrete facade should be cleaned and sealed (picture 7).

Interior

With few exceptions, the interior finishes are in very poor condition. Asbestos could be present in the deteriorated floor (picture 6). While efforts have been made to improve accessibility, restrooms are not fully accessible. Stair railings are not code compliant and will require replacement if the building is renovated (pictures 1, 2, 3, 4).

Building Systems

HVAC and plumbing systems are comprised of mostly original components and require replacement (example, cooling equipment in picture 5). The electrical service was updated in 2000 and is in good condition, but many original panelboards remain and require replacement. The panel that handles emergency power appears to serve non-emergency loads. This condition should be corrected. Lighting is either original or aging and requires replacement throughout. Fire alarms have been modernized and are in good condition. There is no fire protection system in Lanigan Hall.

Facilities Maintenance

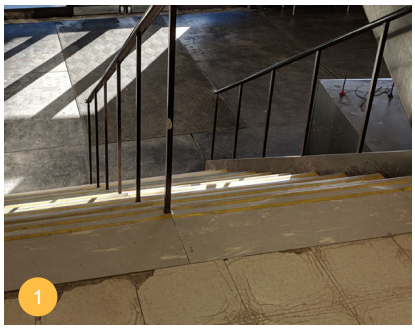
SUNY Oswego reported a need for $3,005,635 for facilities maintenance, including major elevator upgrade/replacement, replacement of major cooling equipment, and heating system repair.

In addition, the 2021 Academic Building Master Plan Update recommended:

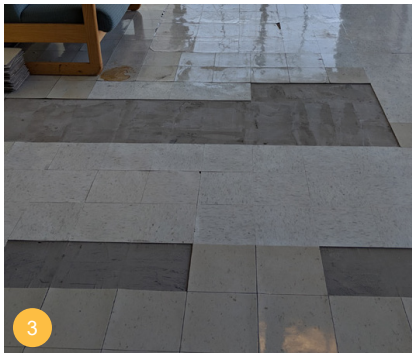
- Replacement of plumbing, mechanical, and electrical systems
- Replacement of finishes
- Refurbishment of the building envelope

Facilties Conditions

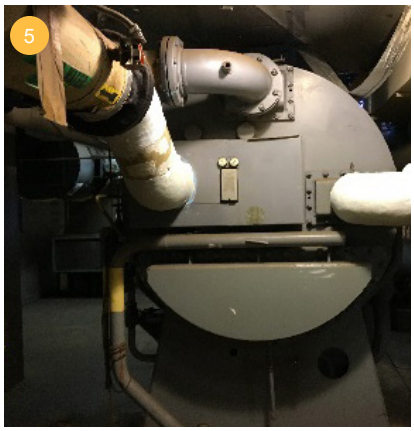
JMZ prepared a thorough evaluation of Lanigan Hall existing conditions in 2021. Page 9 of that report includes a conditions summary and Appendix C, page 58, has the detailed report.


1


2


3


4


5


6


7

Penfield Library Existing Conditions

Functionality

At 192,298 GSF, Penfield Library is the second-largest academic building on campus. It functions well as a traditional library intended for warehousing books. However, university libraries also serve as social hubs. Penfield Library requires renovation and reconfiguration to become a modern academic library that attracts students (picture 6).

Exterior

The building envelope is in need of repair, cleaning, and modernization. New windows and exterior doors should be installed and the concrete facade should be cleaned and sealed. Portions of the concrete facade are spalling. The entrance is barely distinguishable on the south facade of the building. (Pictures 1, 2, 3, 4).

Interior

On the first and second floors, some areas have modern finishes and lighting. In contrast, the stacks and study areas have finishes in poor condition (picture 7). The basement staff areas are dated and dismal. Many basement areas are unprogrammed and are occupied by miscellaneous storage. Efforts have been made to improve accessibility, but many deficiencies are present, among them:

- Restroom doors are less than 36-inches wide.
- Not all fixtures are accessible (picture 5).
- Knob hardware is present throughout the building.
- Book stacks are less than 36-inches apart.

Building Systems

HVAC and plumbing systems are comprised of mostly original components and require replacement (pictures 8, 9). The electrical service was updated in 2000 and is in good condition, but panelboards are original and require replacement. Lighting condition varies throughout the building. Fixtures in unrenovated areas require replacement. Fire alarms are in good condition.

The only part of the building protected by sprinklers is the corridor surrounding the central stairs.

Facilities Maintenance

SUNY Oswego recommends $1,805,635 in facilities maintenance, including major elevator upgrade/replacement, replacement of major cooling equipment, and heating system repair.

In addition, the 2021 Academic Building Master Plan Update recommended:

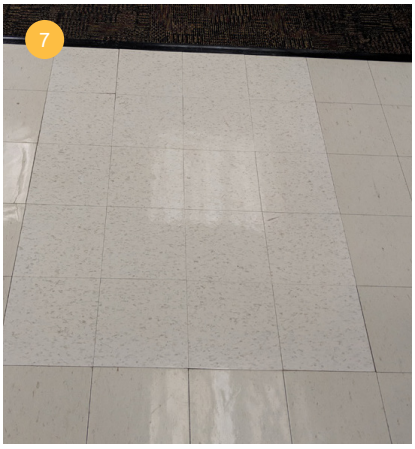
- Replacement of plumbing, mechanical, and electrical systems
- Replacement of finishes
- Refurbishment of the building envelope

Facilities Condition

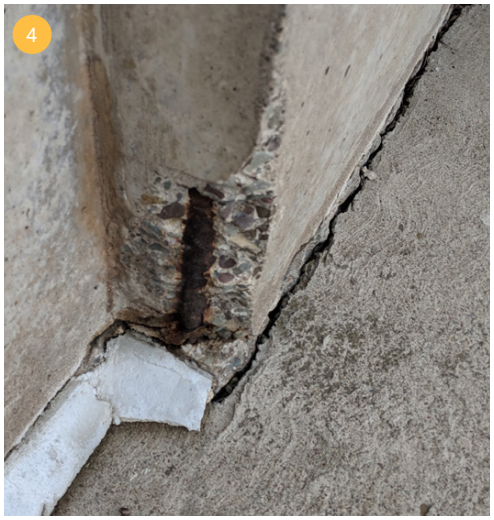
JMZ prepared a thorough evaluation of Penfield Library existing conditions in 2021. Page 10 of that report includes a conditions summary and Appendix C, page 42, has the detailed report.

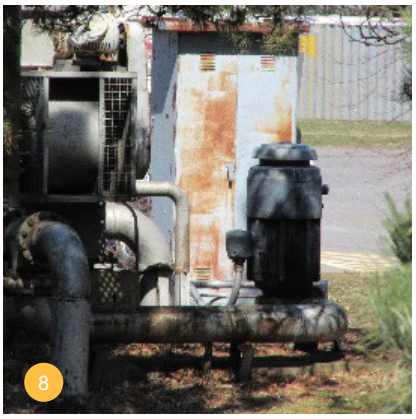

1


6


7


2


4


8


3


5


9

Lanigan Hall and Penfield Library Recommendations

When Mahar Hall is offline for renovations, swing space will be required for faculty offices. Campuswide, there is capacity to absorb the lecture demand from Mahar Hall in existing classrooms. However, there is a need for additional classrooms with around 50 seats. Creating four 45- to 55-seat classrooms on the first floor of Lanigan Hall can help meet the need for classrooms of this size and ease the demand on East Campus classrooms.

A joint program study for Lanigan Hall and Penfield Library would allow planners to explore redistributing uses between the two buildings. Depending on how Penfield Library leadership envision the future of the physical collection, space use on all four floors of the Library could be reimagined. Meanwhile, high-capacity lecture halls may not be required to meet SUNY Oswego's pedagogical needs. A joint study will help ensure the twin buildings are evaluated as a pair and will function as such.

For the purpose of this Plan, it is assumed that the outcome of a program study would call for comprehensive renovation of Lanigan and Penfield.

Lanigan Hall Interim Improvements - Mahar Hall Swing Space

Create four classrooms in former broadcasting studios.
$944,000

Reassign Graphic Design Instructional Space 34A as an anthropology lab.
No cost assigned. If renovation is required, allow $190,000.

Reassign existing offices to serve as Mahar Hall swing space offices. And:

Option One - To reduce the number of swing space offices required, institute a temporary work-from-home policy. Create cubicles in rooms 20, 23, 33, 35, 36, 38 and associated spaces as needed. No cost assigned.

Option Two - If a temporary work-from-home policy is not possible, use cubicle partitions to configure rooms 20, 23, 33, 35, 36, 38 to serve as temporary offices. Add temporary power and data. Ensure adequate lighting. Ensure appropriate cooling to offset the increased density of computers in these rooms. Upgrade finishes sparingly. $402,000

Program Study

Conduct a combined program study for Lanigan Hall and Penfield Library. Incorporate placemaking improvements to engage the West Campus Plaza. Include detailed studies for building systems. Incorporate Clean Energy Master Plan recommendations. Include studies of architectural sustainable design elements (in addition to CEMP).

$240,000

Lanigan Hall and Penfield Library Comprehensive Renovation

Lanigan Hall
$59,000,000

Combined mechanical room and equipment for both buildings (study which building is the best location)
$7,340,000

Penfield Library
$112,000,000

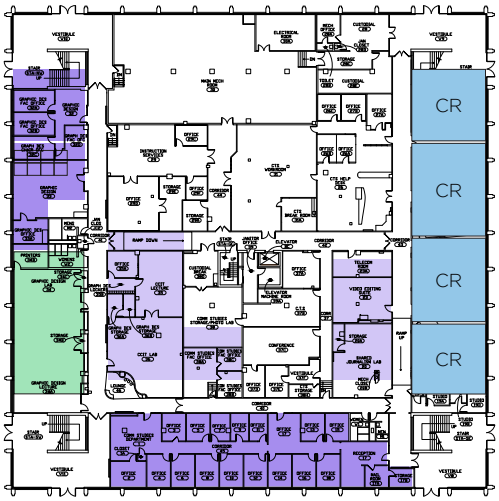
Option: Add West Campus Plaza Comprehensive Renovation
$3,200,000

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Recommended Lanigan Hall Swing Space for Mahar Hall

NTS

- Create four swing space classrooms
- Swing space Anthropology Lab
- Reassign as swing space offices
- Option to create additional swing space offices

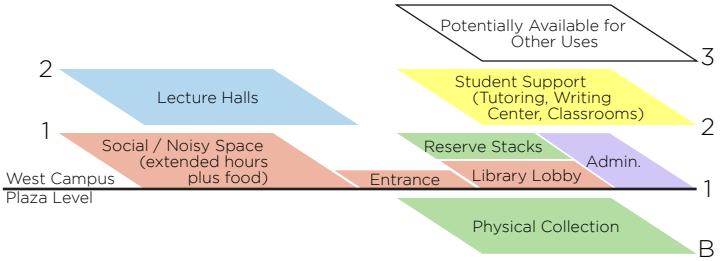


First Floor Diagram

Lanigan Hall and Penfield Library Program Study Considerations

What role could the first floor of Lanigan Hall play in the Penfield Library space program? Could the buildings be connected by an atrium and social, noisy space is put in Lanigan Hall while study and stacks remain in Penfield Library?

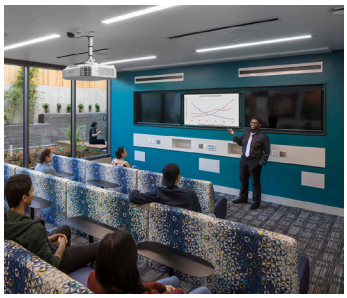
How much of the Penfield Library collection must remain available in open stacks? Could some elements be placed in compact shelving?



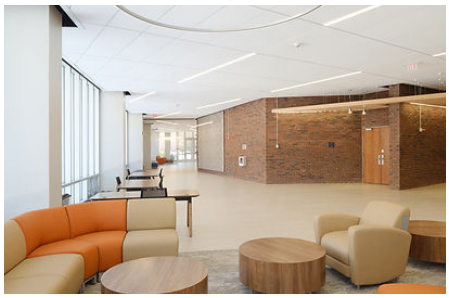
Potential Space Organization Diagram

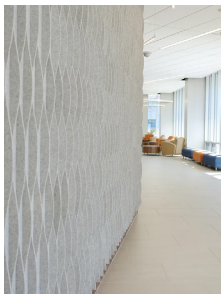
How can Lanigan Hall common spaces be improved? What types of lecture spaces will be needed?

Example new lecture formats: soft seating in a small classroom, large flat-floor interactive learning hall, fixed tables on risers in a lecture hall



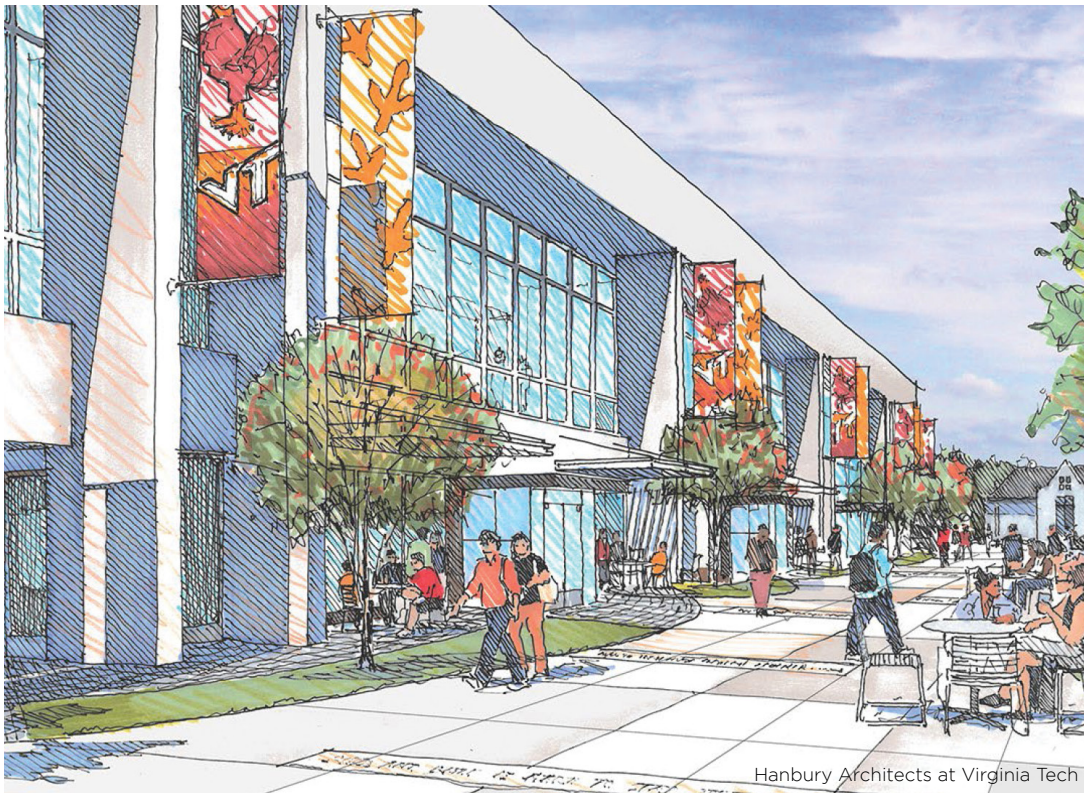
The SUNY New Paltz lecture center was modernized by Hamlin Design Group. The building has a similar floor plan to Lanigan Hall.





Lanigan Hall and Penfield Library Vision

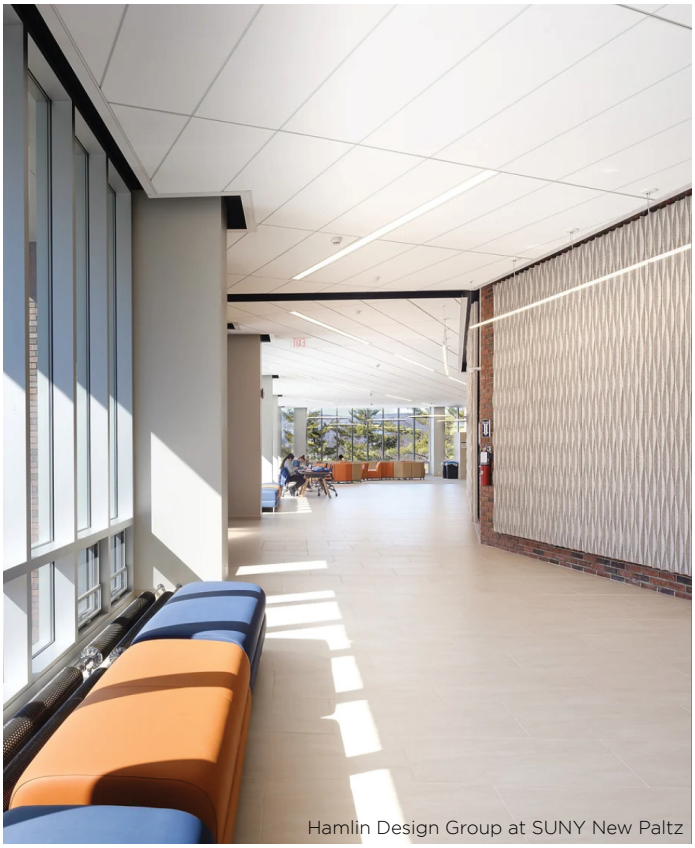
Penfield Library



Hanbury Architects at Virginia Tech

Lanigan Hall and Penfield Library Vision

Lanigan Hall



Hamlin Design Group at SUNY New Paltz

Example of creating openings in concrete facades

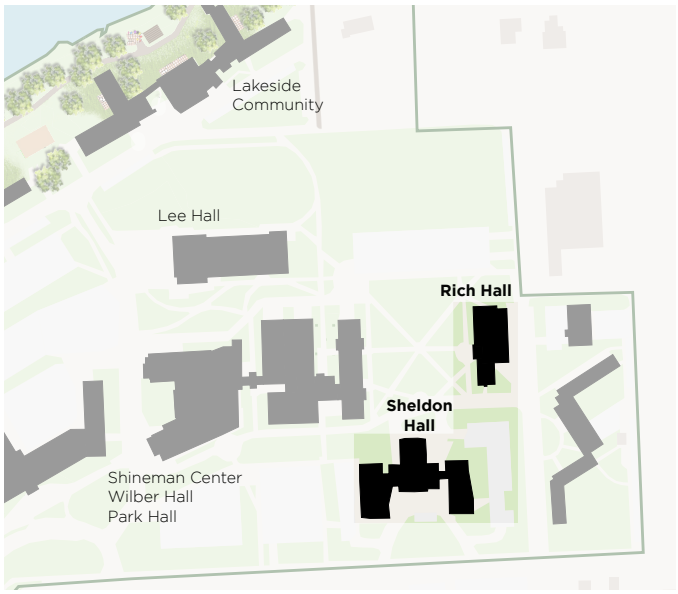
East Academic Buildings

Sheldon Hall

119.211 GSF 3 stories
Administration and unprogrammed space
Constructed: 1912 with partial renovations

Rich Hall

53,742 GSF 3 stories
Academics
Constructed: 1961 Renovated: 2003



N **LOCATION PLAN**
NTS

Assets

- Part of SUNY Oswego's early history, these buildings have character. Sheldon Hall is one of the College's most recognizable landmarks.
- Rich Hall and Sheldon Hall have benefited from regular maintenance.

Challenges

- Sheldon Hall has multiple uses and many vacant spaces.
- Parts of Sheldon Hall were renovated to restore their original, traditional finishes. Other areas were updated at different times in different styles, leading to an inconsistent interior appearance.
- Rich Hall was last renovated in 2003. Its systems are functional and its finishes in fair condition, but its appearance is dated.
- Rich Hall is home to the School of Business, a discipline in which many degrees are offered either entirely or partially online. This has changed the face-to-face demand for instructional space in Rich Hall.

Above, Sheldon Hall during roof restoration in 2013 (architectmagazine.com). Below, a historic picture of Rich Hall (digitallibrary.oswego.edu)

Student Engagement Spaces

Since student residence rooms in Sheldon Hall were vacated, few students have regular reasons to visit Sheldon Hall for activities. Its large, formal ballroom with a stage is used for events like musical performances and lectures.

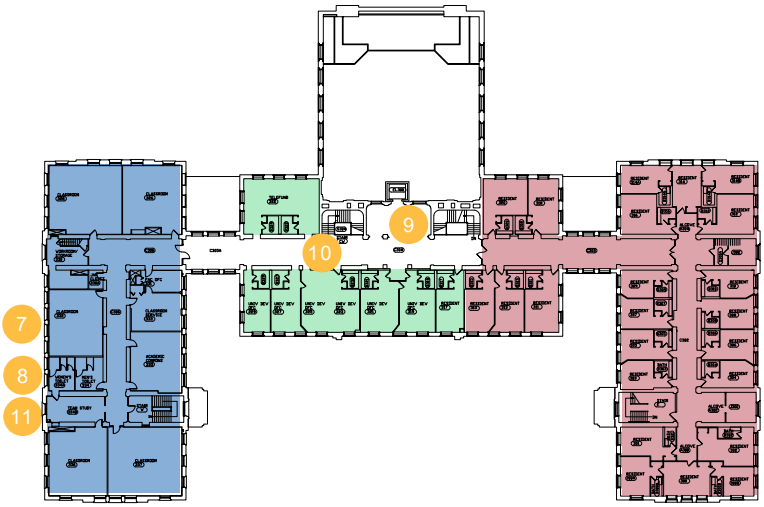
Rich Hall common spaces are sparsely furnished and their finishes require updates. The building was originally constructed as the College library, with wide-open floors for stacks and study spaces. Today, it has been separated into office suites and enclosed classrooms. Re-creating some of Rich Hall's open spaces, with natural light and views, would improve its student lounges and engagement areas.

Sheldon Hall Existing Floor Plans

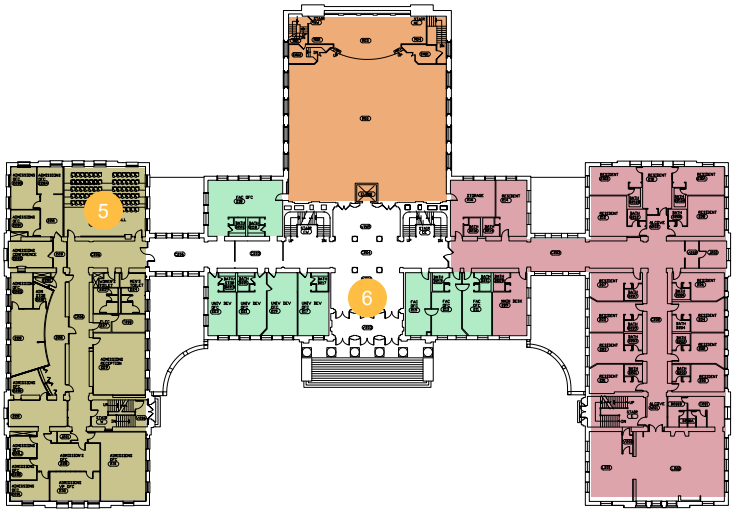
NTS

Plan/Photo Legend

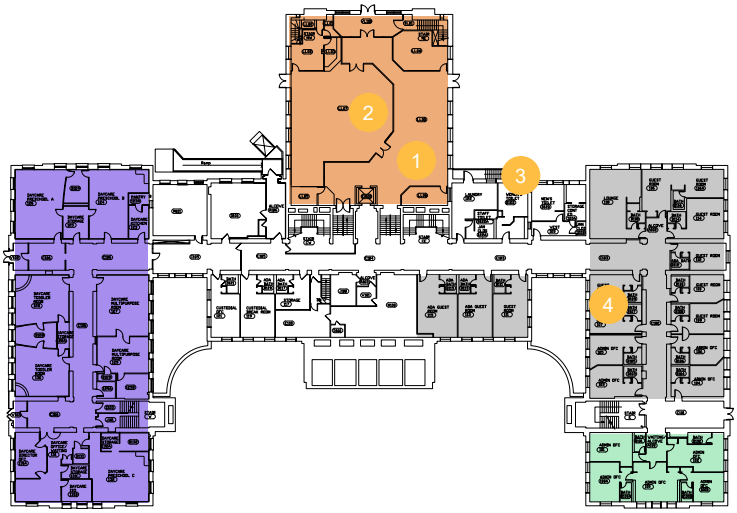
1. The large room below the ballroom used to serve as space for high school students taking classes at Oswego. Temporary partitions have since been removed, but its dated finishes and fixtures remain.
2. A part of the area below the ballroom.
3. Restroom on the ground floor.
4. The ground floor, north wing, contains some residence rooms that have been repurposed as offices. Restroom fixtures remain, but restrooms in these areas are used for storage.
5. On the first floor, a lecture hall has been restored to create an attractive space for admissions gatherings.
6. The building's formal main entrance is well maintained.
7. The third floor, south wing, contains upgraded classrooms that have served as swing space in past years. Recently some of these instructional spaces have been taken offline to be repurposed as offices.
8. Some restrooms on the third floor have been modernized.
9. Lounge space on the third floor is drab. Furnishings and finishes are badly out of date.
10. Corridor to the residential area of the third floor. No residence hall rooms are present in Sheldon Hall today, yet the floor layouts remain the same.
11. A study lounge with spartan decor outside the third floor ladies room.
12. The ballroom is functional and in good condition, but its finishes and fixtures are out-of-date.



Second Floor



First Floor



Ground Floor

- Ballroom and room below
- Daycare and Preschool
- Unused residence rooms
- Office
- Admissions
- Recently-vacated residence rooms
- Swing space classrooms


1


2


3


4


5

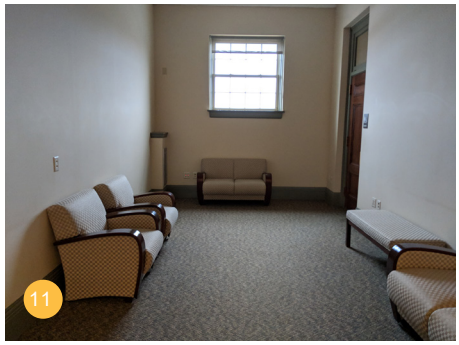

6


7


8


9


EXIT
10


11

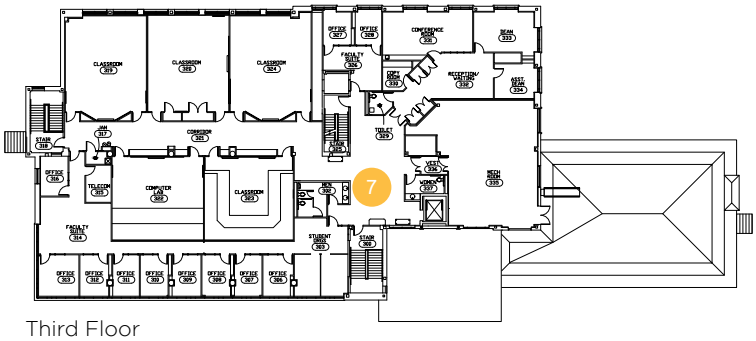

12

Rich Hall Existing Floor Plans

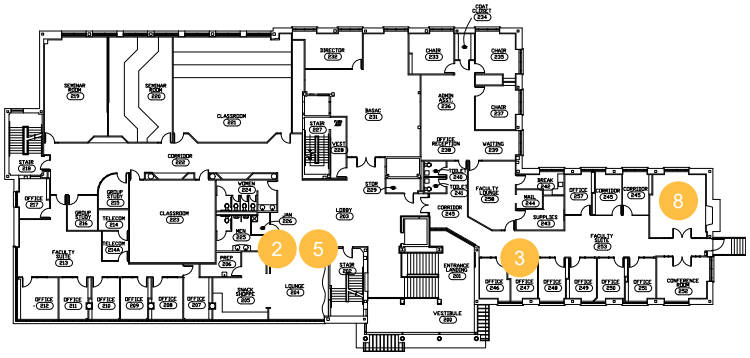
NTS

Plan/Photo Legend

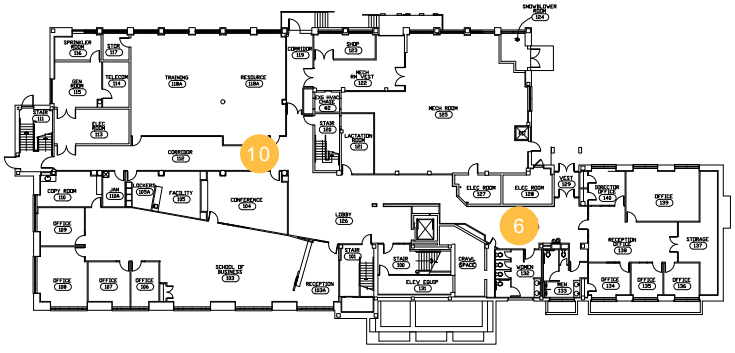
1. and 4. Views of Rich Hall in the 1950s and in 2023. A 2003 renovation maintained much of the original building form. The entry portico was partially enclosed to allow an elevator to be added.
2. and 5. When Rich Hall was the library, its floors were open and there were views to the outdoors from most spaces. To create offices and classrooms, much of the open space has been partitioned.
3. and 6. In the original construction, an informal reading room occupied the second floor of the south wing. Now, the view looks like picture 6; an office suite was created.
7. Finishes and fixtures on the third floor appear dated.
8. A seating area outside first floor classrooms is functional but not inviting.
9. The Alumni Lounge is formally finished and well appointed. It is located in a portion of the former second floor reading room.



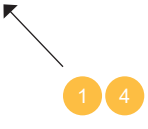
Third Floor



Second Floor

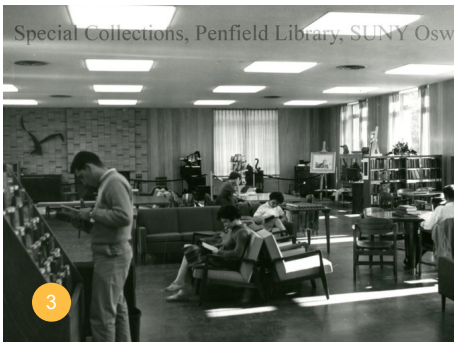


First Floor




1


2


Special Collections, Penfield Library, SUNY Osw
3


4


5


6


7


8


9

Existing Conditions

Sheldon Hall

Functionality

The main floor of Sheldon Hall is the first impression of SUNY Oswego for many prospective students. It is home to the Admissions Department and College Foundation. Its formal appearance and traditional office layout are appropriate in this context.

Classrooms on the second floor are appropriately sized and have updated finishes and instructional technology. They are suitable, functional classrooms but are seldom scheduled for instruction.

Other areas of the building have uses incongruous to the building's location and other occupants.

- Residence rooms remain as they were when vacated. Many are in use as offices, with individual bathrooms used for storage.
- The childcare and preschool have appropriately-sized spaces in Sheldon Hall, yet as the college has grown, the area is not as private as it once was.

Though Sheldon serves as the front door for many visitors, its main entrance is not accessible. The accessible entrance to the building is difficult to find and does not reflect principles of universal design.

Exterior

The building envelope has undergone multiple targeted restorations in the 1990s and 2000s. Its roof was replaced and its cupola restored. A persistent leak around the building perimeter was studied and corrected, leading to restoration of the exterior terracotta trims and affected masonry. Windows are modern double-paned operable double-hung units. Entrance systems have been refurbished.

Interior

Inconsistency in finishes, fixtures, and furnishings throughout Sheldon Hall make parts the building seem shabby, despite its many good qualities.

Most elements of the building are partially-compliant with ADA accessibility guidelines. SUNY Oswego has updated the building to meet ADA as renovations occurred, but some elements remain difficult to navigate.

Building Systems

HVAC systems and distribution were in fair to good condition when the detailed existing conditions survey was performed in 2019. The boiler, heat exchanger, and controls were approaching the end of their useful lives.

Plumbing fixtures and systems were in fair to good condition, owing to the mixed renovations throughout the building.

Electrical systems and fire alarm were in good condition.

Fire protection was added to the building in the 1990s. The system has sufficient pressure to operate sprinklers; it is in overall fair condition.

Facilities maintenance suggestions:

- Replace major heating equipment and heating-ventilating units. Implement demand control ventilation.
- Replace domestic water heaters with semi-instantaneous water heaters (if building uses remain the same as they are in 2023).
- As systems are replaced, implement recommendations of the Clean Energy Master Plan.
- At the next major building renovation, replace:
  - heating and cooling systems in the west wing.
  - cooling equipment.
  - the fire alarm system, which will be at the end of its useful life in the 2040s
  - the sprinkler system, which will be at the end of its useful life in the 2040s

Sheldon Hall Facilities Maintenance Recommendations

SUNY Oswego identified $1,250,00 of required facilities maintenance, which is entirely comprised of a major elevator upgrade or replacement. In addition, the 2021 study listed the following facilities maintenance needs:

- Replace finishes and fixtures in unrenovated areas.
- Anticipate replacement of water heating equipment in the next decade.
- East Wing heating and cooling components are at the end of their useful life.

Facilities Conditions

JMZ prepared a thorough evaluation of Sheldon Hall existing conditions in 2021. Page 13 of that report includes a conditions summary and Appendix C, page 2, has the detailed report.

Rich Hall

Rich Hall was not part of the 2021 Academic Building Master Plan Update, which serves as the basis of this existing conditions report. The following observations were made during a walk-through of Rich Hall, and were also informed by interview feedback.

Functionality and Interior

Rich Hall was constructed as SUNY Oswego's library in the 1950s. When the current Penfield Library was built on West Campus, Rich Hall was repurposed to serve other uses. Today, it is a classroom and office building that is home to the School of Business.

It was renovated in 2003. Classrooms were modernized with presentation equipment and new furnishings. The classrooms are still functional, yet features that were state-of-the-art in 2003 are now showing their age:

- When renovated, the projection technology worked poorly in rooms with natural light. Classrooms were constructed without windows.
- Many classrooms have fixed seats and tables which offer little flexibility for group work. Station sizes are small.
- Finishes remain in good condition but they are dated.
- Common areas and lounges lack inviting furnishings, lighting, and finishes.
- The building does not include elements of Oswego history or School of Business culture. It is not recognizable as the home of the School of Business.

In interviews for the 2021 Plan Update, occupants of Rich Hall referred to it as one of the "newer buildings," recognizing that its 2003 renovation placed it among the most recent comprehensive renovations to take place at SUNY Oswego. However, they noted that its lecture spaces were designed for traditional lecture-style instruction and do not accommodate active learning.

Offices in Rich Hall reportedly differ in quality. A ground floor suite that included private faculty offices and cubicles is no longer in use as office space.

While there is ample space for student engagement activities and study, the building lacks amenities that would entice individuals or groups to spend time there. Rich Hall's furnishings, in particular, are uninviting.

Reported Space Needs

The School of Business reported a need for assembly space to house speakers and events. There are no suitable spaces within Rich Hall to host gatherings.

The Dean of the School of Business envisions a Center for Business Excellence and Transformation. The Center would provide space for students to get hands-on experience and industry immersion. The space would include:

- A flat-floor assembly space for 100-150 individuals
- Break out rooms for small-group work, meetings, mock interviews, and online interviews
- Ability to set up a stage
- Ample storage
- Catering kitchen
- Touch-down offices for visiting professionals
- A/V recording studio

Rich Hall Facilities Maintenance Projects

SUNY Oswego did not identify any major facilities maintenance projects for Rich Hall.

Sheldon Hall and Rich Hall Recommendations

Sheldon Hall and Rich Hall require program studies prior to comprehensive renovation. Sheldon Hall has underutilized space and facilities maintenance needs. Meanwhile, Rich Hall should be reimagined to reflect the goals and vision of the School of Business. The buildings should be studied together, given their close proximity (less than 300 feet apart) and the need to improve Sheldon Hall utilization.

Considerations for the Combined Program Study

The first floor Sheldon Hall below the ballroom is approximately 3,200 square feet, with sufficient adjacent space for storage and service. With tables and chairs, the space could hold events for over 150 individuals. With chairs only, over 200 participants could attend events there.

The ground floor entrance is at the back of Sheldon Hall. It faces a gracious quad that is framed by Park Hall and Rich Hall, and has views down to recreation fields and Lake Ontario. This entrance could be redesigned to be an attractive, welcoming gateway to a multipurpose conference space designed to meet the needs of the School of Business while being available to hold other College events.

A program study for Sheldon Hall should propose solutions that would bring better use to its aging, underutilized spaces. Its utility as swing space will diminish over time as its space quality deteriorates. The College reports that residence rooms will not be put back into use as such. The study should suggest alternative uses for Sheldon Hall's east wing.

In Rich Hall, are there opportunities to restore some of the wide-open, naturally-lit spaces that were part of the building when it served as the College Library?

Is Rich Hall the best home for the School of Business? Its spaces were designed for traditional lecture instruction, yet its classrooms are too small to accommodate active learning.

Combined Program Study
Conduct a combined program study for Rich Hall and Sheldon Hall. $150,000

Rich Hall Enhancement Projects

As the College pursues the East Campus Planning Study and completes planned renovations elsewhere on campus, essential spaces in Rich Hall should be upgraded.

- Classrooms
- Student Engagement Spaces, CBET "seed space"

Classroom Improvements

Seven bays of original windows were covered over with spandrel panels in the 2023 renovation. Seven classrooms on this wall are windowless. The remaining three classrooms in Rich Hall are interior, windowless classrooms. No classrooms in Rich Hall have natural light.

Restoring vision glazing and re-opening the concealing walls in three of these bays would improve the quality of space in seven out of Rich Hall's ten classrooms: rooms 118, 219, 220, 221, 319, 320, 324. This work would not be a stranded investment; the restored windows can remain in future renovations. In affected rooms, upgrade finishes, lighting, and furnishings.

Student Engagement Improvements

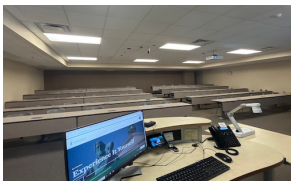
Common spaces in Rich Hall could be made more inviting by updating furnishings and finishes. Include displays that express the successes of the School of Business and show Oswego heritage: Lobby 130, Corridor 112, Lobby 203, Lounge 204, Upper Lobby 301

Suite 103-110 is a former office space that is now used ad-hoc as study space. Its nearly 3,800 SF could be redesigned to contain study space, touch-down offices for visiting faculty, soft seating, and a meeting room to house small assemblies. This renovation could be the seed of the Center for Business Excellence and Transformation (CBET), which would grow as Rich Hall awaits comprehensive renovation.

Vision Glazing and Classroom Upgrade

Spandrel panels on the east facade of Rich Hall prevent seven classrooms from receiving natural light.

Rich Hall 118

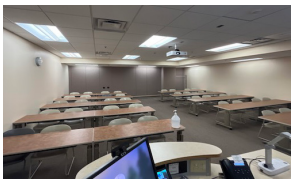


Rich Hall 221

Rich Hall 320

Rich Hall 219

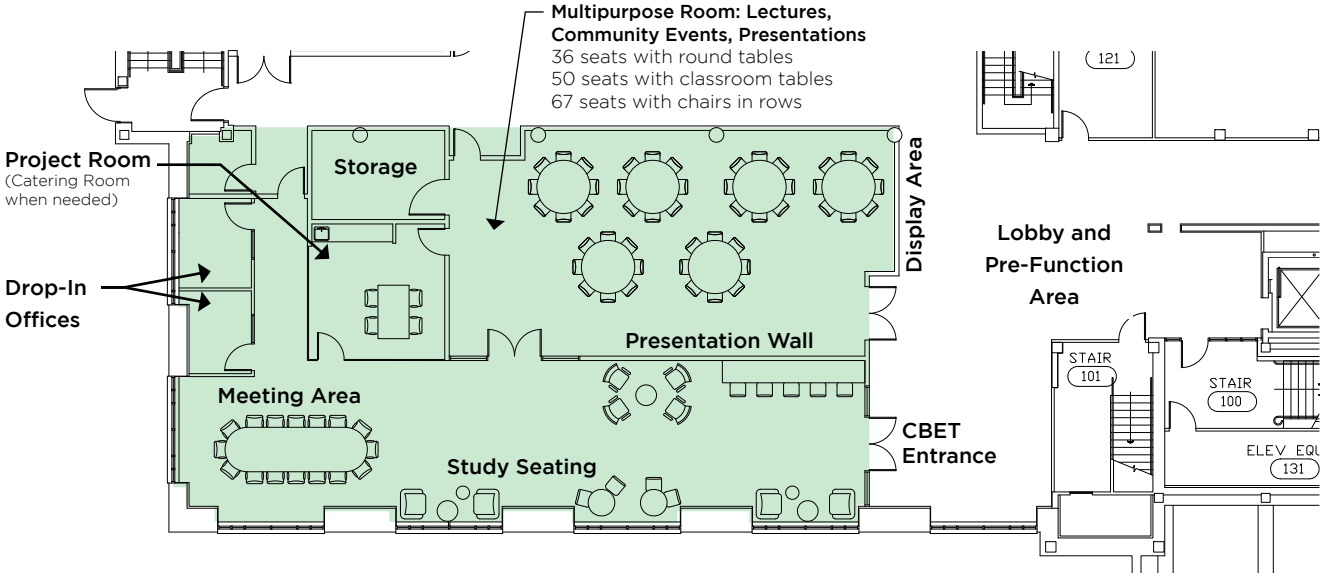
Rich Hall 319



Rich Hall 324

Rich Hall 220

CBET Seed Space Diagram - Rich Hall First Floor Rooms 103-110



Classroom Improvements	Student Engagement Improvements
Vision Glazing and Classroom Upgrade - Restore vision glazing in seven east-facing classrooms. Upgrade finishes and lighting in affected classrooms. $903,000	CBET Seed Space - Reconfigure rooms 103 through 110 to become a “seed space” for the Center for Business Excellence and Transformation. Include upgrades to common spaces throughout the building. $1,220,000 (plus Oswego Heritage Projects: $116,000)

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Wilber Hall
North Wing

Wilber Hall: 108,933 GSF Basement plus 3 stories
North Wing (Technology Instruction): 21,680 GSF
Academics
Constructed: 1964
Renovated: 2018

Assets

- 87,252 GSF of Wilber Hall was renovated for the School of Education in the 2018.
- Part of a trio of modernized academic buildings.
- A spacious lobby unites Wilber Hall and Park Hall. It is a landmark space on campus.

Challenges

- The 21,680 GSF north wing of Wilber Hall was not brought to the same level of renovation as the remainder of the building.
- Technology labs in the north wing contain aging equipment. Replacing it will not necessarily be an in-kind switch, since modern equipment is quite different.

Student Engagement Spaces

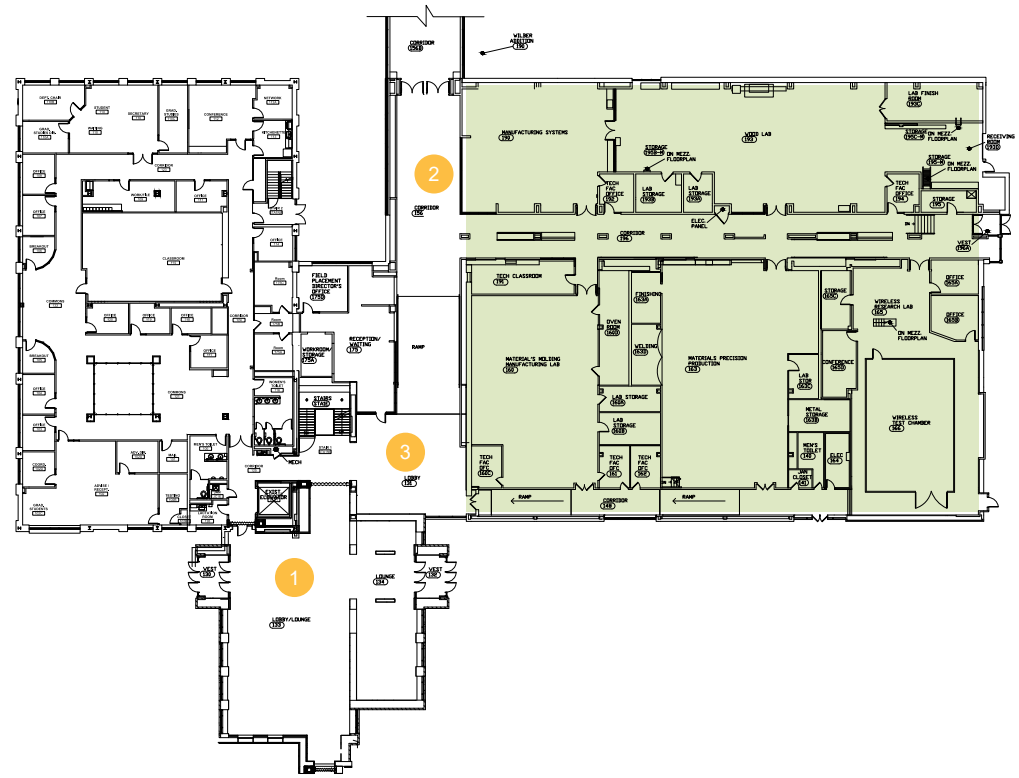
Wilber Hall's north wing is connected to Shineman Hall and Park Hall by a wide, long corridor. This space has a vibrant mural and displays of Technology projects. The setting is ideal for additional elements of Oswego Heritage. The scale of the corridor is appropriate for soft seating arrangements and art.

N
LOCATION PLAN
NTS

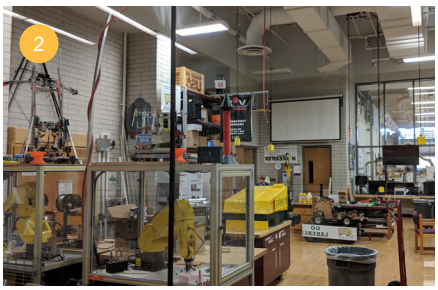
Wilber Hall North Wing

Wilber Hall North Wing
Existing Floor Plans

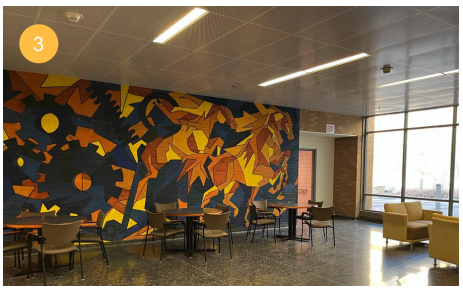
NTS N



The lounge between Park Hall and Wilber Halls a landmark space on campus.



A Wilber Hall technology lab



Mural in Wilber Hall corridor

Existing Conditions

Wilber Hall was not part of the 2021 Academic Building Master Plan Update, which serves as the basis of this existing conditions report. The following observations were made during a walk-through of Wilber Hall, and were also informed by interview feedback.

Technology Labs 163 and 160, which are used to teach materials processing and work with wood, metals, polymers, and plastics, have not been renovated in 55 years.

- Ventilation is inadequate and heat mitigation is a problem; machines produce a lot of heat.
- More electrical capacity is required.
- Plumbing needs upgrading.
- Faculty would like a gut renovation of the labs.

The labs are also used outside of class time by student and community groups:

- Technology Student Association
- Auto Club uses it evenings and weekends
- Robotics Event (150 young students)
- Solar Car Club
- Faculty collaborate with industry and the community on projects, such as a vertical farm and prototypes. Small groups of students (3 to 4) sometimes have the opportunity to work on such projects.
- Evening and weekend community courses; STEM for Kids; Young Inventors

The rooms and their support spaces are configured and sized properly for the instruction delivered. However, renovation is required to tailor the labs to current and future technology instruction.

Facilities Maintenance

SUNY Oswego did not identify projects for Wilber Hall.

Recommendation

Renovate the technology labs and their support space. The pre-design process should include a program study. The team should interview the School of Education, representatives from the Technology Management and Technology Education programs, and the Provost.

Renovate Technology Labs
Renovate Labs $13,500,000 Upgrade student engagement spaces, Oswego Heritage Projects $116,000
Total $13,616,000

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Marano Campus Center Enhancement Projects

Swetman Hall

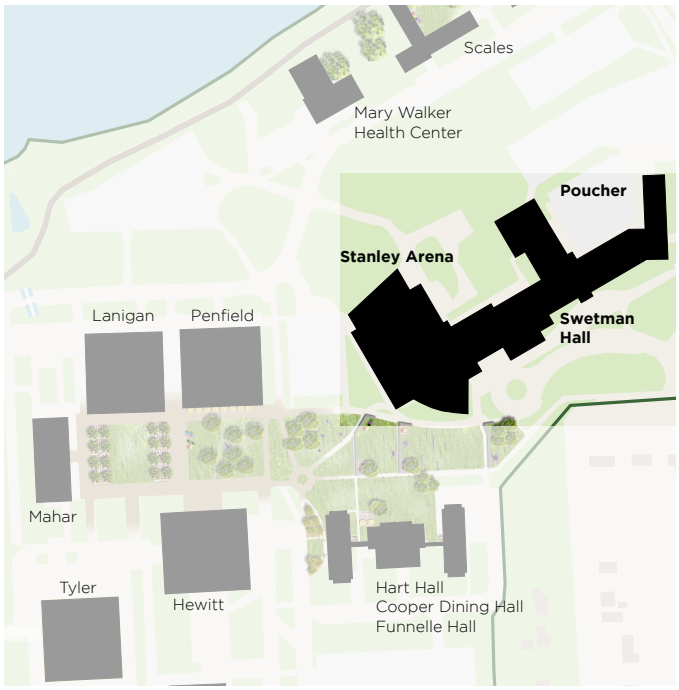
185,524 GSF 2 stories
Student Activities and Academics
Constructed: 1963 Renovated: 2006

Deborah F. Stanley Arena

115,421 GSF 2 stories
Athletics and Events
Constructed: 2006

I. Poucher Hall

40,080 GSF 3 stories
Academics
Constructed: 1963 Renovated: 2006



N **LOCATION PLAN**
NTS

Assets

- Centrally located, an interior walk connects Oswego's east and west academic buildings.
- Busy mix of academic, athletic, social, and student services functions.
- Community hub of athletics and events.
- Spacious student lounges throughout the building.

Challenges

- Wayfinding can be confusing. The building is comprised of three structures, built at different times, joined by a connecting atrium.
- While the building is a hub of Oswego activity, it lacks a sense of Oswego spirit.
- Study and social lounges all offer similar features. Furnishings, lighting, and ambiance are bland.

Student Engagement Spaces

The Campus Center is a thoroughfare. An atrium connects Poucher Hall to the Stanley Arena, creating an interior campus walk that protects from the weather. The atrium serves as a forum for clubs and events.

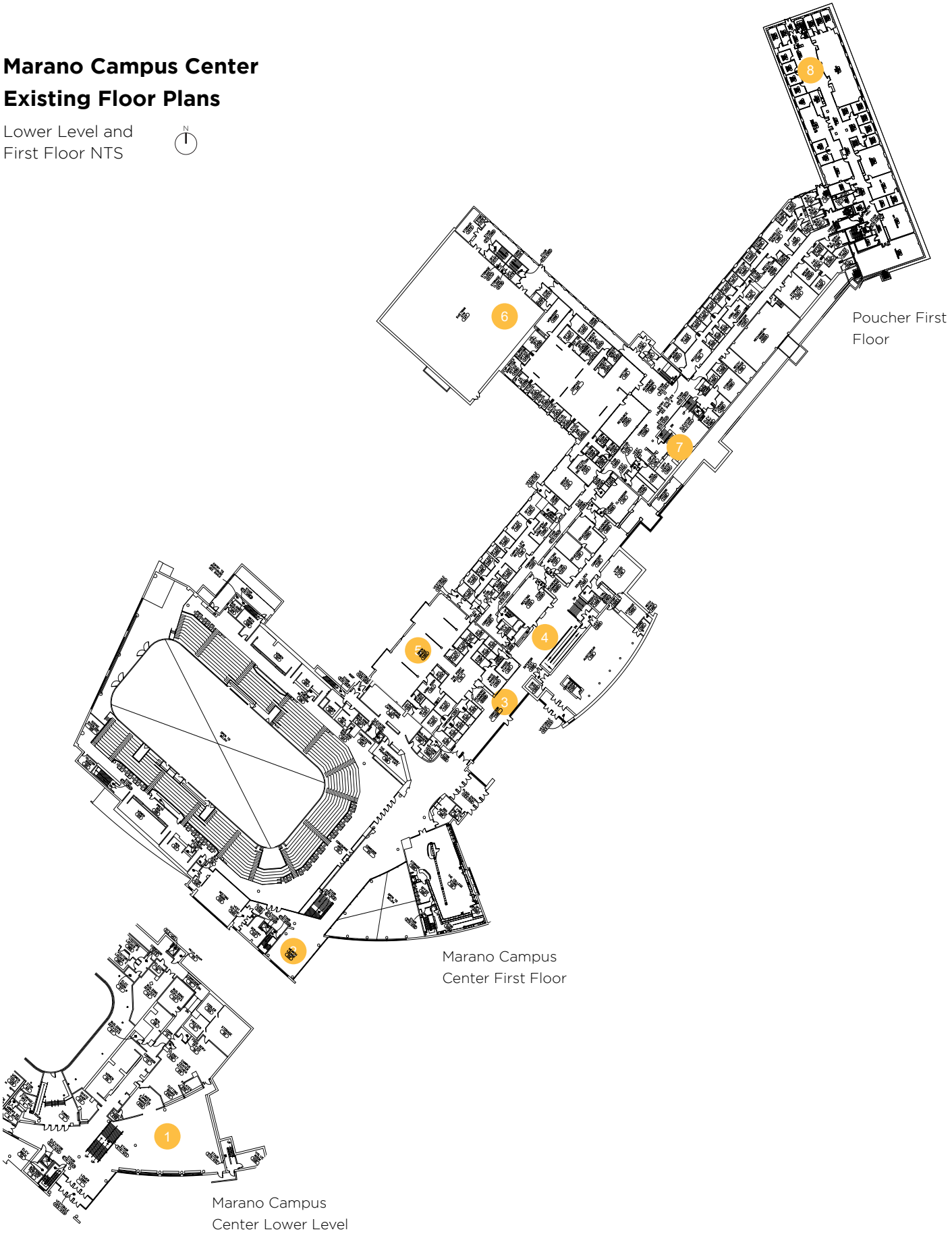
Multiple student engagement and student services functions are located along the atrium.

- The Point, which is home to student organizations.
- The Compass, where students access degree and career planning counseling.
- A campus barber shop.
- The Space, a multipurpose student event venue.
- Campus Life offices.
- The student radio station.

Southeast facade at central entrance

Marano Campus Center
Existing Floor Plans

Lower Level and
First Floor NTS



Poucher First Floor

Marano Campus Center First Floor

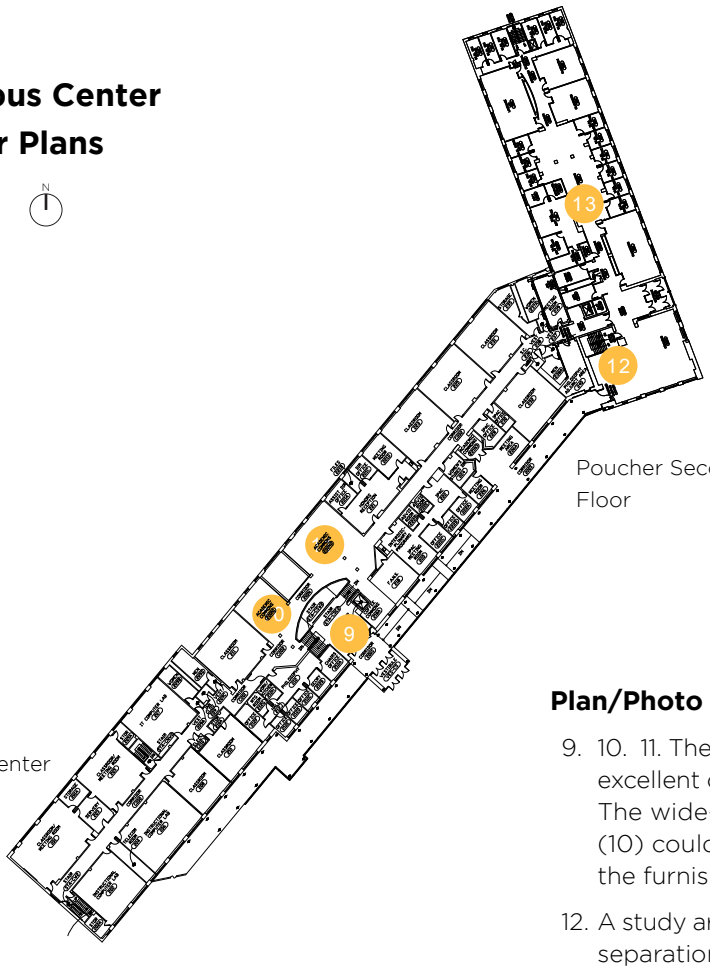
Marano Campus Center Lower Level

Plan/Photo Legend

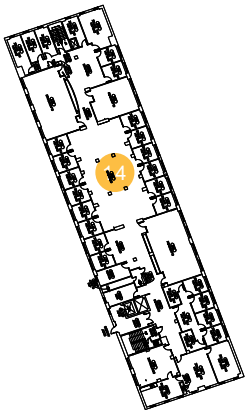
1. A dining hall is located at the arena ground level.
2. The Hearth Lounge has a fireplace and views of Campus. Its furniture arrangement is crowded; the pieces are too heavy to easily rearrange.
3. Student clubs have a tabling area along the interior walk connecting East to West Campus.
4. The corridor widens at the lecture hall and creates more space for student club use. Elements of Oswego art and culture adorn the east wall outside the lecture hall.
5. The Point is the home for student clubs. SUNY Oswego recently added large storage lockers which helped keep the area neater.
6. The Space is a student performance venue on the northern ground level of Swetman Hall.
7. A pocket lounge in Marano Campus Center. Oswego art is on display.
8. Faculty offices in Poucher Hall have seating and study areas nearby.

Marano Campus Center
Existing Floor Plans

Second Floor and
Third Floor, NTS



Marano Campus Center
Second Floor



Poucher Second
Floor

Poucher Third
Floor

Plan/Photo Legend

9. 10. 11. The Academic Commons and Chu Atrium are excellent opportunities to display Oswego Heritage. The wide-open space of the Academic Commons (10) could be improved by adding more variety to the furnishings.

12. A study area in Poucher Hall offers no audio or visual separation from the busy walkway

13. 14. Office suites in Poucher Hall have multiple places to study, chat, and admire department displays.

Existing Conditions

Marano Campus Center

Functionality

The building functions well as home to recreation, athletics, student life, student services, and dining.

Office suites are functional, but can be difficult to find.

There are multiple study and social lounges in Marano Campus Center. They are generously sized, yet there is little variety in function or furnishings.

Exterior

The building envelope is in good condition.

Interior

Interior finishes are functional and in generally good condition. Areas of high traffic show signs of wear.

Building Systems

HVAC systems and distribution are in good condition.

Plumbing (including fixtures), sanitary waste and vent systems, and natural gas piping are in good condition.

Electrical systems, distribution, and lighting are in good condition. Metal halide lamps in the high-bay areas could be replaced with energy-saving LED equivalents.

Fire protection systems and fire/CO alarms are in good condition. The dry-pipe fire protection system in room 44 is in fair condition. The sprinkler system in Swetman Gym is in fair condition.

Poucher Hall Section

Functionality

Poucher Hall functions well. Classrooms and offices are appropriately sized and receive natural light.

Academic areas have generous collaboration areas where students can wait for class, have informal meetings with faculty, or study. These spaces function well as each department's "home" on campus. They have distinct identities, flexible furnishings, and places to go for either quiet or conversational work.

Exterior

Windows and roof were installed when the building was renovated in 2006.

Masonry walls require repointing in some areas.

Interior

Interior finishes are in good condition.

Building Systems

Mechanical, electrical, and plumbing systems are all in good condition.

Fire protection systems, fire alarms, and carbon monoxide alarms are in good condition.

Facilities Conditions

JMZ prepared a thorough evaluation of Marano Campus Center existing conditions in 2021. Page 12 of that report includes a conditions summary and Appendix C, page 24, has the detailed report.

Facilities Maintenance Recommendations

SUNY Oswego identified $1,250,00 in required facilities maintenance, which is entirely comprised of a major elevator upgrade or replacement. In addition, the 2021 plan listed the following facilities maintenance needs:

- Repair exterior door thresholds that have started to rust.
- Refinish steel stair stringers at Stair WC1 that showed` signs of rust in 2021. Salt and moisture from the nearby building entrance likely contribute to this condition.
- Install drain pipe insulation in restrooms where piping is exposed.
- Some drinking fountains do not meet ADA standards. Replace with compliant models.
- In 2021, premature rust was found on the sprinkler piping supports in the Swetman section of the Campus Center. Replace the supports and provide dehumidification.
- In 2021, metal halide fixtures were observed in high-bay spaces. Replace them with LED fixtures.
- Some systems will approach the end of their useful lives in the 2040s. The College should plan ahead for replacement of fire alarm sprinkler system, and major heating and cooling components.

Student Success Improvements

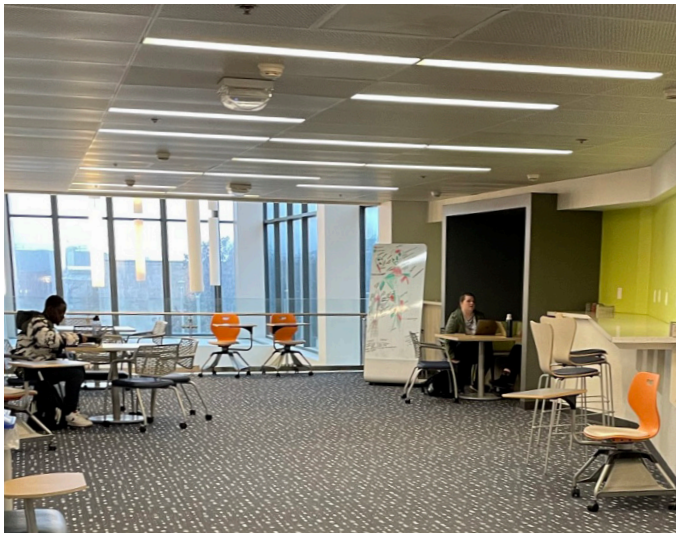
Arrange Furnishings for Visual and Audio Privacy

There are abundant lounges of varying scales along the atrium, yet they lack characteristics that define them as SUNY Oswego. Finishes and furnishings in Marano's student engagement facilities are in very good condition. However, there is little variety from room to room. Spaces seem designed to move people on their way, not to linger and enjoy a pleasing environment. To create areas where people want to stay longer,

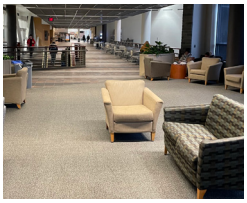
- Use the existing finishes and furnishings as a background for an expanded palette of color, accent materials, and art that reflect elements of Oswego heritage.
- Create some separate areas of smaller scale within large lounges.
- Create zones with audio and visual privacy, while maintaining sight lines for passive supervision.
- Introduce variety in lighting.
- Explore adding soundscapes in limited areas.

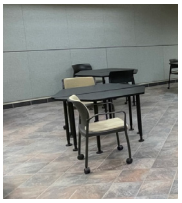
Oswego has an abundance of informal seating and study tables that can be recombined to create more diverse lounge environments. Lounges in Oswego's newly-renovated buildings have all the right components: art and graphics, engaging color and texture, multiple lighting zones, and areas with privacy. Using these spaces as models, Oswego's existing furnishings could be rearranged to create similar spaces in other buildings.

Students who require fewer distractions may seek seating with visual and audio barriers, like the cocoon-style seating below. New products designed for open-offices and hoteling workers can be added sparingly to existing lounges.



Above, lounges in the Shineman Center have study tables, counter seating, nooks, and individual tablet armchairs. The variety of seating options enables groups and individuals to use the lounges for different purposes at the same time.
Below, existing furniture in the Hearth Lounge, meeting area 226A along the atrium, and the Poucher/Marano connection room 200A could be relocated to other lounges to create small furniture arrangements within larger spaces. Add new seating, as needed, to create zones of privacy.





Capsule chairs by Palau
Skipper Cocoon chair

Reconfigure some lounges to create destinations

Both neurotypical students and students on the autism spectrum seek a variety of environments throughout the day. Applying elements like biophilic design, lighting variation, and potentially soundscapes will create settings to suit more individuals' needs.

These spaces should be easy to see and access, which will make them truly spaces for everyone.

Biophilic Design

Elements of nature in the built environment make places of respite in busy university buildings. Realistic graphics mimic expansive views. Landscape or urban scenes can be incorporated in biophilic spaces. The following view qualities have been shown to improve occupants' psychological well-being and productivity.

- Coherent views, which are symmetrical and organized
- Mysterious views, with layers to suggest hidden information

Source: The Society for Personality and Social Psychology, https://spsp.org/news-center/character-context-blog/good-office-window-view-improves-well-being-work

Lighting

Uniform, bright lighting is ideal for some activities, yet lower lighting can allow relaxation that might not be possible if one feels "on stage" in bright lighting. Cool light, like morning dawn, can help awaken one's senses and recharge energy. Study environments with task lighting help students focus on their work; brighter illumination on the work surface makes peripheral views less intrusive.

Soundscapes

Paired with realistic graphics, nature sounds or the hum of a street scene can help occupants engage with a setting. An option to turn on white noise or soothing music could help mask everyday noise from other sources.

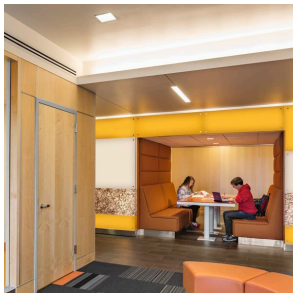
Room Divisions

Marano 200N1 and N2 form an academic commons with a wide open floor. Incorporating zones of varying finishes, furnishings, and ceiling heights will help divide the space into small-group and individual scales. Consider adding glass partitions to create quieter study spaces.

Student Success Improvements
First Steps
Arrange furnishings for visual and audio privacy. No cost.
Moderate Improvements
Reconfigure some lounges to create distinctive destinations that cater to students' varying needs for study and social space. • 250 SF: $39,000 (rooms like meeting area 226A) • 800 SF: $124,000 (rooms like soft seating zone of Poucher commons) • 2,000 SF: $310,000 (rooms like Academic Commons 200N 1&2), option to include a glassed-in study room $116,000

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Above, Rider University created a Zen Den with features to help neurodivergent students. Below, existing lounge 226A could become a drop-in meditation zone.



Space dividers and changes in finishes could differentiate zones in the Academic Commons, Marano 200N1 and 200N2 to.

First Impressions Project

Display Oswego Art and Heritage

Enhance walls with lighting and permanent graphic displays (around 120 SF of wall area, each).

- Add art and exhibits to celebrate Oswego's successes in arts and technology.
- Utilize palettes and materials that evoke specific natural features or cultural qualities of the area.

High-traffic areas are rich opportunities to show off Oswego's rich history:

- The Chu Atrium greets individuals arriving by bus.
- The balcony between the arena and the food court receives event traffic during games. It could be a showplace for Oswego culture.
- High-ceilinged portions of the corridor could house suspended artwork.

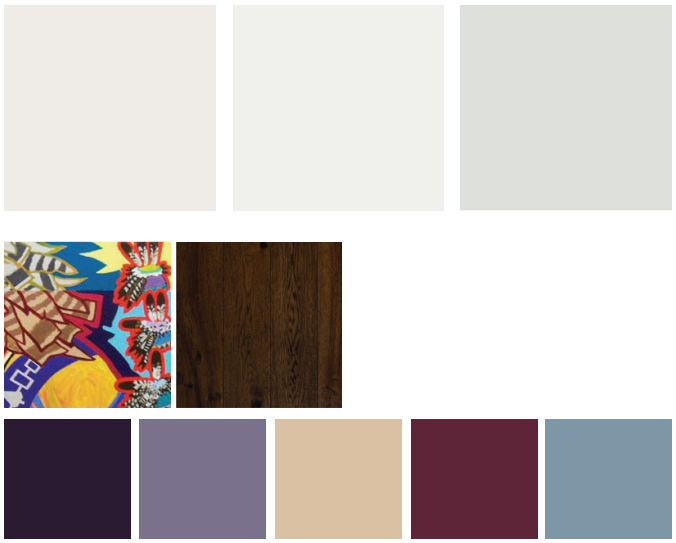
First Impressions Project
Display Oswego art and heritage. Allow $116,000

The Chu Atrium

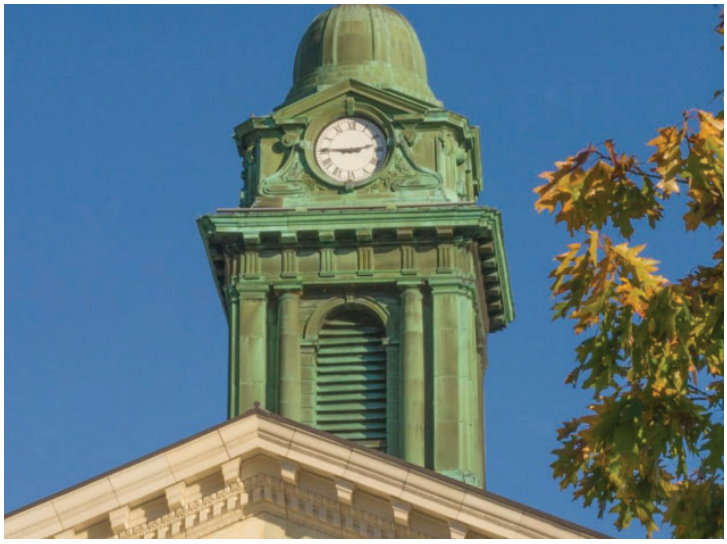
Balcony between arena and dining

High-ceilinged corridor west of Chu Atrium

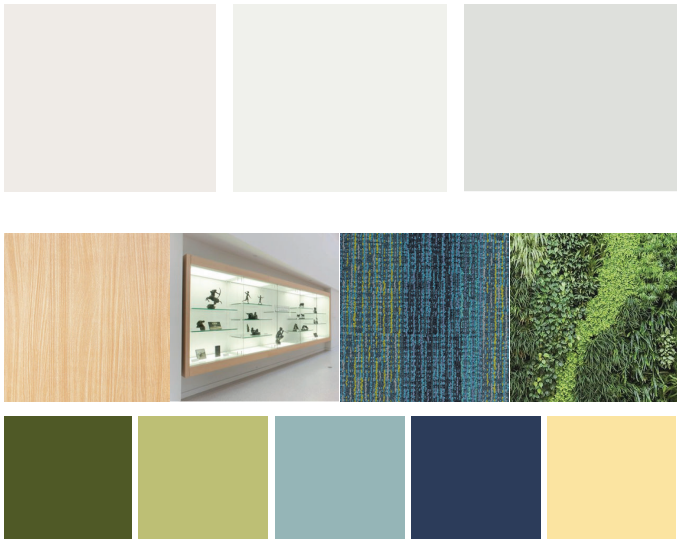
Indigenous Roots Palette



The painting "At the Sing" by David Kanietakeron Fadden, a Mohawk artist, (pressrepublican.com) and Mohawk artist Hannah Claus's installation, "Fancy Dance Shawl for Sky Woman" (cbc.ca) influence the Indigenous Roots Palette.



Patina Palette



Images of Sheldon Hall influence the Patina Palette. The fresh colors and crisp finishes evoke a crisp lakeside morning. The painting "Tynise No. 1" is by Skylar Guest, a 2021 Oswego graduate.

Indigenous Roots Palette

- The Haudenosaunee, People of the Longhouse, are an alliance of nations united by laws, traditions, beliefs, and cultural values.
- Wampum belts are purple and white shell beads woven into strings and belts used for ceremonies and recording historical events.

Patina Palette

- Emphasizes SUNY Oswego history.
- Inspired by the weathered cupola on Sheldon Hall, the first academic building constructed when the campus moved lakeside in 1913

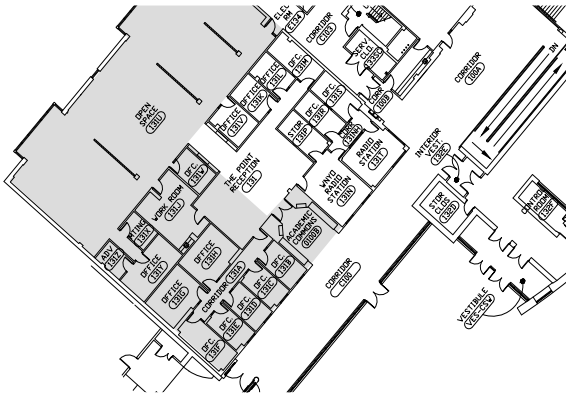
Reconfigure the Entrance to The Point

One of SUNY Oswego's best student engagement assets is hidden down a narrow alcove. Widening the approach to The Point will increase visibility and update finishes and furnishings.

Office suites within the Point could be reorganized for efficiency and to ease wayfinding.

In the existing student organization office area, Oswego recently added large storage lockers. The area has diverse seating arrangements for small groups or large meetings. No changes are needed in this engaging student life space.

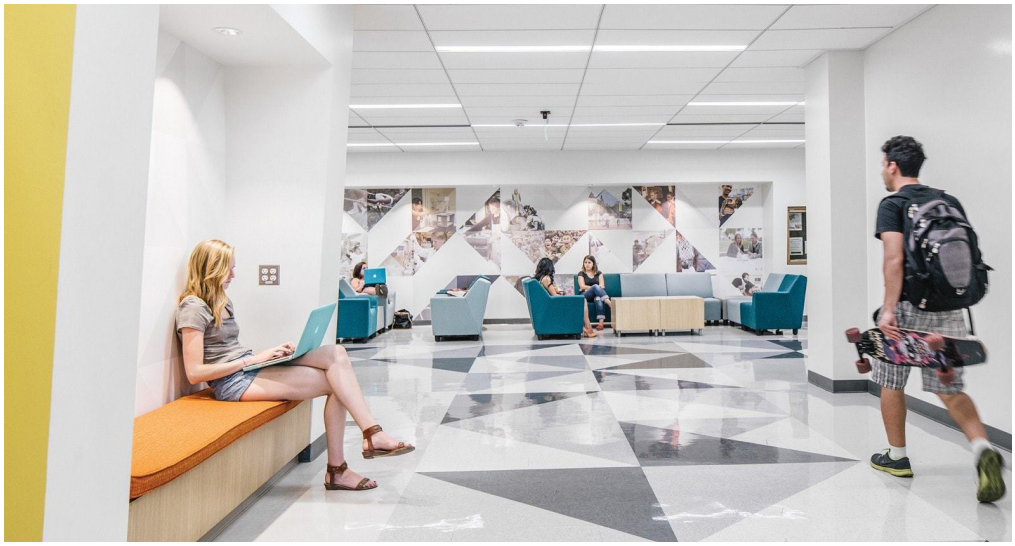
First Impressions, Student Experience Project
Reconfigure the entrance to The Point Allow $1,670,000



The Point
Existing offices and entrance floor plan

The Point
Reconfigure Entrance and Offices

Above, the existing entrance to The Point. Below, California State University, Long Beach (hermanmiller.com) Photographs from around campus enliven the wall behind movable soft seating.



Student art, like "Colored Subconscious" by Shea McCarthy (left) or Esfir Pievskaya's "On the Edge" (right) could be reproduced in wall graphics.

Athletics and Recreation Buildings

Lee Hall 2017 Recommendation Summary

2017 Report Recommendation	
Lee Hall Addition and Comprehensive Renovation	
Estimate of Probable Cost (2019 dollars)	$29,613,000
Escalation to 2023 dollars	$35,511,000
New Recreation Building and Lee Hall Minor Renovation	
Estimate of Probable Cost (2019 dollars)	$30,741,000
Escalation to 2023 dollars	$36,864,000

Laker Hall 2017 Recommendation Summary

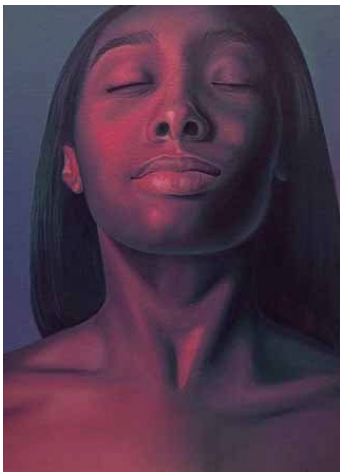
2017 Report Recommendation	
Single-Phase Comprehensive Renovation	
Estimate of Probable Cost (2019 dollars)	$32,056,000
Escalation to 2023 dollars	$38,440,000

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Rendering of suggested Laker Hall improvements

Enhancement Project Descriptions

Above, use corridor walls to display Oswego art. Below, an existing mosaic south of Tyler Hall enlivens the path from visitor parking to the academic core. Center, wall graphics at Couzens Hall at University of Michigan (IDS Architecture); painting Ohkira by Maggie DeJohn, Oswego class of '21.



Oswego Heritage Projects

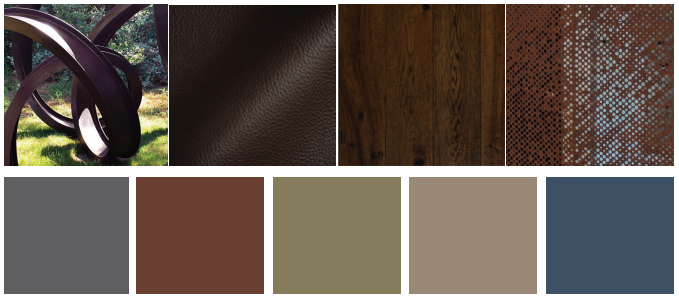
Heritage and art projects can be separately implemented in buildings where no other renovations are recommended, or they can be included in more comprehensive renovation projects. Adding historical context to SUNY Oswego's buildings would help students feel connected to the region, the town, and the College.

The scope of heritage and art projects could include:

- Enhance a visible wall in a busy area with lighting and permanent graphic displays (around 120 SF, minimum, of wall area).
- Add art and lighting to celebrate Oswego's collaborative endeavors in arts and technology.
- Utilize palettes that evoke natural features or cultural qualities of the area.

Multiple palettes are shown throughout this report, yet all have the same three base colors. Oswego Heritage areas will have common elements for consistency campuswide.

Port Oswego Palette



Improve Existing Student Engagement Spaces

Upgrade Furniture

Furniture replacement is a quick way to improve the environment in student life spaces. SUNY Oswego's residence hall lounges range from a 150 square foot (SF) lounge in Onondaga Hall to Seneca Hall's Lounge 1C, which is 4,048 SF. Lounge furnishings in non-residential buildings could be upgraded, as well, using similar guidelines.

Large Lounges
1,000 SF or larger

Most of Oswego's largest residence hall lounges are furnished with aging, heavy sofas and chairs. In rooms where there is little variety of seating, residents may be unable to find a place with visual and audio privacy.

- Introduce seating for individuals, small group arrangements, task-oriented furnishings, and leisure seating at entertainment areas.
- Add some seating designed for privacy, such as the Peek chair (below, right).

Mid-sized Lounges and Meeting Rooms
Around 500 SF

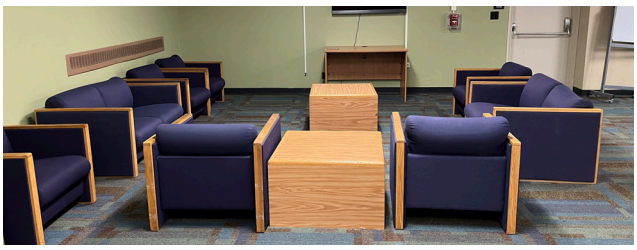
Few rooms are outfitted for students' interests and hobbies. An underutilized meeting room could become a destination if it contained flexible furnishings for projects or activities. For example, a room with a sink could become home to evening painting groups if it had cleanable furnishings and surfaces.

Small Lounges
200 SF or smaller

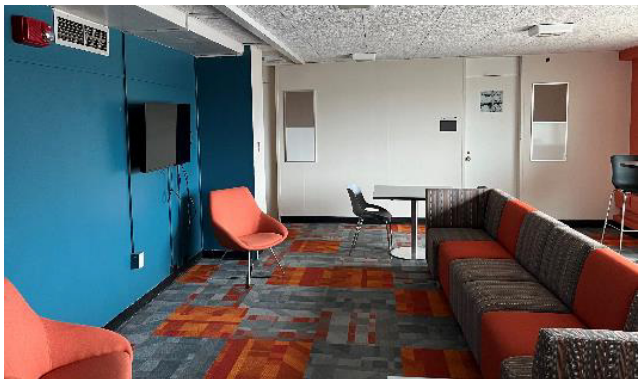
Small lounges are typically dedicated to a single purpose, like a study lounge or social lounge on a residence floor. Creating distinct environments for every small lounge is impractical, yet lounges could offer features that make them destinations.

- Alternate furnishings in study lounges by floor to include single-occupant carrels or small-group tables.
- Include some lounges with warmer, dimmer lighting augmented by task lights at work surfaces.
- Include movable furnishings in social lounges to accommodate different uses.

Typical existing furnishings in residence hall lounges.



Upgraded furnishings in Seneca Hall; the Peek Chair by Boss Design.



Improve Existing Student Engagement Spaces

Replace Finishes and Fixtures

In affected rooms, repaint walls and ceilings, replace carpet and base. Replace fluorescent and incandescent lighting fixtures with LED; include occupancy sensors. No reconfiguration will occur.

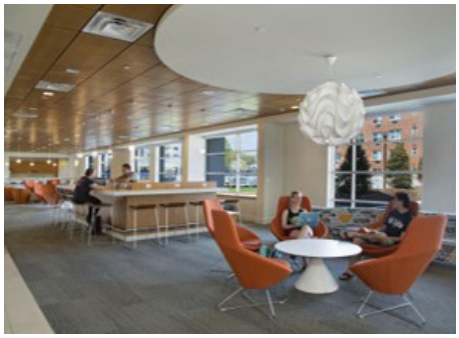
Renovate Large Rooms to Create Activity Zones

Along with replacement of finishes and fixtures, employ design strategies to create distinct areas within the College's largest lounges. Accent ceilings, varied floor finishes, and changes in lighting can differentiate spaces for conversation, study, and entertainment. Replace all finishes and fixtures. Increase access to power and data.

Create Glass-enclosed Spaces within a Larger Social Lounge

Some of Oswego's residence halls and academic buildings have sufficient lounge space to create rooms-within-rooms. Building enclosed rooms allows more activities to take place at one time, increasing potential utilization.

Above, existing lounges have inflexible furnishings and outdated finishes.
Below, upgrades and reconfigurations in varying degrees.



Create Community Kitchens

Build residence hall kitchens of approximately 250 SF. Separate the kitchens from adjacent spaces with glass walls so they are inviting but can be effectively exhausted to the outdoors.

Repurpose Floor Kitchenettes as Study Lounges

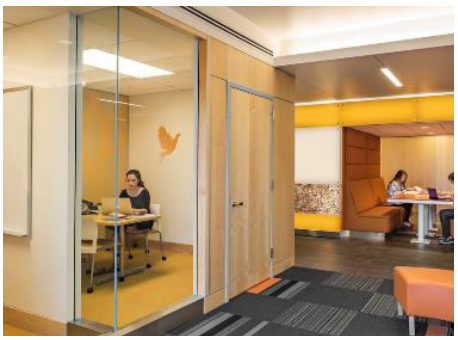
After a residence hall receives a new or updated community kitchen, repurpose small existing kitchenettes on every floor as enclosed study lounges. Cap kitchen utilities. Replace finishes and lighting. Provide power and data for study.

Where possible, convert small study lounges to student rooms

Creating community kitchens enables creation of small study lounges from existing kitchenettes. Existing study lounges within the residential room blocks could be converted to revenue-bearing student rooms.

Above, existing kitchenettes on residence hall floors are small and do not include dining space. Existing community kitchens (typically on basement levels) require upgrades. When new kitchens are created, vacant kitchenettes can be converted to small study rooms (below).

Mahlum Architects and Pinnacle Architecture



Improve Building Approaches, Lobbies, and Access to the Outdoors

Improve Building Entrance

Add new canopies, lighting, landscape plantings, colorful signage, and entry systems to emphasize building approach. Add an area of rainscreen exterior finish in the area surrounding the entrance to further accentuate the entrance.

New Entrance Addition

As an alternate to enhancing residence hall entrances, create a new two-story lobby. This approach adds approximately 600 SF of social space that would serve as an all-season "front porch." When illuminated at night, these entrances would be beacons for students' homes on-campus.

Entrance enhancements with a canopy, colorful signs, and landscape do not require interior reconfiguration.

A modest addition can further transform building entrances.

Improve Building Approaches, Lobbies, and Access to the Outdoors

Lobby Renovation

Upgrade finishes and fixtures in building lobbies. Include Oswego Heritage elements.

Add Access Control - Create Connections to the Outdoors

Most Oswego residence halls have a patio, porch, or green space directly adjacent to the building. Existing doors to these amenities are locked from the outside to enhance security, thus residents cannot re-enter the building without going around to the front door. Electronic access controls would allow residents ingress from the outdoor leisure space, bringing better utilization to amenities.

Additional Outdoor Access Improvements

Outdoor Furnishings

Existing Adirondack chairs throughout campus offer informal seating and are well used. Additional options, like café tables or hammock gardens, would offer students more ways to relax, study, or work outdoors. The courtyards at Cayuga Hall and Oneida Hall are underutilized assets. Additional furnishings and lighting would energize these outdoor lounges.

Repair porches

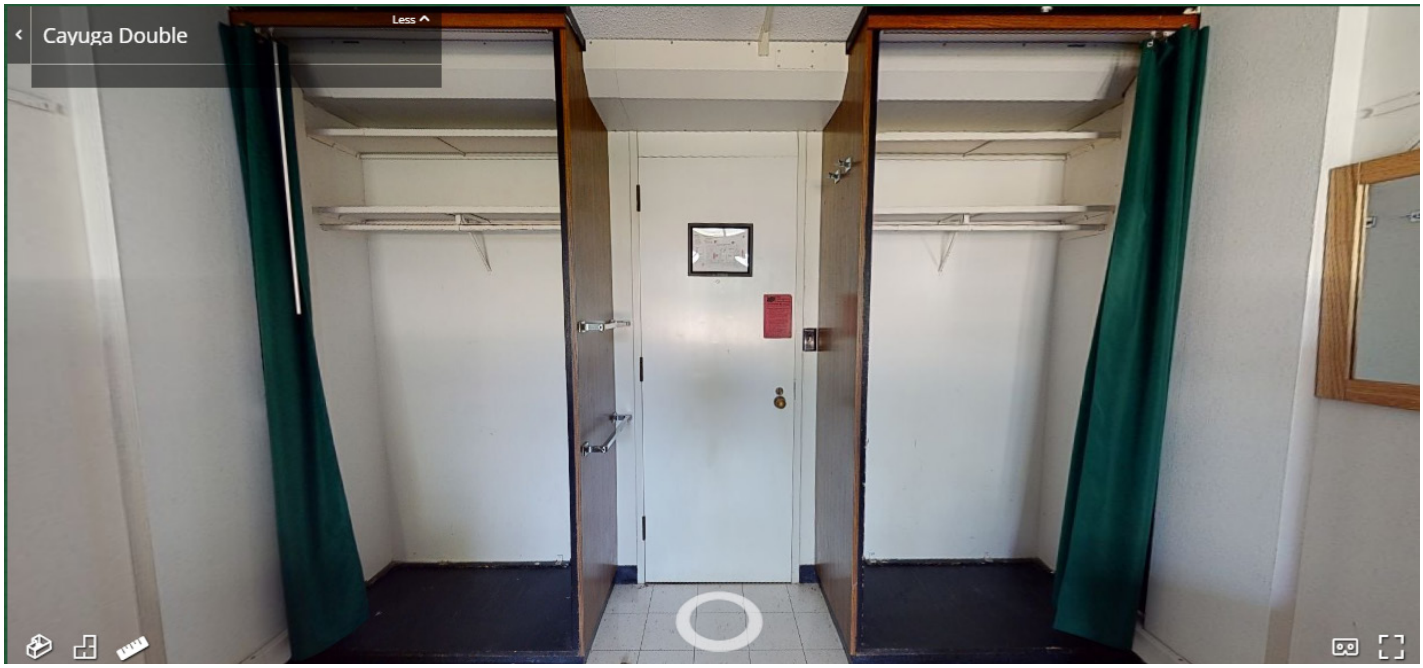
Riggs Hall and Johnson Hall have partially-covered porches directly outside ground-floor lounges. Paint wood elements of the porches and pergolas. Clean, level, and repair concrete. If needed, create an accessible pathway to lawns.

Residence hall lobby at Howard University

Create Accessible Doors and Clear Floor Space at Student Residence Rooms

Door openings are too narrow in most residence halls to meet ADA accessibility guidelines. Many rooms have knob hardware. Fixed casework within student rooms intrudes upon the clear floor area required by ADA for accessible doors.

- Widen door openings. Install new doors with accessible hardware.
- Replaced fixed casework that encroaches on clear floor area on door pull side.



Building-Specific Enhancement Projects

Create a new two-story lounge
Onondaga Hall

Onondaga Hall has a very large ground floor lounge with residential suites stacked above it. Reconfigure and renovate the ground- and first-floors surrounding the lounge, suites, stair, and entry lobby to create views through the building. This comprehensive renovation approach would affect 5,600 SF on the first floor and basement. Scope would include removing a portion of the floor to create a two-story volume.

Convert six student rooms to floor lounges
Cayuga Hall

Floor plans show that all lounges in Cayuga Hall are on the basement level or first floor. Create floor lounges on floors two, three, and four by combining rooms 33S, 35S, and the luggage storage room between them. Outfit the floor three lounge as a quiet study lounge and the remaining two lounges as social lounges.

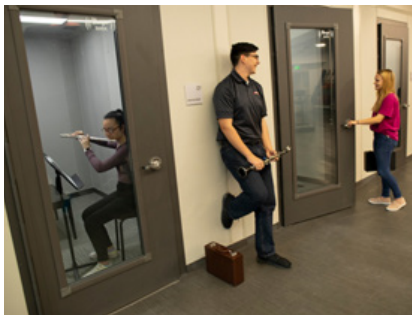
Convert two study lounges to eight student rooms
Cayuga Hall

If six student rooms are converted to floor lounges (as described), Cayuga Hall will have sufficient study and social lounges throughout the building to convert LOU1 and LOU2 to eight student rooms. This area would require minor reconfiguration with renovation. As a pair of projects, the lounge creation and lounge conversion would net two additional student rooms with double occupancy.

Create music practice rooms
Lakeside Dining Hall and West Campus Community

Residence halls have multiple pianos each, located in lounges. This feature invites community gathering around music. Students who need to practice piano, or another instrument, require less-public spaces. With moderate reconfiguration, renovate existing spaces to enable installation of prefabricated music practice rooms.

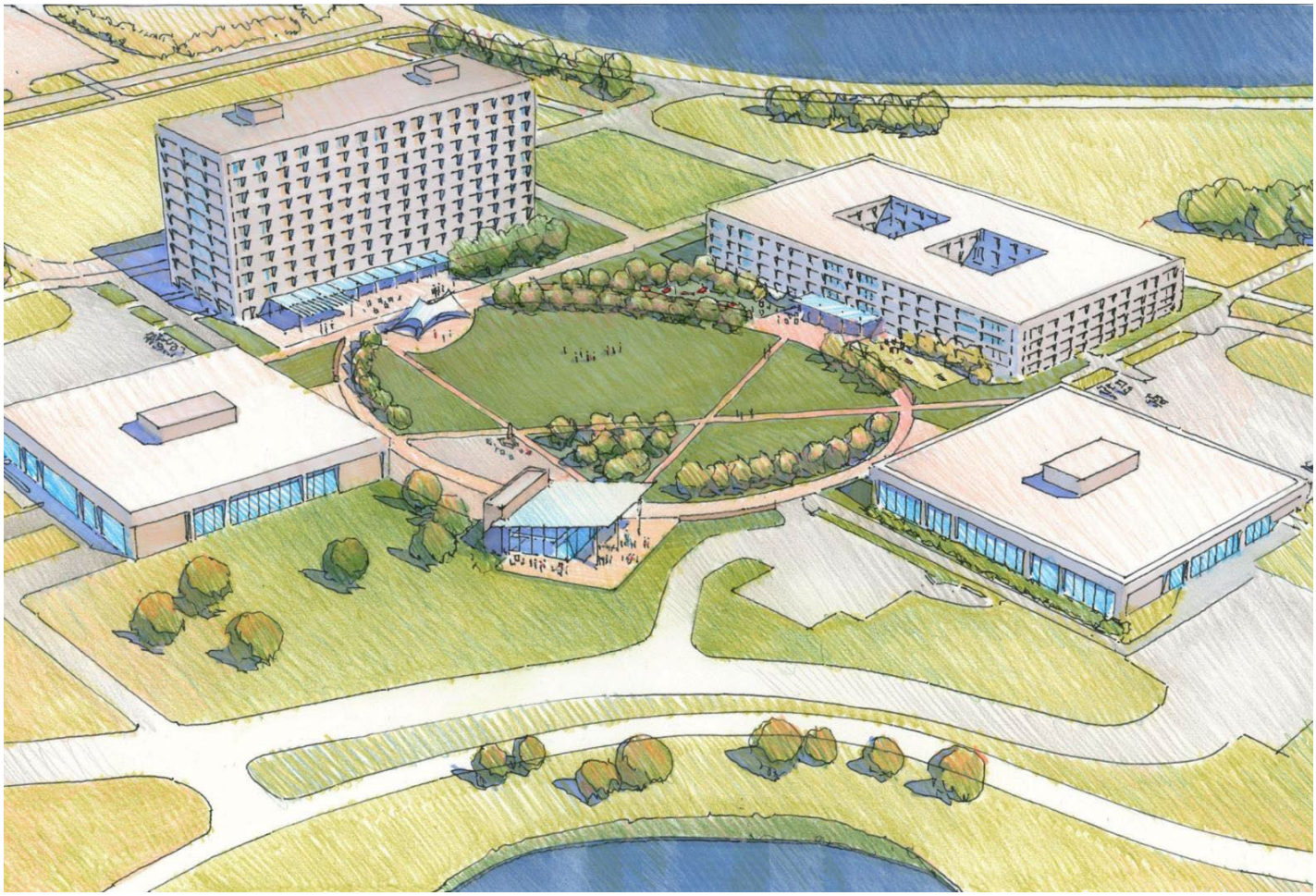
Floor lounges could be created from two student rooms in Cayuga Hall. Prefabricated music practice rooms can augment Oswego's tradition of placing pianos in lounges. A renovation with reconfiguration could create a two-story lounge in Onondaga Hall.



Landscape Enhancement Project Descriptions and Estimated Costs

Campuses with beautiful landscapes make a good first impression on visitors and prospective students. SUNY Oswego's small-town setting on Lake Ontario is an asset that distinguishes it from other SUNY institutions. Along with many other campuses, SUNY Oswego has needed to prioritize its capital spending on improvements to buildings. However, vibrant, engaging outdoor spaces and views are drivers of student attraction and retention.

Ranging from as little as $181,000 to over $3,000,000, the following landscape enhancement projects would benefit SUNY Oswego on both the residential and academic sides, enhancing the work environment and residential communities.



Potential improvements to recreation space in the West Campus Community

Landscape Enhancement Projects

NTS

1 **West Residential Quad, Part 1**
Provide patios outside residence hall lounges.
Option: Covered patios for extended seasonal use.

2 **West Residential Quad, Part 2**
Create a connection between the buildings by improving the lawn. Add a path, trees, and patios outside dining halls.
Option: Add a multipurpose West Campus Club or covered pavilion for events.

3 **West Campus Bridge**
Replace the bridge and include pedestrian amenities. Add shade/wind protection, plantings. Add landscaping and upgraded paving at bridge approaches. Improve views to the lagoon and creek by clearing out brush.

4 **West Academic Plaza**
Comprehensive renovation of the landscape and hardscape between Mahar, Lanigan, Penfield, and Hewitt.

5 **Extend Sculpture Garden**
Create a terraced lawn that reaches up toward Marano Campus Center. Create areas of hardscape for student activity tables. Add informal seating. Add power for future illuminated sculpture sites.

6 **Hart/Funnelle Landscape Upgrade**
Enhance landscape in the Hart/Funnelle/Cooper area. Include a hammock garden and outdoor seating.

7 **Lakeside Path**
Add a crushed-gravel path along the lake.
Options: Include three brick patios along the trail for seating. Add a wooden shade structure over the patios.

8 **Lakeside Pavilion**
Enhance the shaded patio concept listed under "Lakeside Path." Provide a 800 SF pavilion suitable for events like residence life cookouts, outdoor movies, yoga, etc.

Landscape Enhancement Projects

These are elective projects that can be implemented at any time.

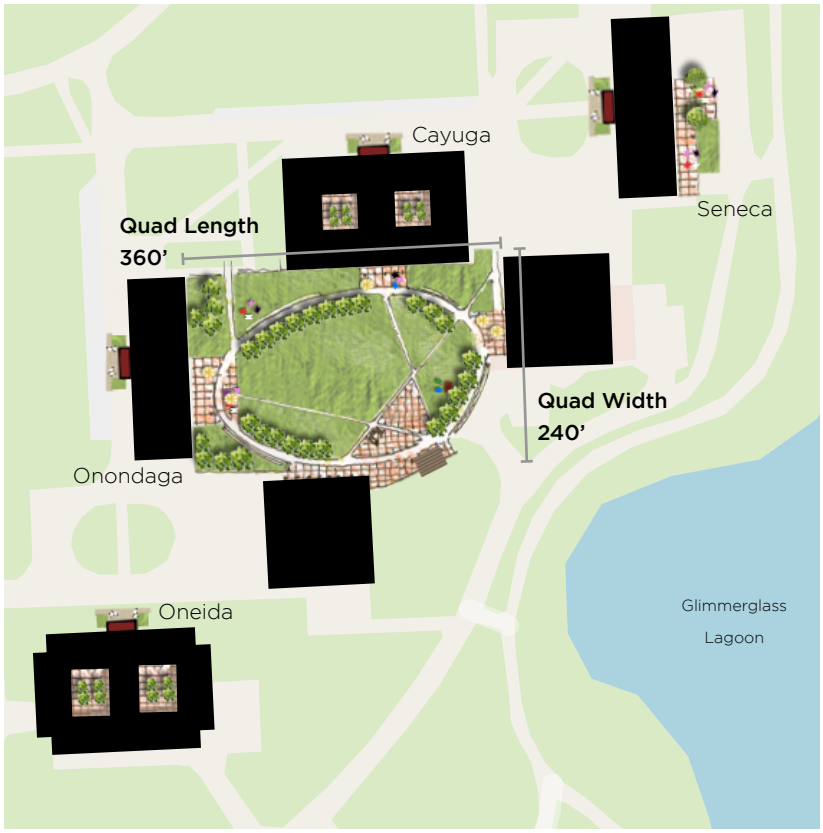
First Impressions		
First Steps	**Moderate Improvements**	**Major Improvements**
Add landscape beds along the most-traveled walks Allow $7,000 per 1,000 square feet	West Residential Quad, Part 1 Allow $150,000 each for Cayuga, Onondaga, Littlepage DH, Pathfinder DH components Add a covered area, allow $82,000 each	West Residential Quad, Part 2 $2,973,000 Add an activity pavilion $388,000
Add covered patios along the most-traveled walks. Provide landscape beds, low seat walls, lighting, and wifi. Allow $77,600 per patio		West Academic Plaza $3,200,000
	Hart Hall and Funnelle Hall resident retreat patios $75,000 each	Extend sculpture garden, create tiered lawn and seating areas. Create a patio along Hart/Cooper/Funnelle north side.. $1,158,000 to $2,108,000 (depending on size)

Campus Experience		
First Steps	**Moderate Improvements**	**Major Improvements**
Lakeside Path $179,000	Add covered patios to the Lakeside Path. Provide landscape beds, low seat walls, lighting, and wifi. Allow $77,600 per patio	West Campus Bridge (Includes rebuilding the structure, landscape improvements, and an allowance to incorporate piping for CEMP projects) $2,400,000
Add brick seating areas to the Lakeside Path Allow $11,000 per 150 square foot patio	Lakeside Pavilion $388,000	

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

West Campus Residential Quad

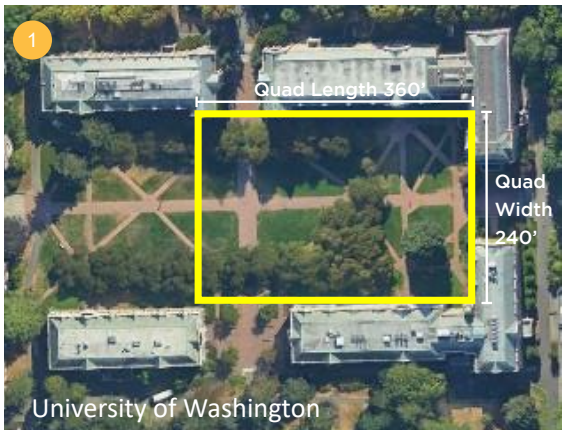
NTS

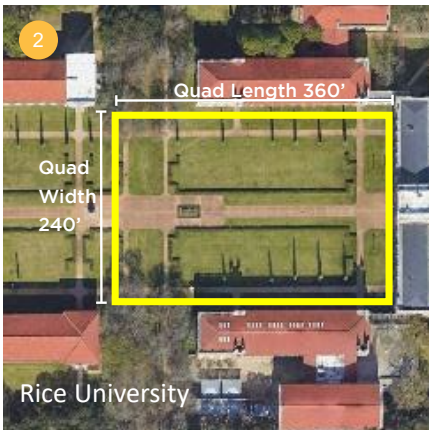


The existing West Campus Residential Quad is an unprogrammed lawn with few amenities. To create a space where students want to spend time, add seating, shade, and a recreational lawn.

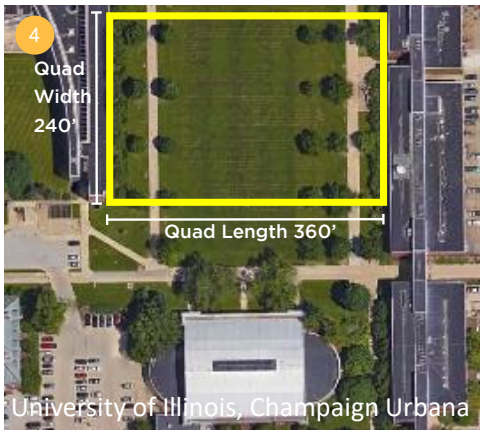
University quads can be organized formally (pictures 2, 4) or with a more natural palette (picture 3). The concept sketch at left shows an approach similar to the University of Washington (picture 1) where organized grids are crossed by naturalistic plantings and paths.

This project should take place after the West Campus residential geothermal wellfield is complete. In Part 6 of the Clean Energy Master Plan, the Phasing and Implementation plan suggests incorporating this green space into the campuswide network of wellfields.


1
Quad Length 360'
Quad
Width
240'
University of Washington


2
Quad Length 360'
Quad
Width
240'
Rice University


3
Quad
Width
240'
Quad Length 360'
Harvard University

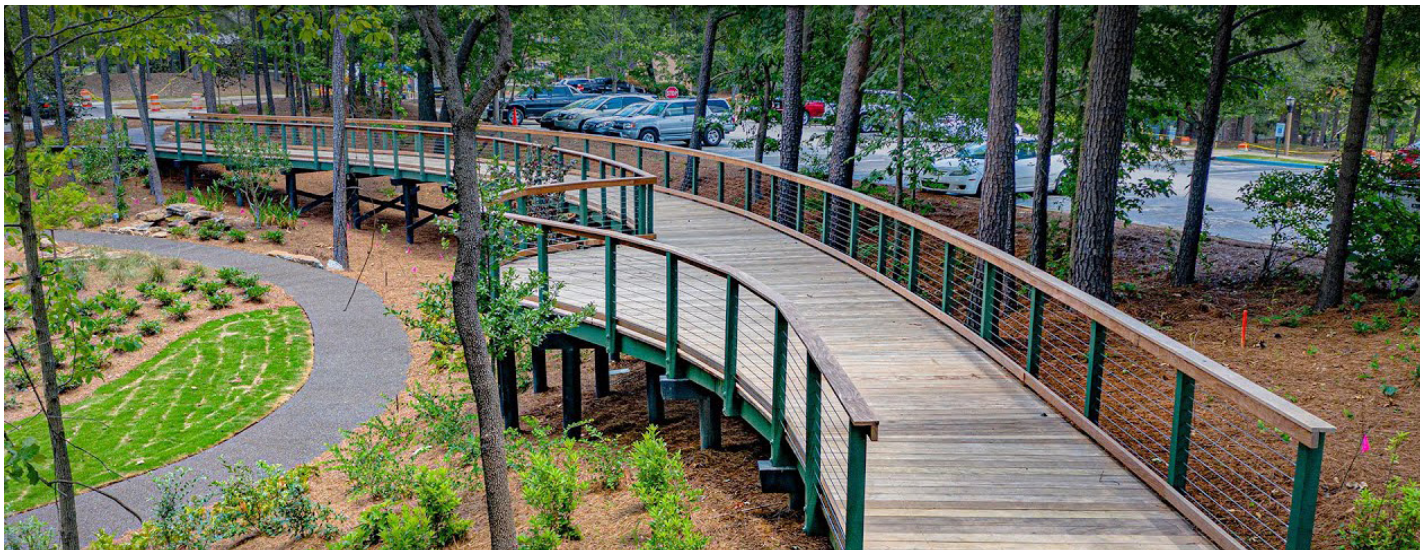

4
Quad
Width
240'
Quad Length 360'
University of Illinois, Champaign Urbana

West Campus Bridge

NTS

The existing concrete and asphalt bridge is not a welcoming gateway to or from West Campus housing.

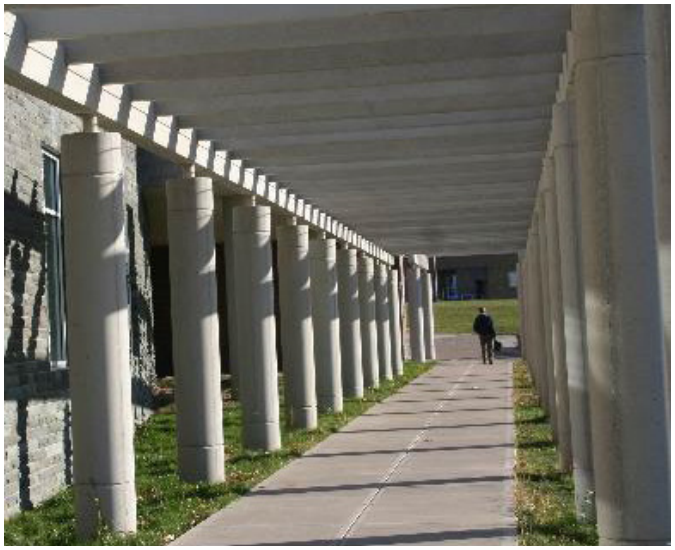
A simple footbridge could engage nature.



Pedestrian bridge, Lisieux, France

Campus bridge, Fairleigh Dickinson University

Sheldon Hall before pergolas were removed



Pergola at Marano Campus Center

West Campus Academic Plaza

NTS

Over the years, the West Campus plaza has lost its crisp edges. Shade trees have softened the hardscape, but there are no features that encourage individuals to stay and enjoy a sunny day.

Building entrances are not celebrated; they are virtually invisible. Concrete in poor condition has been patched with asphalt. The original fountain is no longer used and was painted to bring color to the blank concrete expanse.

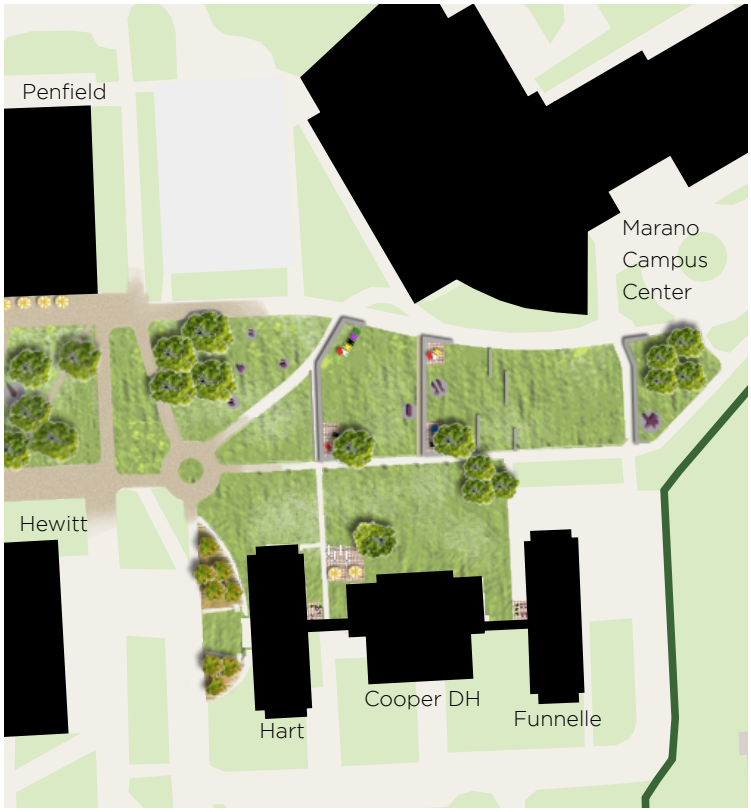
Renovating the plaza can create a space for large outdoor events, informal gatherings and games, or just quiet rest. The redesign should address building entrances and offer seating, landscape improvements, and signage to guide people to front doors.

West Campus plaza soon after construction

The Boston City Hall plaza is a similar plaza. A broad expanse of hardscape emphasizes the powerful structure.

A redesign rendering by Sasaki for the landscape transformation of Boston City Hall plaza

Extend Sculpture Garden



The formal design of West Campus loses its rigor on its eastern edge as walks extend uphill toward Marano Campus Center and Swift Street. Organizing the lawn into terraces and providing level seating areas can increase use of this green space.

Hart/Funnelle Landscape Upgrade

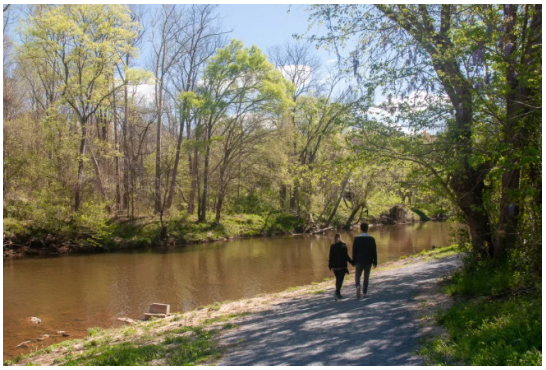
Gallaudet University

Framingham State University

Shady alleys between Cooper Dining Hall and its twin neighbors, Hart and Funnelle, could be turned into outdoor retreats for student residents.

Around the corner, the northern edge of the Hart, Cooper, and Funnelle buildings could contain a seating area that overlooks the sculpture garden, Marano Campus Center, and Lake Ontario in the distance.

Lakeside Path and Pavilion



Along Lake Ontario there is a barrier fence in good condition and a clear area of lawn for strolling. The space is not accessible for all, however, and lacks amenities.

Adding a graded crushed gravel path, with optional patios or covered seating areas, would invite students, employees, and the community to enjoy Lake Ontario.

A large open-air pavilion on the lakeshore could be a place where the SUNY Oswego community gathers for events like outdoor movies, cookouts, or performances.

Appendices

Appendix A
Residence Hall Campus Engagement and Peer Analysis

Market Analysis

WACHALSKI ADVISORY

- Student Focus Groups
- Student Survey
- Off-Campus Market Analysis
- Peer Analysis
- Demand Calculations / Scenarios

Student Focus Group Input

- SUNY Oswego attractive due to affordability/scholarships, location and some academic programs.
- **Housing "not a huge factor" when deciding on Oswego. Many students assume they'll live on campus regardless of where they go to college.**
- The two-year live-on requirement is fine. Anything beyond that wouldn't work as students seek independence.
- Academic scholarships require student to stay on campus beyond their 2nd year.
- **Living on campus is a great experience for many residents due to proximity to other students and resources: "Everything is so close and accessible." Johnson a good option: dining and air conditioning.**
- Room layouts are, generally, okay – "as expected in dorms." Community bathrooms less appealing - more privacy in bathrooms would be great. Suites in Onondaga a good option but somewhat outdated – still the best option on the West Side.
- **Difference between Lakeside ("calm") and West Side ("wild") in quality and atmosphere. Lakeside has a better community.**
- The Village is very attractive for older students: private rooms, kitchens, no meal

Student Focus Group Input

- **Cost of room and board a concern. Cost of housing doesn't appear as high for those on scholarships.**
- Upper-division student move off campus to avoid rules / supervision and to save money. Even some rules at the Village (no candles for example) are annoying to some.
- **Meal plan requirement is a factor when deciding where to live – on- versus off-campus.**
- **The most popular student–oriented options include Lakeside Commons and Premier Living Suites.**
- **May students live in rental houses.**
- **Significant cost difference between purpose-built off-campus housing ($810/month at Lakeside vs. $350-$600/month in a house)**
- Search for off-campus housing typically through the word of mouth or social media.
- Limited housing options during breaks also a factor for some students moving off campus.

Survey Statistics and Demographics

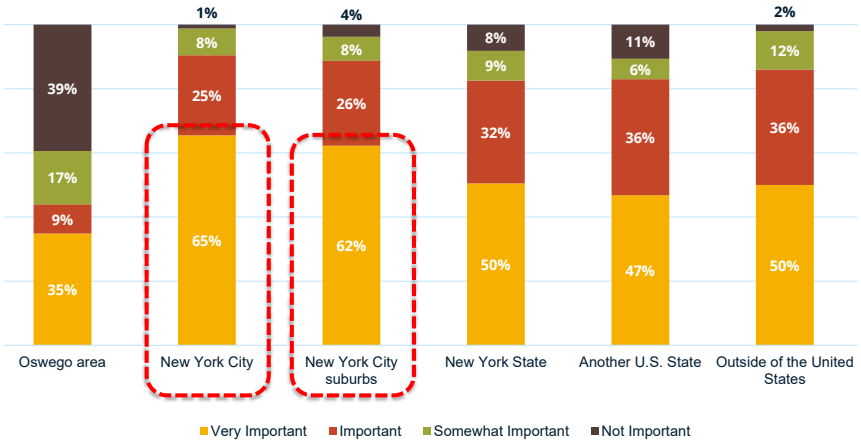
- Distributed to all Oswego students via mass email (Spring 23 enrollment: 6,476)
- 815 responses collected: 12.5% response rate; 3.21% margin of error within 95% confidence level

	Student Population	Survey Sample
Gender		
Woman	52%	65%
Man	48%	28%
Transgender	NA	1%
Genderqueer	NA	1%
Genderfluid	NA	1%
Another gender identity	NA	2%
Prefer not to respond	NA	1%
Age		
Younger than 18	0%	0%
18	18%	22%
19	17%	20%
20	18%	20%
21	20%	19%
22	10%	7%
23	5%	4%
24	3%	3%
25	1%	1%
26 and over	8%	5%
Class		
First Year	27%	22%
Sophomore	17%	20%
Junior	22%	23%
Senior	25%	27%
Graduate	6%	7%
Other / Non-degree	3%	0%

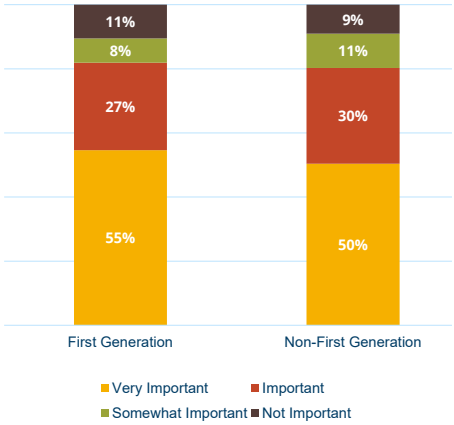
	Student Population	Survey Sample
Hispanic or Latin/a/x		
Yes	13%	13%
No	87%	85%
Prefer not to respond	NA	2%
Race		
American Indian	0%	2%
Asian	3%	10%
Black	10%	12%
Hawaiian or Pacific Islander	0%	1%
Hispanic	13%	NA
International Non-resident	5%	NA
More than one, Not underrepresented	1%	NA
More than one, Underrepresented	3%	NA
Unknown / Other	0%	4%
White	65%	67%
Prefer not to respond	NA	4%
Enrollment Status		
Full Time	88%	97%
Part Time	12%	3%
On- / Off-Campus Residents		
On-campus	55%	73%
Off-campus	45%	27%

Importance of Housing

How important was the availability of quality on-campus housing in your decision to attend SUNY Oswego?

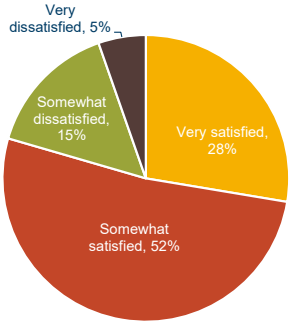


By Area of Origin

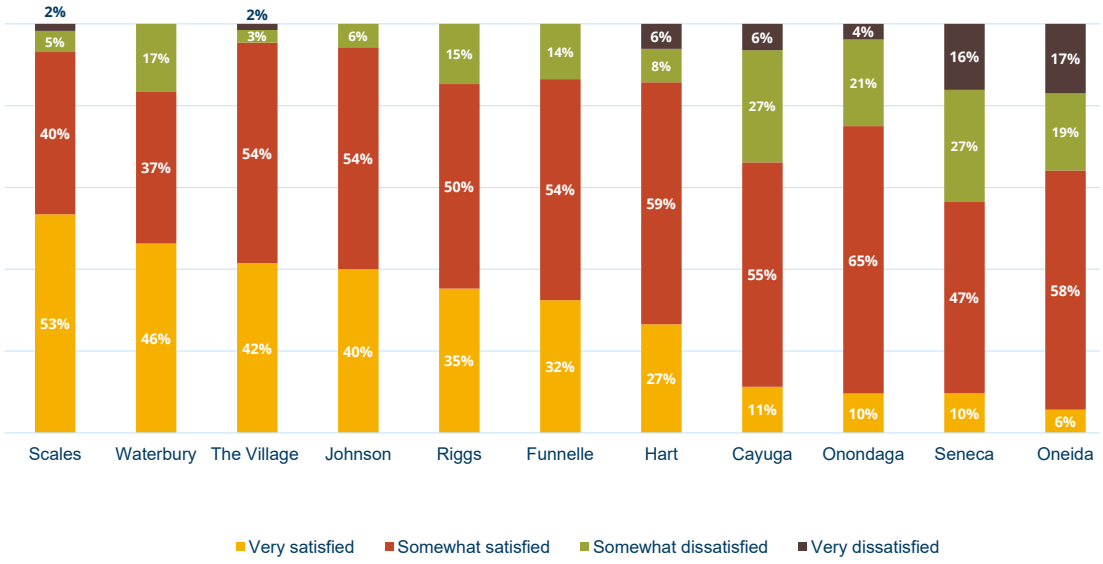


By First / Non-First Generation Student

Satisfaction w/ Housing

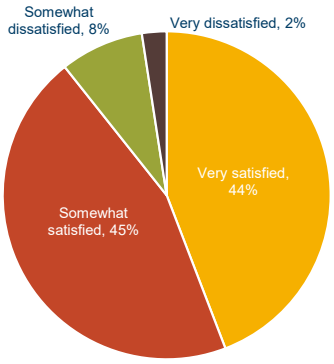


All On-Campus Students

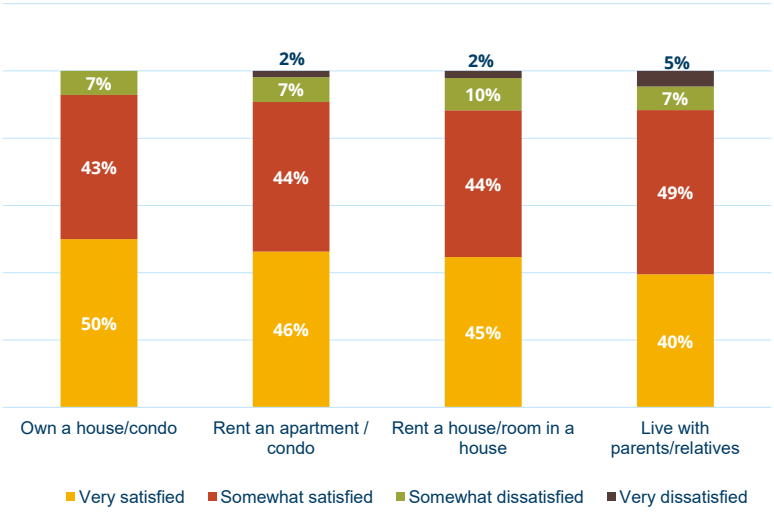


On-Campus Students: By Residence Hall

Satisfaction w/ Housing

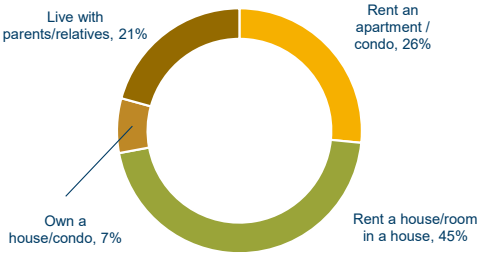


All Off-Campus Students

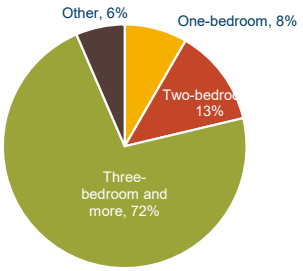


Off-Campus Students: By Living Arrangement

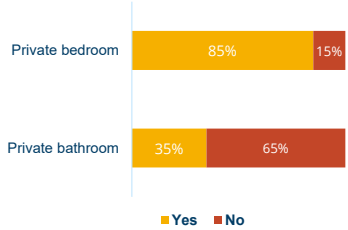
Off-Campus Housing



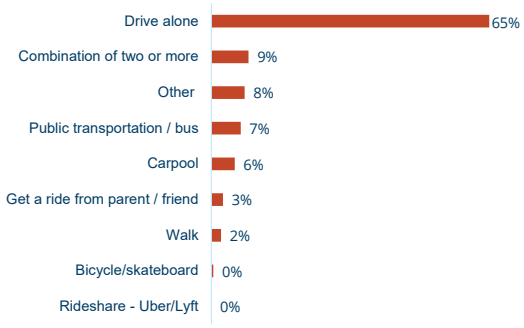
Living Arrangements



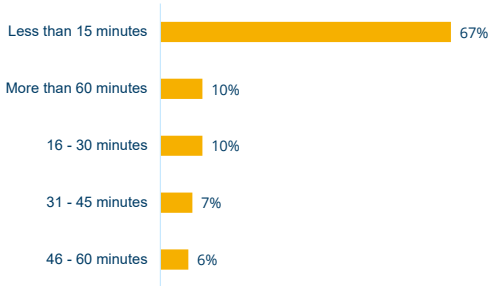
Unity Types



Private bedroom/bathroom (Y/N)

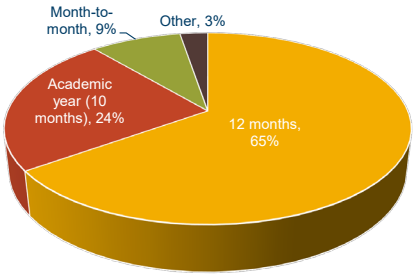


Means of transportation to campus



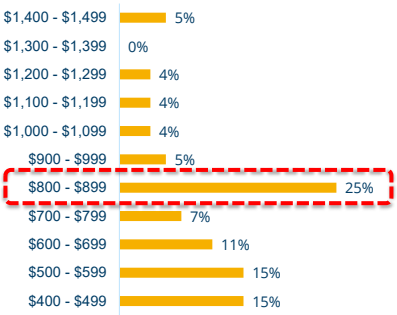
Travel time to campus (one way)

Off-Campus Housing

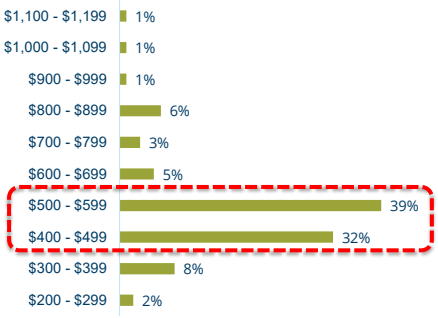


Lease Term

Apartment Renters



House Renters



Rent

Rent:	$781
Utilities:	$ 43
Parking:	$ 5
TOTAL:	**$829**

-27%

Rent:	$556
Utilities:	$ 37
Parking:	$ 10
TOTAL:	**$603**

Weighted Average Cost of Living

Off-Campus Housing Case Studies

Lakeside COMMONS

- Purpose-built property (84 units)
- Located about 1 mile from campus
- Unit types include: 2-bedroom, 4-bedroom, and 6-bedroom apartments
- Shuttle service to campus, Downtown Oswego, and Walmart
- Amenities include in-unity washer/dryer, fitness center, collaborative study lounge, private conference rooms, game room, social lounge, community kitchen, fire pits and grills, and a basketball court
- Furnished
- Pet friendly

2-bedroom/2-bath: $950/month/bed

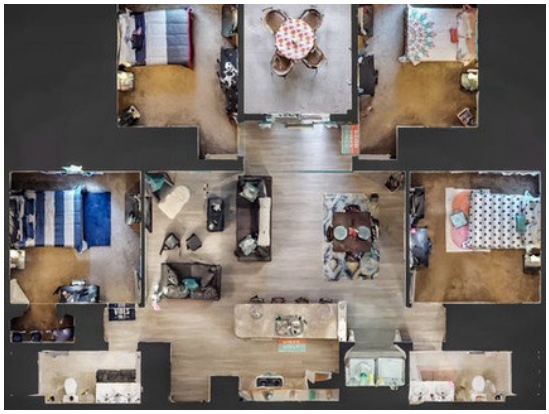
4-bedroom/4-bath: $825-875/month/bed

6-bedroom/6-bath: $820-850/month/bed

Off-Campus Housing Case Studies

PREMIER LIVING SUITES
OFF-CAMPUS COLLEGE HOUSING

- Purpose-built property (18 units)
- Located about 1 mile from campus
- Unit types include: 4-bedroom / 2-bath apartments
- Furnished
- Amenities include in-unity washer/dryer, a movie theater, dance studio, fitness center, computer lab, study lounge, recreation area, gaming room, outside fire pit and grill area
- 10- or 12-month leases



4-bedroom/2-bath: $790/month/bed

Off-Campus Housing: Property Map

OFF-CAMPUS RENTAL PROPERTIES

MULTI-UNIT COMPLEXES

1 Lakeside Commons
2 Premier Living Suites
3 Sylvan Glenn
4 Stevedore Lofts
5 Centrepointe Apartments
6 Eastpointe Apartments
7 Sumatra Apartments
8 Brynnington Apartments
9 Riverwalk Luxury Apartment Homes
10 Apartments on Fifth

SINGLE-FAMILY HOMES

A 37 John Street
B 70 W 4th Street
C 203 W 6th Street
D 173 W 8th Street
E 105 W Oneida Street
F 229 W 7th Street
G 103 W 8th Street
H 194 W 8th Street
I 100 W 8th Street
J 153 W Bridge Street

Off-Campus Housing: Multi-unit Complexes

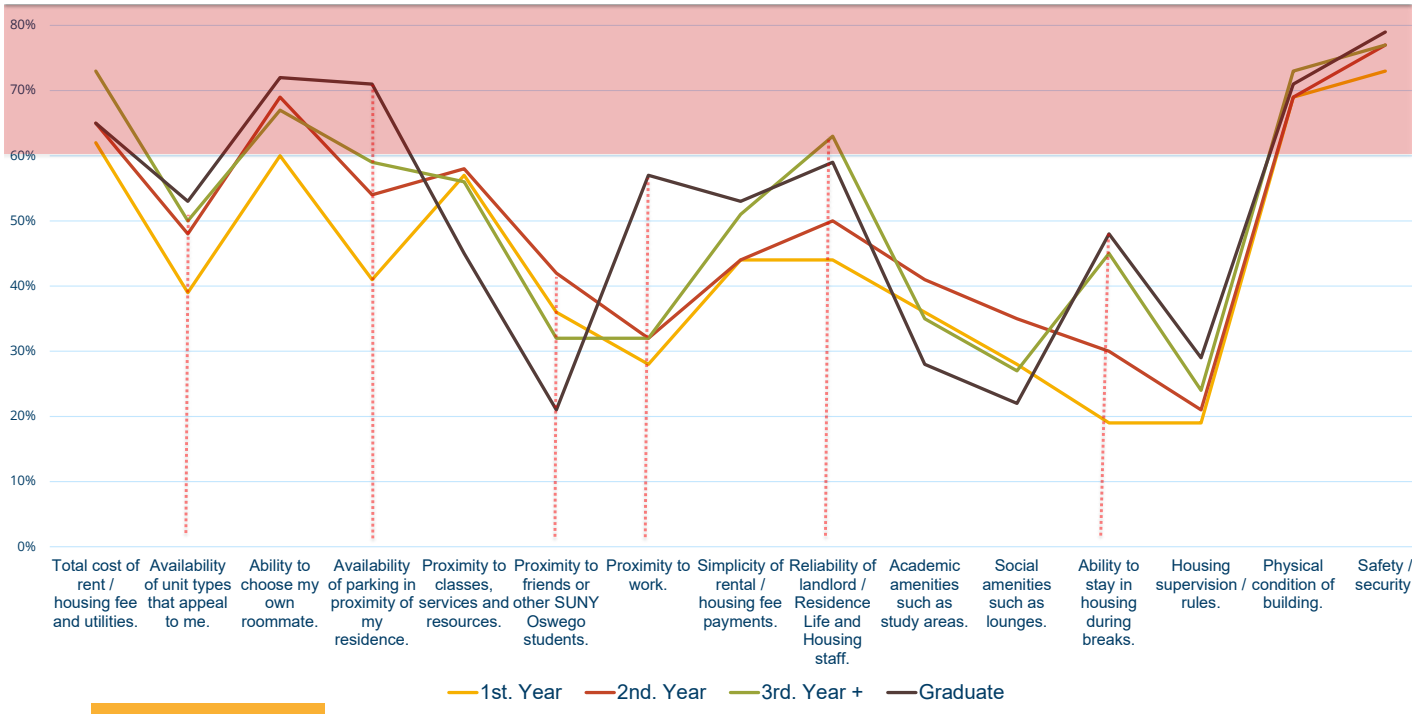
		Distance from Campus (miles from Campus Center)	Number of Units	One-Time / Other Fees	Monthly Rent (per unit)							Monthly Rent (per bedroom)						
					Studio	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom	5 Bedroom	6 Bedroom	Studio	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom	5 Bedroom	6 Bedroom
1	Lakeside Commons	1.1	84	Application Fee: $20 Move-In Fee: $150	NA	NA	$1,900	NA	$3,300 $3,420 $3,400 $3,500	NA	$4,920 $5,100	NA	NA	$950	NA	$825 $855 $850 $875	NA	$820 $850
2	Premier Living Suites	1	18	NA	NA	NA	NA	NA	$3,160	NA	NA	NA	NA	NA	NA	$790	NA	NA
	Average	1.05	51		NA	NA	$1,900	NA	$3,356	NA	$5,010	NA	NA	$950	NA	$839	NA	$835
	Average	1.05	51		NA	NA	$1,900	NA	$3,400	NA	$5,010	NA	NA	$950	NA	$850	NA	$835
3	Sylvan Glenn	1.4	42	Application Fee: $16	NA	$1,136 $1,171	$1,286	NA	NA	NA	NA	NA	$1,136 $1,171	$643	NA	NA	NA	NA
4	Stevedore Lofts	2	28	Storage Fee: $20	NA	$1,000 $1,145 $1,315	$1,315 $1,620	NA	NA	NA	NA	NA	$1,000 $1,145 $1,315	$658 $810	NA	NA	NA	NA
5	Centrepointe Apartments	3.2	48	Application Fee: $16	NA	$730	$1,417	NA	NA	NA	NA	NA	$730	$709	NA	NA	NA	NA
6	Eastpointe Apartments	3.2	119	Application Fee: $16 Admin Fee: $200 Storage Fee: $50	$735	$1,018	$1,138 $1,109	NA	NA	NA	NA	$735	$1,018	$569 $555	NA	NA	NA	NA
7	Sumatra Apartments	3.9	144	Application Fee: $16 Parking Fee: $50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8	Brynnington Apartments	2.8	52	NA	$900 $950	$975 $1,050 $1,075 $1,250	$1,375 $1,750	NA	NA	NA	NA	$900 $950	$975 $1,050 $1,075 $1,250	$688 $875	NA	NA	NA	NA
9	Riverwalk Luxury Apartment Homes	1.6	9	NA	NA	$1,480 $1,980	$1,935 $2,340	NA	NA	NA	NA	NA	$1,480 $1,980	$968 $1,170	NA	NA	NA	NA
10	Apartments on Fifth	0.9	NA	NA	NA	$1,000 $1,150	$1,250 $1,450	$1,600 $1,800	NA	NA	NA	NA	$1,000 $1,150	$625 $725	$533 $600	NA	NA	NA
	Average	2.4	63.1		$862	$1,165	$1,499	$1,700	NA	NA	NA	$862	$1,165	$749	$567	NA	NA	NA
	Average	2.4	48.0		$900	$1,136	$1,396	$1,700	NA	NA	NA	$900	$1,136	$698	$567	NA	NA	NA

		Amenities/Features	Utilities/Services Included	Pet Policy (Y/N)	Phone Number	Lease Term (Months)	Units Currently Available (Y/N)	Year Built	Address
1	Lakeside Commons	Community-wide Wifii, Property Manager on Site, Furnished Units Available, Clubhouse, Fitness Center, Gameroom, Media Center/Movie Theater, Private Bathroom, Roanate Matching, Study Lounge, In-Unit Washer and Dryer, Satellite TV, Dishwasher, Walk-In Closets, Shuttle bus to campus, Downtown Oswego, and Walmart.	Gas, Water, Bectricity, Heat, Trash Removal. Sewer, Cable, Air Conditioning	Yes	315-314-5434	NA	Yes	1990	7112, NY 104, Oswego, NY 13126
2	Premier Living Suites	In-unit Washer and Dryer, Computer Lab, Free Printing, Walk-in Closet, 24 Hour Emergency Maintenance, Game Room, Private Balconies, ATM, Fitness Center, Movie Theater, Study Room, Fire Pit, Grill Area.	Cable TV, Heat, Trash, Electric, High Speed Internet, Water, Sewer, Gas Snow Removal	No	315-773-6437	10 or 12 months	Yes	NA	247 W Utica Oswego, NY 13126
3	Sylvan Glenn	Endosed Patio Areas, Ample Storage, On-Site Laundry Facilities, On-site Parking, 24-Hour Maintenance, Balcony, Deck	Water, Cable, Disposal, Heat, Air Conditioning	Yes	315-207-2801	Short-Term	Yes	1961	22 W 8th St Oswego, NY 13126
4	Stevedore Lofts	Stainless Steel Appliances, Pantry, Kitchen, Microwave, Office, walk-In Closets, Maintenance & Property Manager on Site, Elevator, Storage Space, Waterfront	Wifi, Cable, Disposal, Heat, Air Conditioning	Yes	315-602-3066	NA	No	1930	317 W First St Oswego, NY 13126
5	Centrepointe Apartments	Ceiling Fans, Storage Units, Laundry Facilities, Property Manager on Site, Recycling, Courtyard	Water, Trash Removal, Sewer, Cable, Heat	Yes	315-207-2801	13-15 mos Short-Term	Yes	1970	329 Maple St Oswego, NY 13126
6	Eastpointe Apartments	Laundry Facilities, Maintenance on-site, Property Manager on-site, Recycling, Courtyard	Water, Trash Removal, Sewer, Cable, Heat	Yes	315-342-2922	6-15 mos Short-Term	No	1972	198 East Albany St Oswego, NY 13126
7	Sumatra Apartments	Storage units, Yard, Laundry Facilities, Maintenance on-site, Storage Space	Water, Trash Removal, Sewer, Cable, Heat	Yes	315-343-8921	12 months	Yes	1973	29 Birch Lane Oswego, NY 13126
8	Brynnington Apartments	Linen Closet, Double Pane Vllindows, Balcony Patio, Lawn, Laundry Facilities, Storage Space, Waterfront	Water, Trash Removal, Sewer, Air Conditioning, Heat	No	315-529-0776	12 months	Yes	1970	550 W First St Oswego, NY 13126
9	Riverwalk Luxury Apartment Homes	High Speed Internet Access, In-Unit Washer and Dryer, Ceiling Fans, Satellite TV, Security System, Community-Wide Wifi, Controlled Access, Property Manager On-Site, Elevator, Waterfront, Stainless-Steel Appliances, Pantry.	Gas, Water, Heat, Trash Removal, Sewer, Cable, Air Conditioning	Yes	315-216-0155	12 months Short-Term	No	2021	155 W First St Oswego, NY 13126
10	Apartments on Fifth	Stainless-Steel Appliances, Hardwood Floors, Spacious Closets, Private Parking Lot, On-Site Laundry, 24/7 On-Call Maintenance	Heat, Hot Water	Yes	315-627-6727	12 months	Yes	2018	161 Fifth Ave Oswego, NY 13126

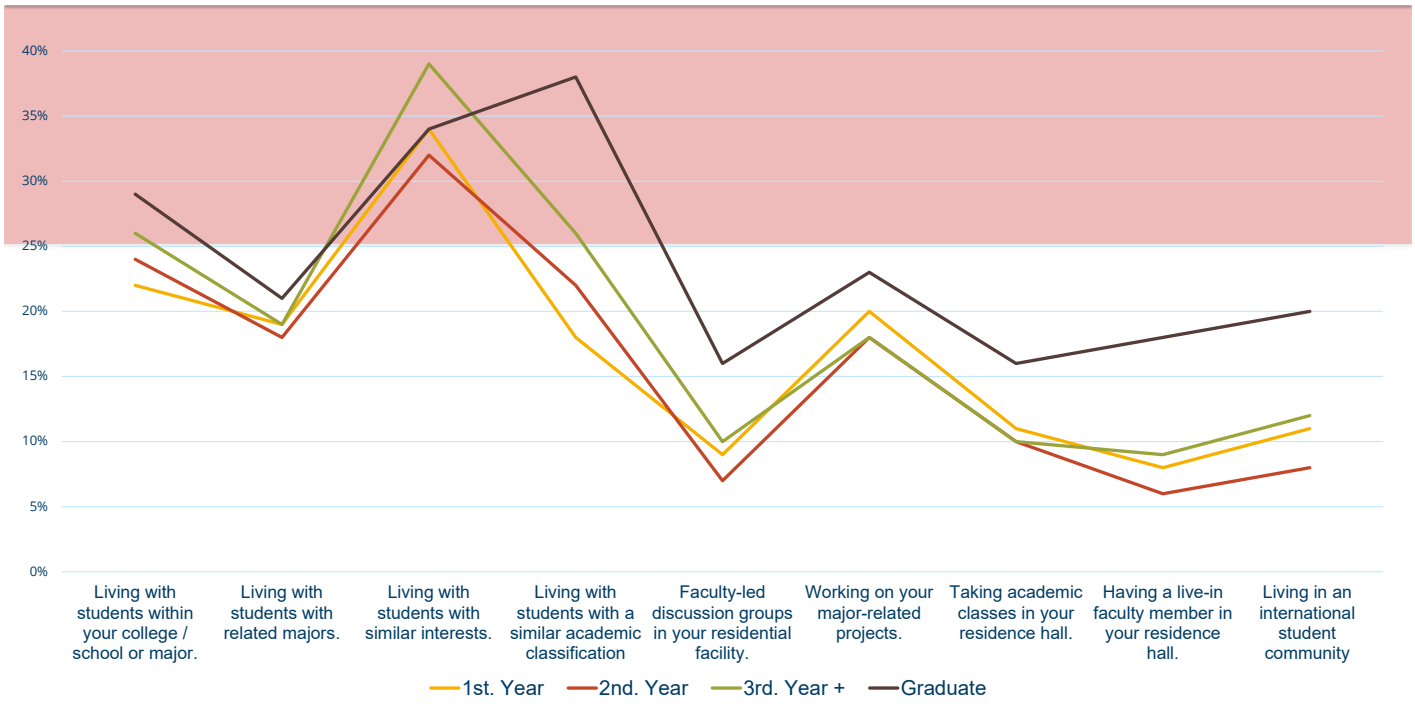
Off-Campus Housing: Single-family Homes

	Address	Distance from Campus (miles from Campus Center)	Number of Bedrooms	Number of Bathrooms	Rent / Month	One-Time / Other Fees	Rent / Month per Bedroom
A	37 John Street	0.9	4	1	$1,800	NA	$450
B	70 W 4th Street	1.4	3	1	$1,725	NA	$575
C	203 W 6th Street	1.7	4	1	$2,000	NA	$500
D	173 W 8th Street	1.3	4	2	$2,300	NA	$575
E	105 W Oneida Street	1.3	4	2	$2,400	NA	$600
F	229 W 7th Street	1.7	4	2	$1,940	NA	$485
G	103 W 8th Street	1.2	4	2	$2,300	NA	$575
H	194 W 8th Street	1.4	5	2	$2,500	NA	$500
I	100 W 8th Street	1.2	4	1	$2,140	NA	$535
J	153 W Bridge Street	1	4	1	$2,300	NA	$575
	Average	1.3	4.0	1.5	$2,141		$537
	Average	1.3	4.0	1.5	$2,220		$555

Housing Decision-making Factors ("Very Important")



Interest in Living-Learning Concepts ("Very Interested")



Amenity Preferences

1st. Year

Private bathroom	74%
Proximity to dining	54%
Private bedroom	45%
Kitchen on every floor	40%
Parking / proximity to parking	38%
Fitness / workout room	37%
Laundry on every floor	35%
Storage space	29%
Social lounge	27%
Kitchen in the unit	20%
Streaming service	19%
Computer lab	17%
Private study areas	17%
Group study room	13%
Living room	10%
Classroom	5%
Outdoor basketball court	3%
Outdoor sand volleyball court	1%

2nd. Year

Private bathroom	73%
Kitchen on every floor	48%
Private bedroom	48%
Laundry on every floor	42%
Fitness / workout room	41%
Parking / proximity to parking	40%
Proximity to dining	39%
Storage space	26%
Kitchen in the unit	25%
Computer lab	18%
Living room	17%
Private study areas	17%
Social lounge	13%
Streaming service	13%
Group study room	7%
Outdoor basketball court	3%
Classroom	3%
Outdoor sand volleyball court	1%

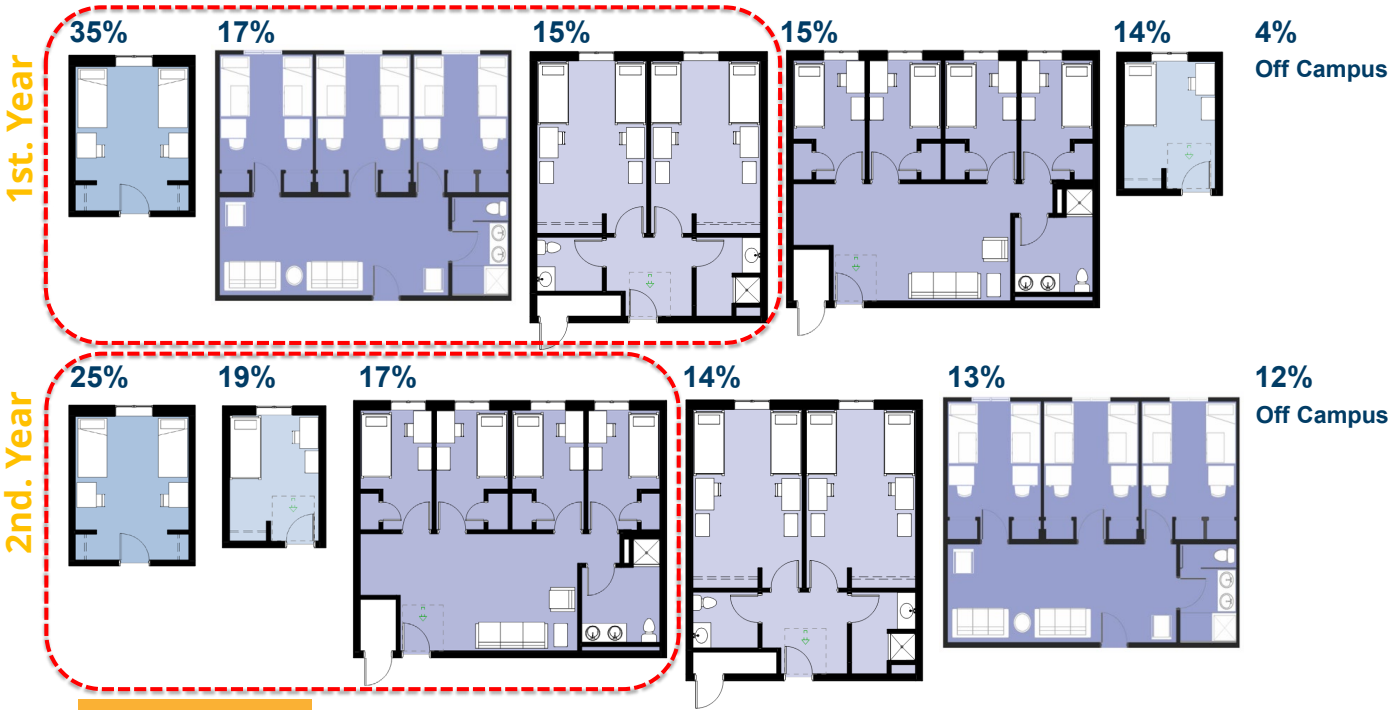
3rd. + Year

Private bedroom	65%
Private bathroom	59%
Kitchen in the unit	41%
Fitness / workout room	40%
Parking / proximity to parking	39%
Kitchen on every floor	37%
Proximity to dining	37%
Laundry on every floor	34%
Storage space	28%
Living room	23%
Social lounge	15%
Computer lab	14%
Streaming service	14%
Private study areas	13%
Group study room	12%
Classroom	5%
Outdoor basketball court	2%
Outdoor sand volleyball court	0%

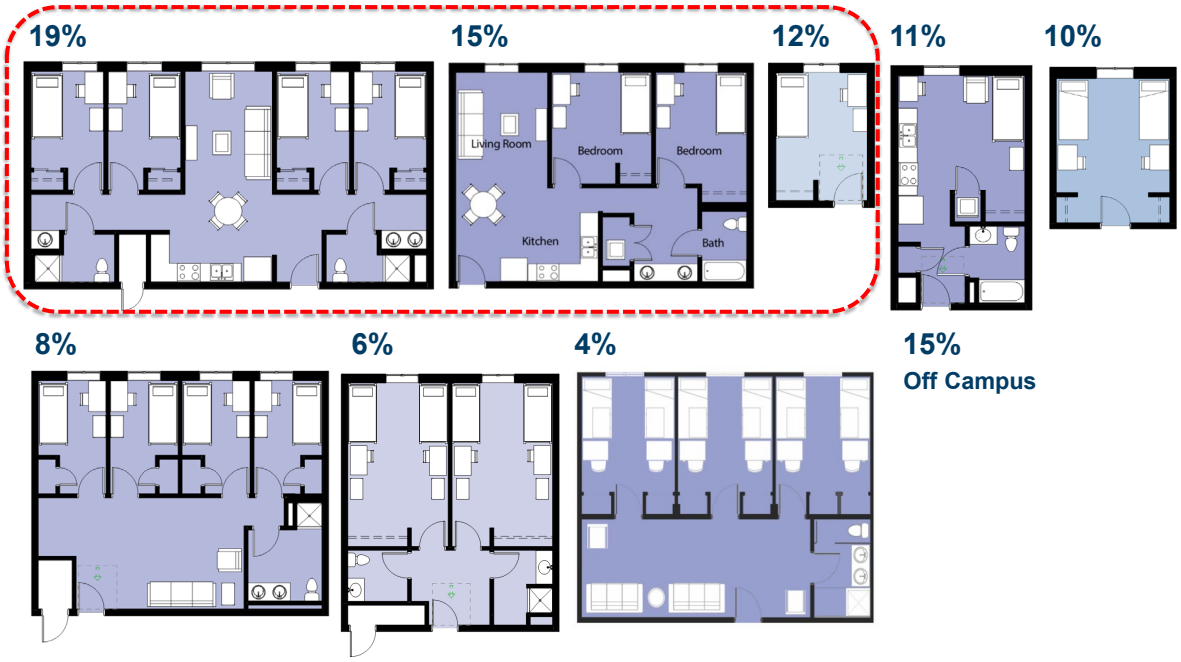
Graduate

Private bathroom	63%
Private bedroom	52%
Fitness / workout room	50%
Kitchen in the unit	48%
Parking / proximity to parking	46%
Laundry on every floor	41%
Living room	32%
Kitchen on every floor	27%
Private study areas	18%
Streaming service	18%
Storage space	16%
Computer lab	14%
Proximity to dining	14%
Classroom	7%
Group study room	7%
Social lounge	4%
Outdoor basketball court	2%
Outdoor sand volleyball court	2%

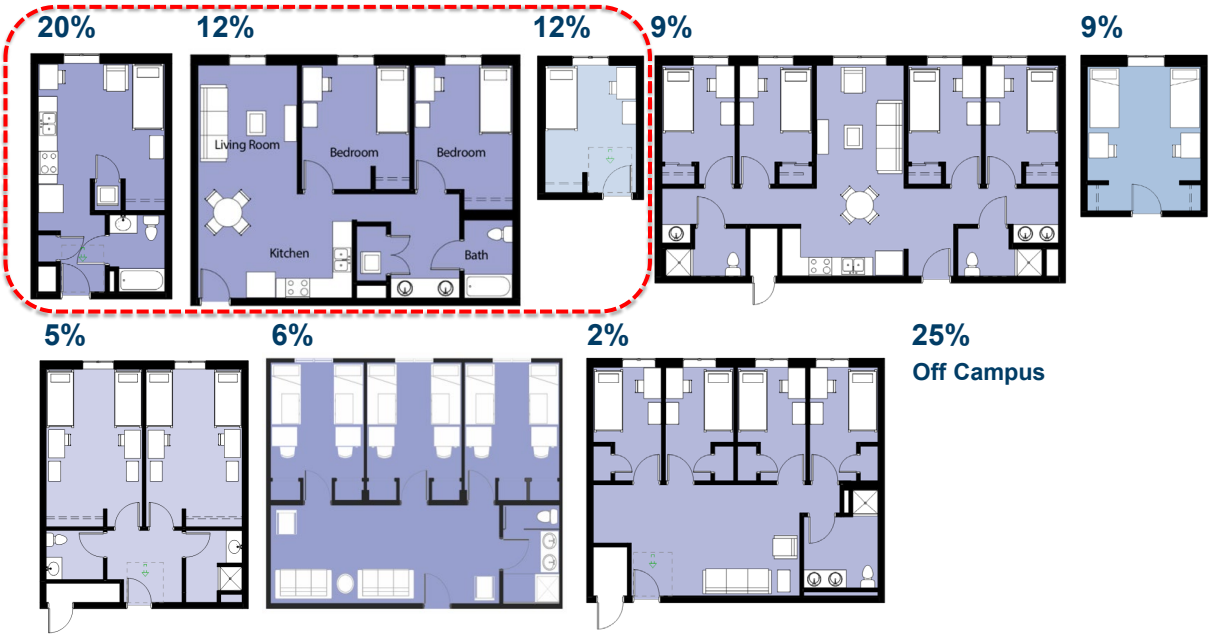
Unit Preferences



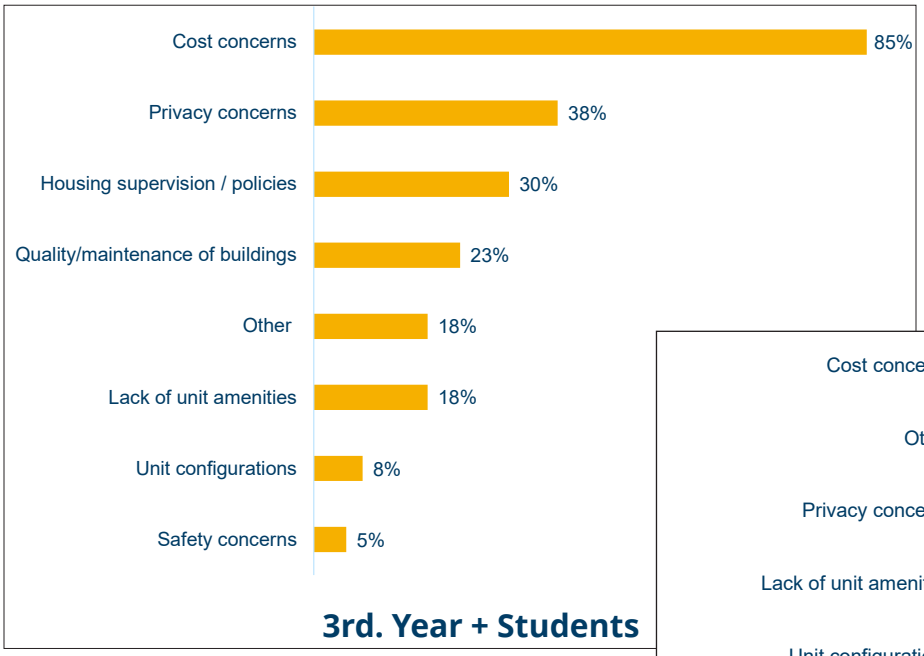
Unit Preferences 3rd. Year +

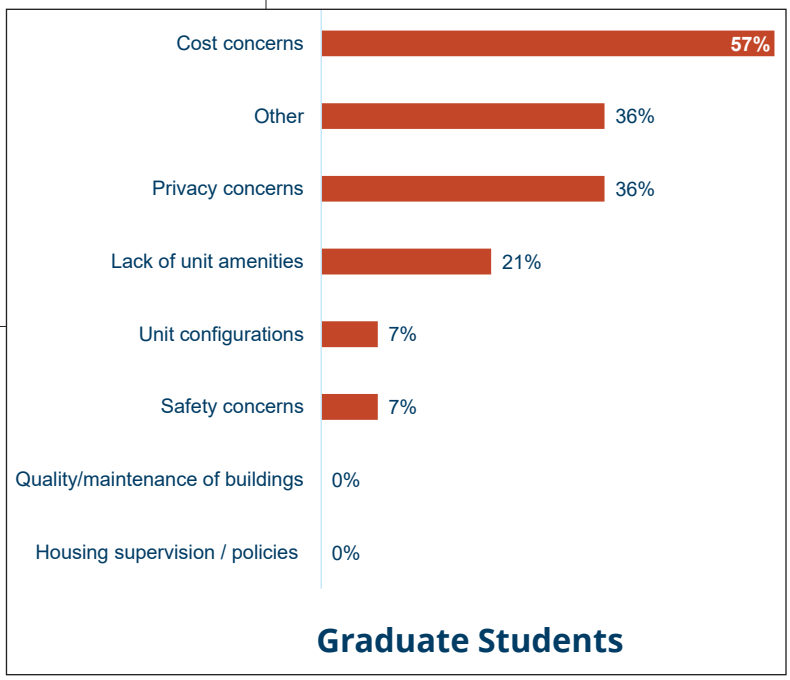


Unit Preferences Graduate



Why Off-Campus





Peer Analysis

Address	Public / Private	Location	Undergraduate Enrollment (FT & PT)	Graduate Enrollment (FT & PT)	Total Enrollment (FT & PT)	Freshman Retention	6-Year Graduation
Le Moyne College	Private	Syracuse, NY	2,600	603	3,203	86%	72%
SUNY Brockport	Public	Brockport, NY	5,714	1,277	6,991	69%	63%
SUNY New Paltz	Public	New Paltz, NY	6,597	892	7,489	87%	77%
SUNY Oneonta	Public	Oneonta, NY	4,859	571	5,430	73%	77%
SUNY Cortland	Public	Cortland, NY	5,984	674	6,658	80%	67%
Peer Average			5,151	803	5,954	79%	71%
SUNY Oswego	**Public**	**Oswego, NY**	**5,793**	**445**	**6,238**	**76%**	**66%**

GENERAL INFORMATION

Address	Tuition (in-State, Undergrad)	Tuition (out-of-State, Undergrad)	Fees	Tuition & Fees (in-State)	Tuition & Fees (out-of-State)
Le Moyne College	$37,770	$37,770	$1,200	$38,970	$38,970
SUNY Brockport	$7,070	$16,980	$1,664	$8,734	$18,644
SUNY New Paltz	$7,070	$16,980	$1,432	$8,502	$18,412
SUNY Oneonta	$7,070	$16,980	$1,222	$8,292	$18,202
SUNY Cortland	$7,070	$16,980	$1,780	$8,850	$18,760
Peer Average	$13,210	$21,138	$1,460	$14,670	$22,598
SUNY Oswego	**$7,070**	**$16,980**	**$1,699**	**$8,769**	**$18,679**

TUITION & FEES

Address	Live-On Requirement	Beds On-Campus	Percentage of Undergrads that Can Be Housed	Percentage of Traditional Beds	Percentage of Suite Style Beds	Percentage of Apartment Beds
Le Moyne College	4 years	1,485	57%	42%	35%	23%
SUNY Brockport	2 years	2,375	42%	27%	65%	9%
SUNY New Paltz	1 year	3,914	59%	44%	56%	0%
SUNY Oneonta	2 years	3,627	75%	48%	46%	5%
SUNY Cortland	2 years	4,845	81%	61%	34%	5%
Peer Average		3,249	63%	44%	47%	9%
SUNY Oswego	**2 years**	**4,061**	**70%**	**76%**	**15%**	**9%**

HOUSING MIX

Address	Traditional Double	Traditional Single	Suite Double	Suite Single	Apartment Double	Apartment Single	Meal Plan Rate	Room & Board	Total Cost of Attendance (in-State)
Le Moyne College	$9,380	$10,790	$9,380	$10,790	$10,330	$12,910	$5,670	$15,050	$54,020
SUNY Brockport	$9,253	$9,753	$9,253	$9,753	NA	$9,900	$5,500	$14,753	$23,487
SUNY New Paltz	$9,874	NA	$9,874	NA	NA	NA	$5,150	$15,024	$23,526
SUNY Oneonta	$9,870	$12,340	$9,870	$12,340	$9,870	$12,340	$5,200	$15,070	$23,362
SUNY Cortland	$8,530	$9,910	$8,840	$10,190	NA	$8,440	$5,090	$13,620	$22,470
Peer Average	$9,381	$10,698	$9,443	$10,768	$10,100	$10,898	$5,322	$14,703	$29,373
SUNY Oswego	**$8,990**	**$11,590**	**$8,990**	**$11,590**	**NA**	**$11,590**	**$6,450**	**$15,440**	**$24,209**

HOUSING COSTS

Enrollment History and Projections

WACHALSKI ADVISORY

	2018	2019	2020	2021	2022	Targeted 2032 Enrollment
First Year	1,767	1,561	1,483	1,410	1,672	1,811
Sophomore	1,414	1,427	1,267	1,154	1,040	1,126
Junior	1,934	1,828	1,880	1,558	1,450	1,570
Senior	2,044	1,980	1,893	1,931	1,724	1,867
Non-degree Undergraduate	164	166	85	77	123	133
Graduate	1,007	1,025	1,048	1,015	1,013	1,176
TOTAL	**8,330**	**7,987**	**7,656**	**7,145**	**7,022**	**7,683**

On-campus Capture Rates

WACHALSKI ADVISORY

On-Campus Students

	2018	2019	2020	2021	2022
First Year	1,565	1,444	966	1,242	1,536
Sophomore	1,083	1,089	651	793	761
Junior	755	658	436	522	531
Senior	581	504	335	395	401
Non-degree Undergraduate	59	62	3	21	42
Graduate	34	31	19	22	19
TOTAL	**4,077**	**3,788**	**2,410**	**2,995**	**3,290**

Capture Rates

	2018	2019	2020	2021	2022
First Year	89%	93%	65%	88%	92%
Sophomore	77%	76%	51%	69%	73%
Junior	39%	36%	23%	34%	37%
Senior	28%	25%	18%	20%	23%
Non-degree Undergraduate	36%	37%	4%	27%	34%
Graduate	3%	3%	2%	2%	2%
TOTAL	**49%**	**47%**	**31%**	**42%**	**47%**

Residential Program Sizing

WACHALSKI ADVISORY

Capture Rates	(Excludes Fall 2020)						
	Min.	Avg.	Max.	Survey-Based	Enrollment (2033 Target)	Capture Rates (Used)	Demand
First Year	88%	90%	93%	NA	1,811	93%	1,675
Sophomore	69%	74%	77%	NA	1,126	77%	862
Junior	34%	36%	39%	36%	1,570	36%	570
Senior	20%	24%	28%	28%	1,867	24%	456
Non-degree Undergraduate	27%	34%	37%	NA	133	34%	45
Graduate	2%	3%	3%	18%	1,176	3%	31
TOTAL					**7,683**	**47%**	**3,638**

Targeted Number of Beds for Fall 2033: 3,600 – 3,700

Residential Program Sizing

WACHALSKI ADVISORY

Location	Building	Fall 2022 Design Capacity	Fall 2022 Net Bed Capacity	Projected Bed Capacity
Westside	Seneca Hall	626	607	607
Westside	Cayuga Hall	456	439	439
Westside	Onondaga Hall	628	609	609
Westside	Oneida Hall	420	403	403
Townhouses	The Village	348	348	348
Lakeside	Johnson Hall	252	252	252
Lakeside	Riggs Hall	216	210	210
Lakeside	Waterbury Hall	238	230	230
Lakeside	Scales Hall	226	219	219
Central Campus	Hart Hall	344	344	172
Central Campus	Funnelle Hall	400	200	200
	Moreland Hall	158	0	0
	Lonis Hall	142	0	0
	E. A. Sheldon Hall	0	0	0
TOTAL		**4,454**	**3,861**	**3,689**

Renovation opportunities

To remain "as is"

Renovation opportunities / "Single-occupancy neighborhood

To remain off line except when needed as swing space

Key challenges:

1. Funding capacity
2. Unit mix
3. Phasing (swing space)

Appendix B
Residence Hall Financial Analysis: Pro Formas

Exhibit A

$10M Scenario
Abbreviated Pro Forma

	2022/23	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33
Beginning Cash Balance	**$23,461,000**	**$20,434,298**	**$17,040,848**	**$15,182,125**	**$4,695,990**	**$5,445,906**	**$7,262,227**	**$9,133,264**	**$11,912,871**	**$5,398,647**	**$7,286,957**
Cash Withdrawals			**$0**	**($10,000,000)**	**$0**	**$0**	**$0**	**$0**	**($10,000,000)**	**$0**	**$0**
Receipts	$21,210,000	$21,302,000	$23,286,000	$24,429,000	$26,029,000	$27,265,000	$28,394,000	$29,421,000	$30,452,000	$31,313,000	$32,176,000
Disbursements	($14,000,000)	($14,379,000)	($14,768,000)	($14,304,000)	($14,688,000)	($15,084,000)	($15,491,000)	($15,909,000)	($16,339,000)	($16,780,000)	($17,233,000)
Transfers	($2,187,000)	($2,203,000)	($2,219,000)	($2,235,000)	($2,251,000)	($2,268,000)	($2,286,000)	($2,304,000)	($2,322,000)	($2,340,000)	($2,359,000)
Cash Flow Before Debt Service (Net Operating Income)	**$5,023,000**	**$4,720,000**	**$6,299,000**	**$7,890,000**	**$9,090,000**	**$9,913,000**	**$10,617,000**	**$11,208,000**	**$11,791,000**	**$12,193,000**	**$12,584,000**
Existing Debt Service	($8,049,702)	($8,113,451)	($8,157,722)	($8,376,135)	($8,340,084)	($8,096,680)	($8,745,963)	($8,428,392)	($8,305,225)	($7,920,690)	($7,307,306)
New Debt Service - DASNY-administered SUNY bonds		$0	$0	$0	$0	$0	$0	$0	$0	($2,384,000)	($2,384,000)
New Debt Service - SUNY Loan		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Operating Cash Flow After Debt Service	**($3,026,702)**	**($3,393,451)**	**($1,858,722)**	**($486,135)**	**$749,916**	**$1,816,320**	**$1,871,037**	**$2,779,608**	**$3,485,775**	**$1,888,310**	**$2,892,694**
Debt Coverage Ratio	**3.54**	**3.10**	**2.86**	**1.56**	**1.65**	**1.90**	**2.04**	**2.41**	**1.65**	**1.71**	**2.05**

Exhibit B

$15M Scenario
Abbreviated Pro Forma

	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33
Beginning Cash Balance	**$20,434,298**	**$17,040,848**	**$15,182,125**	**$7,195,990**	**$7,918,906**	**$9,337,227**	**$10,803,264**	**$13,168,871**	**$6,232,647**	**$7,690,957**
Cash Withdrawals		**$0**	**($7,500,000)**	**$0**	**$0**	**$0**	**$0**	**($10,000,000)**	**$0**	**$0**
Receipts	$21,302,000	$23,286,000	$24,429,000	$26,449,000	$27,314,000	$28,436,000	$29,454,000	$30,477,000	$31,330,000	$32,184,000
Disbursements	($14,379,000)	($14,768,000)	($14,304,000)	($14,688,000)	($15,084,000)	($15,491,000)	($15,909,000)	($16,339,000)	($16,780,000)	($17,233,000)
Transfers	($2,203,000)	($2,219,000)	($2,235,000)	($2,251,000)	($2,268,000)	($2,286,000)	($2,304,000)	($2,322,000)	($2,340,000)	($2,359,000)
Cash Flow Before Debt Service (Net Operating Income)	**$4,720,000**	**$6,299,000**	**$7,890,000**	**$9,510,000**	**$9,962,000**	**$10,659,000**	**$11,241,000**	**$11,816,000**	**$12,210,000**	**$12,592,000**
Existing Debt Service	($8,113,451)	($8,157,722)	($8,376,135)	($8,340,084)	($8,096,680)	($8,745,963)	($8,428,392)	($8,305,225)	($7,920,690)	($7,307,306)
New Debt Service - DASNY-administered SUNY bonds	$0	$0	$0	($447,000)	($447,000)	($447,000)	($447,000)	($447,000)	($2,831,000)	($2,831,000)
New Debt Service - SUNY Loan	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Operating Cash Flow After Debt Service	**($3,393,451)**	**($1,858,722)**	**($486,135)**	**$722,916**	**$1,418,320**	**$1,466,037**	**$2,365,608**	**$3,063,775**	**$1,458,310**	**$2,453,694**
Debt Coverage Ratio	**3.10**	**2.86**	**1.86**	**1.90**	**2.09**	**2.18**	**2.48**	**1.71**	**1.72**	**2.00**

Exhibit C

$30M Scenario
Abbreviated Pro Forma

	2022/23	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33
Beginning Cash Balance	**$23,461,000**	**$20,434,298**	**$17,040,848**	**$15,182,125**	**$4,992,990**	**$4,343,906**	**$4,946,227**	**$5,579,264**	**$7,095,871**	**$9,293,647**	**$12,451,957**
Cash Withdrawals			**$0**	**($10,000,000)**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**($10,000,000)**
Receipts	$21,210,000	$21,302,000	$23,286,000	$24,726,000	$25,822,000	$27,243,000	$28,348,000	$29,350,000	$30,356,000	$31,391,000	$32,279,000
Disbursements	($14,000,000)	($14,379,000)	($14,768,000)	($14,304,000)	($14,688,000)	($15,084,000)	($15,491,000)	($15,909,000)	($16,339,000)	($16,780,000)	($17,233,000)
Transfers	($2,187,000)	($2,203,000)	($2,219,000)	($2,235,000)	($2,251,000)	($2,268,000)	($2,286,000)	($2,304,000)	($2,322,000)	($2,340,000)	($2,359,000)
Cash Flow Before Debt Service (Net Operating Income)	**$5,023,000**	**$4,720,000**	**$6,299,000**	**$8,187,000**	**$8,883,000**	**$9,891,000**	**$10,571,000**	**$11,137,000**	**$11,695,000**	**$12,271,000**	**$12,687,000**
Existing Debt Service	($8,049,702)	($8,113,451)	($8,157,722)	($8,376,135)	($8,340,084)	($8,096,680)	($8,745,963)	($8,428,392)	($8,305,225)	($7,920,690)	($7,307,306)
New Debt Service - DASNY-administered SUNY bonds		$0	$0	$0	($1,192,000)	($1,192,000)	($1,192,000)	($1,192,000)	($1,192,000)	($1,192,000)	($1,192,000)
New Debt Service - SUNY Loan		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Operating Cash Flow After Debt Service	**($3,026,702)**	**($3,393,451)**	**($1,858,722)**	**($189,135)**	**($649,084)**	**$602,320**	**$633,037**	**$1,516,608**	**$2,197,775**	**$3,158,310**	**$4,187,694**
Debt Coverage Ratio	**3.54**	**3.10**	**2.86**	**1.60**	**1.46**	**1.53**	**1.56**	**1.74**	**1.98**	**2.37**	**1.78**

Financial Scenarios

WACHALSKI ADVISORY

- Three (3) scenarios prepared to find the optimal combination of capital funding (amount and sources), cash flow, and residential life outcomes.
  - $10M,
  - $15M,
  - $30M.
- As previously determined, additional financial levers will be needed to support significant amount of capital funding:
  - Modification of Oswego Guarantee,
  - Rental rate increases (beyond standard annual adjustments),
  - Decrease in Residence Life and Housing's contribution to SUNY Oswego's Scholarship Fund,
  - Decrease the Dormitory Income Fund Reimbursable (DIFR) contribution to personnel costs by 10 percent (approximately $660,000 and corresponding fringe benefits) in FY26, no reductions thereafter (typical escalation of 3%).

$10M Scenario

WACHALSKI ADVISORY

Action	Fiscal Year	Comments
$10M in reserves used	2026	Available for capital projects; no debt
Funnelle off line	2026	200 beds off line for 1 year
Additional capacity in Cayuga	2026	123 beds added for 1 year (surge space: lounges, etc.)
Additional capacity in Oneida	2026	77 beds added for 1 year (surge space: lounges, etc.)
Modify Oswego Guarantee	2026-2029	Rates escalate for returning students at 1% less than escalation for new student rates
5% system-wide rate increase	2026	Entering student rates only
4% system-wide rate increase	2027	Entering student rates only
Scholarship contribution reduced to $3.4M/year	2025	$3.4M/year to continue
10% reduction in personnel costs*	2026	No reductions thereafter
$10M available in reserves	2031	Available for capital projects
$40M available in debt capacity	2032	Available for capital projects

* Decrease the Dormitory Income Fund Reimbursable (DIFR) contribution to personnel costs by 10 percent (approximately $660,000 and corresponding fringe benefits) in FY26, no reductions thereafter (typical escalation of 3%).

Pro-Forma through year 15

$10M Scenario
Abbreviated Pro Forma

	2022/23	3 2025/26	4 2026/27	8 2030/31	9 2031/32	10 2032/33	Year 15 2037-2038
Beginning Cash Balance	**$23,461,000**	**$15,182,125**	**$4,695,990**	**$11,912,871**	**$5,398,647**	**$7,286,957**	$33,903,990
Cash Withdrawals		**($10,000,000)**	**$0**	**($10,000,000)**	**$0**	**$0**	$0
Receipts	$21,210,000	$24,429,000	$26,029,000	$30,452,000	$31,313,000	$32,176,000	$38,286,000
Disbursements	($14,000,000)	($14,304,000)	($14,688,000)	($16,339,000)	($16,780,000)	($17,233,000)	($19,697,000)
Transfers	($2,187,000)	($2,235,000)	($2,251,000)	($2,322,000)	($2,340,000)	($2,359,000)	($2,459,000)
Cash Flow Before Debt Service (Net Operating Income)	**$5,023,000**	**$7,890,000**	**$9,090,000**	**$11,791,000**	**$12,193,000**	**$12,584,000**	$16,130,000
Existing Debt Service	($8,049,702)	($8,376,135)	($8,340,084)	($8,305,225)	($7,920,690)	($7,307,306)	($3,836,479)
New Debt Service - DASNY-administered SUNY bonds		$0	$0	$0	($2,384,000)	($2,384,000)	($2,384,000)
New Debt Service - SUNY Loan		$0	$0	$0	$0	$0	$0
Operating Cash Flow After Debt Service	**($3,026,702)**	**($486,135)**	**$749,916**	**$3,485,775**	**$1,888,310**	**$2,892,694**	**$9,909,521**
Debt Coverage Ratio	**3.54**	**1.56**	**1.65**	**1.65**	**1.71**	**2.05**	**8.04**

$15M Scenario

WACHALSKI ADVISORY

Action	Fiscal Year	Comments
$7.5M in reserves used	2026	Available for capital projects
$7.5M in DASNY-administered bonds	2027	Available for capital projects
Funnelle off line	2026	200 beds off line for 1 year
Additional capacity in Cayuga	2026	123 beds added for 1 year (surge space: lounges, etc.)
Additional capacity in Oneida	2026	77 beds added for 1 year (surge space: lounges, etc.)
Oneida off line	2027	403 beds offline for one year
Additional capacity in Cayuga	2027	123 beds added for 1 year (lounges)
Funnelle double occupancy	2027	200 additional beds for one year (double rooms)
Additional capacity in Johnson	2027	80 additional beds for 1 year (some rooms triple occupancy)
Modify Oswego Guarantee	2026-2029	Rates escalate for returning students at 1% less than escalation for new student rates
5% system-wide rate increase	2026	Entering student rates only
4% system-wide rate increase	2027	Entering student rates only
Scholarship contribution reduced to $3.4M/year	2025	$3.4M/year to continue
10% reduction in personnel costs*	2026	No reductions thereafter
$10M available in reserves	2031	Available for capital projects
$40M available in debt capacity	2032	Available for capital projects

* Decrease the Dormitory Income Fund Reimbursable (DIFR) contribution to personnel costs by 10 percent (approximately $660,000 and corresponding fringe benefits) in FY26, no reductions thereafter (typical escalation of 3%).

Pro-Forma through year 15

$15M Scenario
Abbreviated Pro Forma

	1 2023/24	3 2025/26	4 2026/27	8 2030/31	9 2031/32	10 2032/33	Year 15 2037-2038
Beginning Cash Balance	**$20,434,298**	**$15,182,125**	**$7,195,990**	**$13,168,871**	**$6,232,647**	**$7,690,957**	$32,022,990
Cash Withdrawals		**($7,500,000)**	**$0**	**($10,000,000)**	**$0**	**$0**	$0
Receipts	$21,302,000	$24,429,000	$26,449,000	$30,477,000	$31,330,000	$32,184,000	$38,248,000
Disbursements	($14,379,000)	($14,304,000)	($14,688,000)	($16,339,000)	($16,780,000)	($17,233,000)	($19,697,000)
Transfers	($2,203,000)	($2,235,000)	($2,251,000)	($2,322,000)	($2,340,000)	($2,359,000)	($2,459,000)
Cash Flow Before Debt Service (Net Operating Income)	**$4,720,000**	**$7,890,000**	**$9,510,000**	**$11,816,000**	**$12,210,000**	**$12,592,000**	$16,092,000
Existing Debt Service	($8,113,451)	($8,376,135)	($8,340,084)	($8,305,225)	($7,920,690)	($7,307,306)	($3,836,479)
New Debt Service - DASNY-administered SUNY bonds	$0	$0	($447,000)	($447,000)	($2,831,000)	($2,831,000)	($2,831,000)
New Debt Service - SUNY Loan	$0	$0	$0	$0	$0	$0	$0
Operating Cash Flow After Debt Service	**($3,393,451)**	**($486,135)**	**$722,916**	**$3,063,775**	**$1,458,310**	**$2,453,694**	**$9,424,521**
	3.10	**1.86**	**1.90**	**1.71**	**1.72**	**2.00**	**7.22**

$30M Scenario

WACHALSKI ADVISORY

Action	Fiscal Year	Comments
$10M in reserves used	2026	Available for capital projects
$20M in DASNY-administered bonds	2027	Available for capital projects
Seneca off line	2026-2027	607 beds off line for 2 years
Additional capacity in Cayuga	2026-2027	123 beds added for 2 years (surge space: lounges, etc.)
Additional capacity in Oneida	2026-2027	88 beds added for 2 years (surge space: lounges, etc.)
Funnelle in double occupancy	2026-2027	200 additional beds for 2 years
Additional capacity in Johnson	2026-2027	114 additional beds for 2 years (triple occupancy, could be distributed across the system)
Additional capacity in Hart	2026-2027	82 additional beds for 2 years (some rooms in triple occupancy, could be distributed)
Modify Oswego Guarantee	2026-2029	Rates escalate for returning students at 1% less than escalation for new student rates
5% system-wide rate increase	2026	Entering student rates only
4% system-wide rate increase	2027	Entering student rates only
Scholarship contribution reduced to $3.4M/year	2025	$3.4M/year to continue
10% reduction in personnel costs*	2026	No reductions thereafter
$10M available in reserves	2033	Available for capital projects
$40M available in debt capacity	2034	Available for capital projects

* Decrease the Dormitory Income Fund Reimbursable (DIFR) contribution to personnel costs by 10 percent (approximately $660,000 and corresponding fringe benefits) in FY26, no reductions thereafter (typical escalation of 3%).

Pro-Forma through year 15

$30M Scenario
Abbreviated Pro Forma

	2022/23	3 2025/26	4 2026/27	8 2030/31	9 2031/32	10 2032/33	Year 15 2037-2038
Beginning Cash Balance	**$23,461,000**	**$15,182,125**	**$4,992,990**	**$7,095,871**	**$9,293,647**	**$12,451,957**	$25,121,992
Cash Withdrawals		**($10,000,000)**	**$0**	**$0**	**$0**	**($10,000,000)**	$0
Receipts	$21,210,000	$24,726,000	$25,822,000	$30,356,000	$31,391,000	$32,279,000	$38,110,000
Disbursements	($14,000,000)	($14,304,000)	($14,688,000)	($16,339,000)	($16,780,000)	($17,233,000)	($19,697,000)
Transfers	($2,187,000)	($2,235,000)	($2,251,000)	($2,322,000)	($2,340,000)	($2,359,000)	($2,459,000)
Cash Flow Before Debt Service (Net Operating Income)	**$5,023,000**	**$8,187,000**	**$8,883,000**	**$11,695,000**	**$12,271,000**	**$12,687,000**	$15,954,000
Existing Debt Service	($8,049,702)	($8,376,135)	($8,340,084)	($8,305,225)	($7,920,690)	($7,307,306)	($3,836,479)
New Debt Service - DASNY-administered SUNY bonds		$0	($1,192,000)	($1,192,000)	($1,192,000)	($1,192,000)	($3,576,000)
New Debt Service - SUNY Loan		$0	$0	$0	$0	$0	$0
Operating Cash Flow After Debt Service	**($3,026,702)**	**($189,135)**	**($649,084)**	**$2,197,775**	**$3,158,310**	**$4,187,694**	**$8,541,521**
Debt Coverage Ratio	**3.54**	**1.60**	**1.46**	**1.98**	**2.37**	**1.78**	**5.54**

WACHALSKI ADVISORY

$10M Scenario

- Limited amount of capital funding
- DCR > 1.20
- Cash balance < $5M (1 year)
- More capital funding available in FY 2031

$15M Scenario

- Moderate amount of capital funding
- DCR > 1.20
- Cash balance > $5M
- More capital funding available in FY 2031

$30M Scenario

- Moderate amount of capital funding
- DCR > 1.20
- Cash balance < $5M (3 years)
- More capital funding available in FY 2033

Recommendation: $15M Scenario

Appendix C
Residence Hall Existing Conditions

Central Community Existing Conditions

Hart Hall and Funnelle Hall are joined by Cooper Dining Hall. The two towers are the only residences in the academic core. Hart is home to Oswego's international students. Funnelle's rooms have been single-occupancy in recent years, making it a favorite of upperclassmen.

Hart Hall

114,365 GSF
9 stories
344 Beds

Constructed:	1963
Renovated	1997

Funnelle Hall

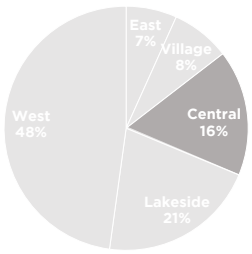
114,365 GSF
9 stories
400 Beds

Constructed	1965
Renovated	1997, 2020

Cooper Dining Hall & Fitness Center

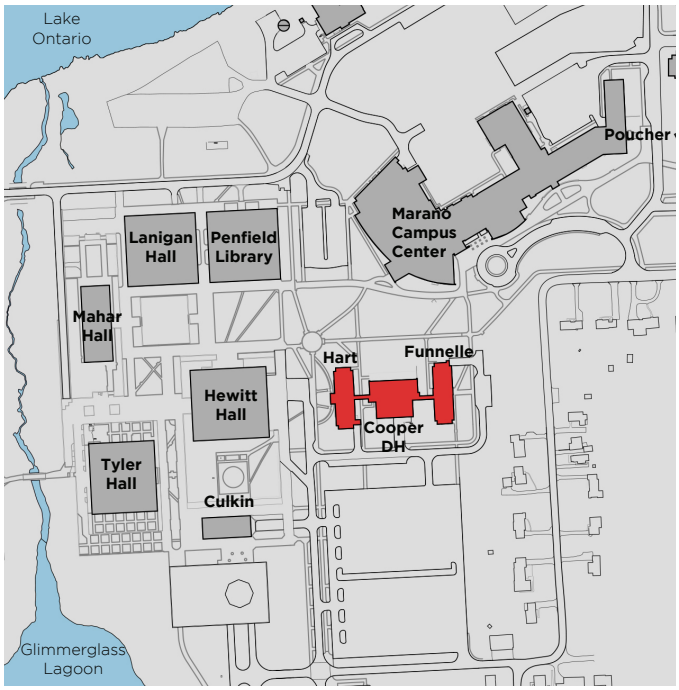
33,546 GSF
2 stories

Constructed	1967



Central Bed Count

744 Design Capacity
16% of SUNY Oswego capacity



N
LOCATION PLAN
NTS

Hart and Funnelle towers in the morning. Cooper Dining Hall is in shade between them.

HVAC

Medium-pressure steam from the central heating plant provides heat to the Central Residence Hall community. Heat exchangers, pumps, and dual condensate receivers are very old in Hart and Cooper and should be replaced. Funnelle's heating components were replaced in a 2020 renovation.

In Hart and Funnelle, student residences are served by hot water convectors. Common areas are heated, cooled, and ventilated by two rooftop heat recovery units. The convector system provides reliable heating, but lack of individual controls leads student rooms to be too hot in shoulder seasons. (Operable windows help students control room temperature.) The HRUs are in good condition.

In Cooper, air handling units AC-1 and AC-2 provide heating and cooling to the dining area, lounge, and other spaces. HV-1 provides makeup air to the kitchen. Hot water convectors provide auxiliary heating to the perimeter. AC-1, AC-2, and HV-1 are original equipment and require replacement. Chilled water is provided by a water-cooled chiller and forced-draft cooling tower installed in 2013. These units are in good condition. A small chiller, fed by a glycol feeder tank, provides chilled water for Funnelle's IT rooms.

In Hart and Cooper, HVAC controls are a combination of pneumatic and electronic controls. Funnelle's systems are all controlled electronically, yet its chiller and HV unit controls require upgrades and are not connected to the building automation system (BAS).

Recommendations:

- Implement recommendations in the 2023 Clean Energy Master Plan.
- Provide electronic controls throughout and connect all units to the BAS.
- Replace major heating equipment in Hart and Cooper.
- Replace AC and HV units in Cooper.
- Perform regular preventative maintenance.
- Long term, anticipate replacement of HRV and HV units in the 2040s. When units are replaced, implement demand control ventilation. Anticipate replacement of Funnelle Hall cooling equipment in the next 10-20 years.

Electrical

All three buildings in this community have switchgear and switchboards installed in the late 1990s. This equipment is functional and in good condition. With the exception of some panelboards in Hart Hall, panelboards in all three buildings are beyond their useful life.

Emergency generators for all three buildings are aging; Cooper Dining Hall's generator is inoperable. Funnelle's generator was installed in 1995 and is in fair condition. Hart's generator, installed in 1986, appears functional but should be scheduled for replacement.

Lighting in all three buildings is compact fluorescent and linear fluorescent. Fixtures are functional.

Recommendations:

- Implement recommendations in the 2023 Clean Energy Master Plan.
- In all buildings, Megger test cables and test breakers in panels.
- In all buildings, replace outdated panelboards.
- Replace or repair Cooper emergency generator.
- Replace Hart emergency generator.
- Plan to replace the aging Funnelle emergency generator in the next decade.
- Replace fluorescent and compact fluorescent lighting with LED fixtures. Provide occupancy sensors and daylight sensors.

Plumbing

In Hart, Funnelle, and Cooper, water supply, distribution, waste, and storm water piping date to the buildings' original construction.

In Hart, an in-ground sump pump was replaced in 2012; check valves are present. Plumbing fixtures are original and functional. Domestic water heating equipment was replaced in 1997, and capacity was increased at that time.

Much of the Funnelle Hall plumbing was updated in 2020. Its fixtures were replaced at that time and are in excellent condition. Funnelle's sump pump, domestic water heaters, hot water storage tanks, and hot water digital mixing valve were installed in 2020. Two gas-fired water heaters with a 200 gallon storage tank were installed in 1986.They are functional and serve as backup to the 2020 system.

In Cooper Dining Hall, water heating and hot water storage appear to be original equipment.

Recommendations:

- Implement recommendations in the 2023 Clean Energy Master Plan.
- Replace domestic water service in Hart and Cooper.
- Replace domestic hot water tanks in Hart and Cooper.
- Install low-flow fixtures in Hart and Cooper. Provide scald-preventing fixtures.
- Long-term, anticipate replacement of Funnelle domestic water service and hot water tanks in the 2040s.
- All Central Community buildings
  - Annual inspection and preventative maintenance on DHW tanks and heat exchangers.
  - Annual inspection and cleaning of lint interceptors.
  - Annual inspection of reduced pressure zone assemblies by a licensed plumbing contractor.
  - Annual inspection of sump pumps.
  - Annual inspection of hot water circulators.

Pressure reducing valves in Funnelle

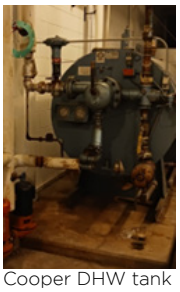
Hot water pumps in Funnelle

Heat exchanger in Funnelle

Funnelle switchgear

Funnelle DHW tank

HRU on roof, Funnelle



Cooper DHW tank

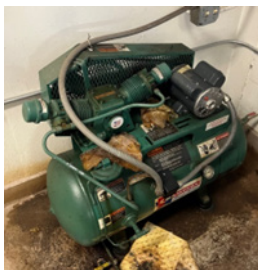
Cooper generator, out of service

A Cooper panelboard

Air compressor for Cooper pneumatic controls

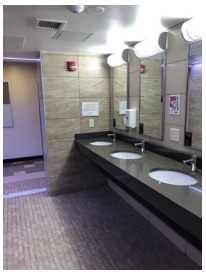
Duplex condensate receiver in Cooper

Cooper gas-fired boiler



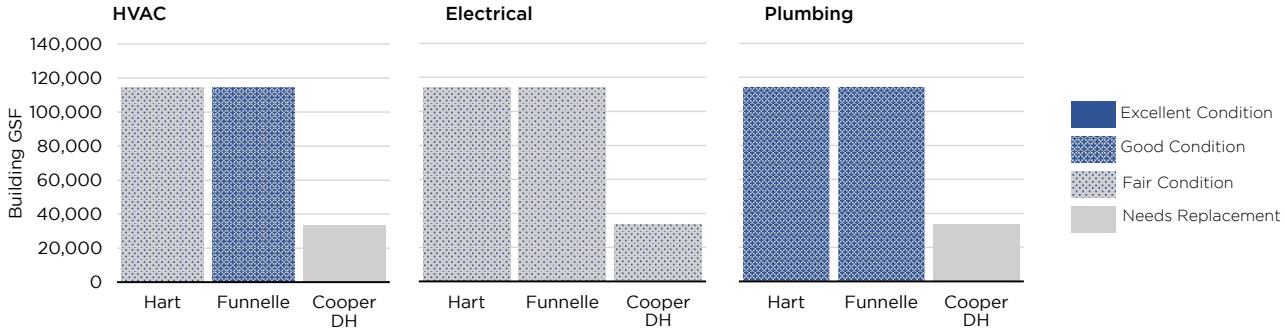
Hart Hall air compressor for pneumatic controls

Aging Westinghouse panel in Hart.



New restroom finishes and fixtures in Funnelle

Building Condition Summary



Fire Alarm

All buildings in this community had their fire alarm systems updated around 2000. Systems are in good condition

Recommendations:

- Test systems annually in all buildings.
- Long-term, anticipate system replacement in the 2040s.

Fire Protection

Hart Hall is equipped with two standpipes. Corridors on its residential floors are partially sprinklered. The building does not have a fire booster pump.

During the 2020 Funnelle Hall renovation, the building was piped for an automatic wet pipe system that would provide fire protection in the corridors of residence floors. A second phase of construction is required to complete the system. A fire pump will be required.

Cooper Dining Hall does not have a fire protection system.

Recommendations:

- Complete the installation of fire sprinklers on Funnelle Hall residence floors. Provide a fire booster pump. Activate the system.
- Provide fire protection for the entirety of Hart Hall (including a fire booster pump) and Cooper Dining Hall.
- Annual inspection of the backflow preventer assemblies by a licensed plumber.
- Annual inspection of the fire pump system by a licensed fire protection company.
- Annual inspection of the fire sprinkler system by a licensed contractor.

Exterior

The two residential towers, Hart and Funnelle, have original brick masonry in good condition. Windows in Hart Hall are modern double-glazed vinyl replacement units. Funnelle Hall has original windows. Residence rooms have operable windows.

Cooper Dining Hall has not had exterior finish or window upgrades. Its panelized cladding system shows signs of water infiltration.

There are no landscape amenities for leisure or recreation.

Recommendations:

- Perform regular maintenance on Hart and Funnelle facades to prevent deterioration.
- Inspect parapets and potential sources of water infiltration at Cooper Dining Hall. Repair.
- Replace windows and exterior doors at Cooper and Funnelle with high-efficiency units.
- Provide access control to enable return access from outdoor leisure and recreation areas.

Interior Finishes

SUNY Oswego has conscientiously replaced finishes in these residence halls when worn or deteriorated, however the durable finishes remaining from the 1960s are dated and potentially contain asbestos.

Recommendation:

Upgrade finishes over time to refresh their appearance, with particular attention given to lounges, lobbies, and kitchens.

Accessibility

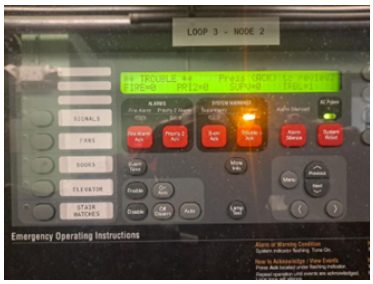
SUNY Oswego has upgraded residence halls to make then more accessible, yet when Hart, Funnelle, and Cooper were designed in the 1960s the buildings were not laid out with universal design in mind. The College's improvements have made these buildings partially accessible, yet they are not inviting for individuals with physical challenges.

- The accessible route to and from Cooper Dining Hall is circuitous, leading students through basements and the lower-level fitness area, then up by elevator to the dining room.
- Funnelle Hall has knob hardware on residence room doors.
- Residence room casework occupies the clear floor area required at doors by ADA. Some fire doors between elevator lobbies and corridors lack required clear floor area.
- Door openings for residence rooms need to be enlarged to comply with ADA.

Recommendations:

- Provide lever hardware at all residence hall rooms.
- Widen residence room doors for accessibility. Provide new casework in residence hall rooms to allow ADA-compliant clear floor area.
- When sprinklers are provided and activated in Hart and Funnelle, consider reworking elevator lobbies to create ADA-compliant clear floor areas at doors.

Fire alarm control panel in Hart, similar in Funnelle and Cooper



Annunciator panel in Hart, similar in Funnelle and Cooper

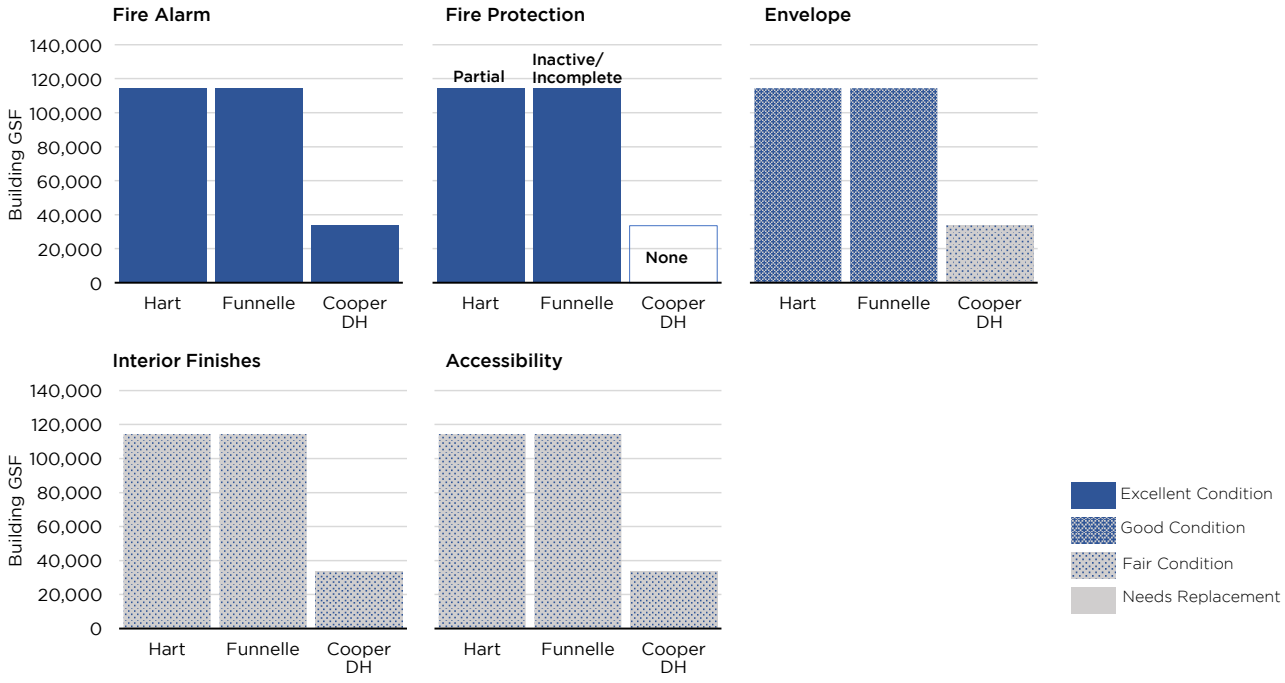
Hart incoming domestic and fire water service

Funnelle fire protection check valve, OS&Y valve, fire alarm check valve, and spare sprinkler valve box. Sprinkler system incomplete in Funnelle, therefore inactive.

Cladding at Cooper DH shows signs of moisture infiltration.

Distinctive original finishes in Funnelle are "retro," but should be updated.

Building Condition Summary



Funnelle Hall
Building Condition Assessment

Building Information			
Building Name	Funnelle	Primary Use	Residence Hall
Construction Year	1965	Occupancy Group	R-2 Congregate Living Facility
Major Renovations	2020	Number of Stories	Basement plus 9
		Gross Square Feet	114,365

System Information	
Heating/Cooling Systems	Hot water convectors in residence rooms, Heating/Ventilating and heat recovery units serve utility areas and corridors, Very limited air conditioning in IT closets
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	4" incoming domestic water.
Fire Protection Service and Capacity	6" fire main with two 4" standpipes. Partial installation of sprinkler system in circulation and residential spaces. Sprinklers inactive pending completion.

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Mechanical Systems						
Air-Handling Systems						
HV-1				■	2	HV-1 functional, in good condition. Less than 10 years old
HRU-1				■	5	HRU-1 functional, in good condition. Less than 10 years old
HRU-2				■	5	HRU-2 functional, in good condition. Less than 10 years old
Distribution Systems/Terminal Units						
Hot Water Convectors		■			2	Convectors currently functional, at the end of useful life.
Heating Systems				■	5	Heating pumps, heat exchanger, and condensate receiver in good condition, less than 10 years old.
Cooling Systems				■	5	Limited to IT closets, but in good condition
Exhaust Systems				■	5	Moderate condition.
Building Controls				■	5	Mixed pneumatic and DDC with BAS. Mixed conditions.
Average					**4.3**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 1998
Electrical Distribution				■	5	1200A 120/208V switchboard - installed around 1998; 120/208V panelboards - installed around 1998
Lighting Systems				■	4	Fluorescent fixtures throughout. When replaced, use LED with occupancy/vacancy sensors and install daylight sensors.
Tel/Data Systems			■		4	System in good condition
Emergency Power Systems	■				1	Emergency Generator; installed around 1995. Anticipate replacement.
Average					**3.8**	
Fire Alarm Systems				■	5	System in good condition; upgraded around 2007

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Plumbing Systems						
Domestic Water Service				■	5	6" incoming domestic water, good condition
Domestic Water Distribution				■	5	Triple booster pump package, and distribution in good condition
Domestic Hot Water Systems				■	5	Steam to hot water converter tank in good condition
Drainage Systems			■		4	One 8" sanitary and one 8" storm
Plumbing Fixtures				■	5	Fixtures in good condition
Average					**4.8**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Fire Protection Systems						
Fire Protection Service				■	5	6" Fire main with two 4" standpipes, good condition
Fire Protection Distribution				■	5	6" Fire main with two 4" standpipes, good condition
Fire Pumps				■	5	No fire pumps
Sprinkler Coverage				■	5	Good sprinkler coverage, but system not operable until completed
Average					**5.0**	

SETTY

Hart Hall
Building Condition Assessment

Building Information				
Building Name	Hart	Primary Use		Residence Hall
Construction Year	1963	Occupancy Group		R-2 Congregate Living Facility
Major Renovations	2020	Number of Stories		Basement plus 9
		Gross Square Feet		114,365

System Information	
Heating/Cooling Systems	Hot water convectors in residence rooms, Heating/Ventilating and heat recovery units serve utility areas and corridors, Very limited air conditioning in IT closets
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	6" incoming domestic water.
Fire Protection Service and Capacity	6" fire main with two 6" standpipes

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Mechanical Systems						
Air-Handling Systems					0	
HV-1				■	2	HV-1 functional, in good condition. Less than 10 years old
HRU-1				■	5	HRU-1 functional, in good condition. Less than 10 years old
HRU-2				■	5	HRU-2 functional, in good condition. Less than 10 years old
Distribution Systems/Terminal Units						
Hot Water Convectors		■			2	Convectors currently functional, at the end of useful life.
Heating Systems		■			3	Heating pumps, heat exchanger, and condensate receiver in fair condition.
Cooling Systems					1	No cooling in Hart
Exhaust Systems				■	5	Moderate condition.
Building Controls				■	3	Mixed pneumatic and DDC with BAS. Mixed conditions.
Average					**2.9**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 1998
Electrical Distribution			■		4	1200A 120/208V switchboard - installed around 1998; 120/208V panelboards - installed around 1998. Some panelboards are original and require replacement.
Lighting Systems		■			3	Fluorescent fixtures throughout. When replaced, use LED with occupancy/vacancy sensors and install daylight sensors.
Tel/Data Systems			■		4	System in good condition
Emergency Power Systems	■				1	Emergency Generator; installed around 1986. Anticipate replacement.
Average					**3.4**	
Fire Alarm Systems				■	5	System in good condition; upgraded around 1999

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Plumbing Systems						
Domestic Water Service			■		4	6" incoming domestic water, good condition
Domestic Water Distribution			■		4	Distribution in good condition
Domestic Hot Water Systems			■		4	Steam to hot water converter tank in fair condition
Drainage Systems			■		4	One 8" sanitary and one 8" storm
Plumbing Fixtures			■		4	Fixtures in good condition
Average					**4.0**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Fire Protection Systems						
Fire Protection Service			■		4	6" Fire main with two 6" standpipes, good condition
Fire Protection Distribution			■		4	6" Fire main with two 6" standpipes, good condition
Fire Pumps						No fire pumps
Sprinkler Coverage			■		4	Standpipes with limited sprinklers in circulation areas
Average					**4.0**	

Cooper Dining Hall
Building Condition Assessment

Building Information			
Building Name	Cooper	Primary Use	Dining Hall
Construction Year	1967	Occupancy Group	A-2 Dining Facility
Major Renovations		Number of Stories	2
		Gross Square Feet	33,546

System Information	
Heating/Cooling Systems	Hot water convectors around building perimeter, AiHU's provide heating and cooling to Cooper, Heating/Ventilating unit provides makeup air to Kitchen
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	3" incoming domestic water.
Fire Protection Service and Capacity	No Fire Protection

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Mechanical Systems						
Air-Handling Systems						
AC-1	■				3	AC-1 currently functional, but over 50 years old and at the end of useful life.
AC-2	■				3	AC-2 currently functional, but over 50 years old and at the end of useful life.
HV-1	■				3	HV-1 currently functional, but over 50 years old and at the end of useful life.
Distribution Systems/Terminal Units					3	
HW Convectors		■			3	Convectors currently functional, at the end of useful life.
Heating Systems	■				2	Heating pumps, heat exchanger, and condensate receiver in poor condition, at end of useful life. Auxilliary boiler in good condition.
Cooling Systems			■		2	Cooling tower and chiller renovated in 2013, good condition.
Exhaust Systems		■			3	Moderate condition.
Building Controls			■		2	Mixed pneumatic and DDC with BAS. Mixed conditions.
Average					**2.7**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 1998
Electrical Distribution	■				1	1600A 120/208V switchboard - installed around 1998; 120/208V panelboards - installed around 1998. Replace remaining original panels.
Lighting Systems			■		3	Fluorescent fixtures throughout. Upgrade to LED, add occupancy sensors and daylight sensors.
Tel/Data Systems			■		4	System in good condition
Emergency Power Systems	■				1	Emergency Generator is inoperable and looks old. Repair or replace
Average					**2.8**	
Fire Alarm Systems				■	5	system in good condition; upgraded around 1999

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Plumbing Systems						
Domestic Water Service	■				1	3" incoming water line, poor condition
Domestic Water Distribution	■				2	Fair condition
Domestic Hot Water Systems	■				2	Fair condition
Drainage Systems		■			2	Fair condition
Plumbing Fixtures		■			2	Fair condition
Average					**1.8**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Fire Protection Systems						
Fire Protection Service					0	No FP system
Fire Protection Distribution					0	No FP system
Fire Pumps					0	No FP system
Sprinkler Coverage					0	No FP system
Average					**0.0**	

SETTY

Central Residence Halls and Cooper Dining Hall

EXISTING CONDITIONS

Hart Hall

Heating Plant

Summary

The existing heating system in Hart Hall is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the basement level mechanical room and is reduced to low pressure by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger to provide hot water to the building convectors, and single heating and ventilating unit (HV). Hot water is pumped to the building HVAC by five centrifugal, inline pumps. Steam condensate goes to a condensate receiver unit which then pumps condensate back to the central heating plant.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves in the basement mechanical room.
- A shell and tube heat exchanger (1973) provides hot water to convectors, and one heating and ventilating unit (HV).
    - Pneumatically actuated mixing valves
- (P-1 through P-5) (1973) 5 HP inline centrifugal hot water pumps circulate hot water to building heating equipment. Good condition, built in VFD on each pump, less than 10 years old.
    - Hot water supply temperature reset based on OA temperature. Turned on at OA less than 60F.
        - 170F at 0F OA
        - 110F at 60F OA
- A separate shell and tube heat exchanger serves HW for the resident director apartment suite.
    - Inline hot water pump P-6 with constant speed motor.
        - 150F HW at 0F OA
        - 100F HW at 60F OA
- Duplex condensate receiver unit (1973).

Facilities Maintenance Planned

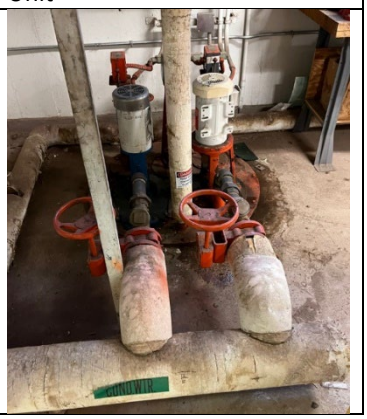
- None

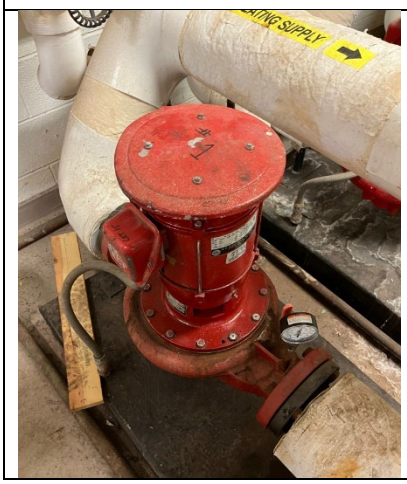
Additional Maintenance Recommendations

- The heat exchanger, pumps, and duplex condensate receiver were installed in 1973 and are in fair condition. Preventative maintenance should be continued.

System Recommendations

- Replace major heating equipment, heat exchangers, pumps, and condensate receiver.

Picture 1: Heat Exchanger	Picture 3: Condensate Receiver Unit	Picture 3: Condensate Receiver Unit
		

Picture 4: Hot Water Pump


HVAC System

Summary

Student residences are served by hot water convectors, while common areas are heated and ventilated by two rooftop heat recovery ventilators (HRV). The convector system provides reliable heating, but lack of individual controls leads student rooms to be too hot in shoulder seasons. (Operable windows are present to help students control room temperature.) The HRUs are recently installed and in good condition.

Equipment

- HV-1 is a 100% OA unit with hot water heating coil with two-way electronic control valve. HV-1 serves the laundry room makeup air. Supply fan motor controlled by VFD.
- HRV-1 and HRV-2 (2005) are rooftop heating only, heat recovery ventilators. They have an enthalpy wheel and gas heating. Supply fan and return fan are both controlled by VFDs. HRUs serve corridors and common areas. Both in good condition.
- Hot water convectors serve student rooms.
- 4 exhaust fans with constant speed motors serve building exhaust.

Facilities Maintenance Planned

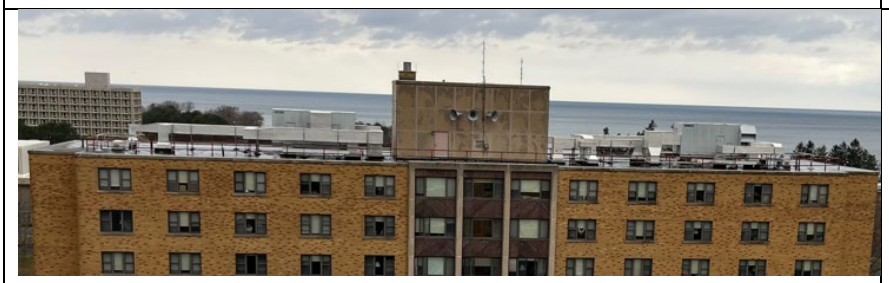
- Heating system seasonal startup

Additional Maintenance Recommendations

- HRVs are in good condition. Perform preventative maintenance on HRVs and HV.

System Recommendations

- Replace hot water convectors.

Picture 5: Rooftop	Picture 6: Exhaust Fan
	

Glycol Chilled Water System

Summary

There is no cooling in Hart Hall.

Equipment

- N/A

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A

System Recommendations

- N/A

Control Systems

Summary

The existing temperature control system is partially pneumatic and partially electronic. Old heating equipment uses pneumatic actuators but is connected to Trane BAS. Hot water pumps are not connected to the BAS. All controls should be upgraded to electronic actuators and HW Pumps should be connected to the building automation system (BAS).

Equipment

- Trane Trace SC+ BAS system
- Two Air Compressors

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A

System Recommendations

- Connect building system to BAS.
- Install BAS system for major equipment.
- Replace all pneumatic actuators with electronic.
- Implement Demand Control Ventilation
- Retro-Commissioning of HVAC systems and Controls
- Setback equipment during academic breaks

Picture 7: Air Compressor

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loop. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room was installed around 1998 and is still in good condition. There is a 1200A 120/208V 3 phase 4 wire Cutler Hammer switchboard that was also installed around 1998 and located inside the electrical room that is in good condition. The majority of the Square D (120/208V 3 phase 4 wire) panelboards are in good condition, but the Westinghouse (120/208V 3 phase 4 wire) panelboards are old and should be replaced/updated soon.

Emergency Power is supplied by a 100kVA 120/208V 3 phase Cutler Hammer emergency generator installed in 1986 which is located inside this building and looks old, should be replaced soon.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1200A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (100kVA)

Facilities Maintenance Planned

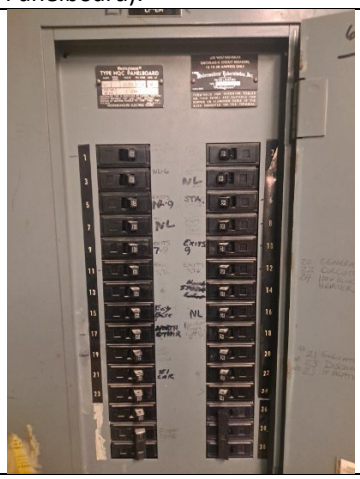
- None.

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- Panelboards
- Emergency Generator

Picture 8: (Square D Panelboard):	Picture 9: (Westinghouse Panelboard):	Picture 10: (S&C Switchgear):
		

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 1999. The Fire Alarm Control Panel (Simplex 4100-ES) contains battery backup and all of the Fire Alarm equipment connected to this system is in good and operable condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Exit Signs
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

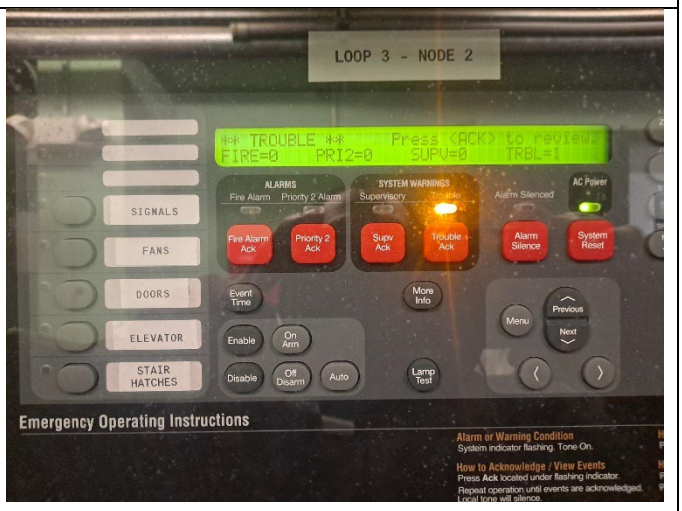
- N/A

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- N/A

Picture 11: Fire Alarm Control Panel (FACP)	Picture 12: Annunciator Panel
	

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in good condition and provided adequate light levels throughout the facility.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Replace all interior fluorescent lights with LED lighting.
- Replace all exterior lights with LED type fixtures.
- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Picture 13: Fluorescent Light Fixture

Fire Protection

Summary

Hart Hall was not sprinklered when originally constructed. However, originally a basic dry-manual standpipe system was included in the building installation. This system was later connected to an automatic wet standpipe system with water supply tied to the incoming building water system.

The current system consists of a 6" fire main that is teed-off of the incoming 6" combined domestic and fire water service in the basement mechanical room. An existing 6" single check with a detector meter assembly is installed on the fire water service side. The system is equipped with an outside Siamese connection at the grade level.

The distribution system does not have a fire booster pump and it relies on the city supply pressure for the pressure to flow water to the sprinkler system, even at the 9th floor level.

The distribution system also consists of two 6" diameter standpipes located at two stair towers on the north and south of the building. There are 2-1/2" fire hose valves at each stair landing. There is partial sprinkler system off both standpipes with sprinkler zone control valve that serves small areas at each floor, mostly egress corridors.

Equipment

- N/A

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Inspect the single check valve backflow preventer assembly.

System Recommendations

- Install fully sprinklered system.

Picture 14: Combined domestic and fire water incoming service with a single check valve backflow preventer on the fire water side

Plumbing

Summary

The Hart building is located opposite the Funnelle Hall across from Cooper Dining Hall. The Hart building is a nine story building with a full basement originally built in 1962 at the same time as Funnel Hall. The building had a major renovation in 1997 where the heating and ventilation systems as well as a few other systems were partially renovated.

The basement houses the laundry room, recreation room, storage spaces, and utility service rooms. The first floor houses the student lounge, Lobby, Director, and other specialty living spaces, and other administrative spaces. Floors two through nine house student dorm rooms, bathrooms, and showers.

The storm system is comprised of roof drains with internal rain leaders that connect below basement floor level, where it finally exists the building on the west side via a single 8" storm sewer line to connect to the main site storm system. No backwater valve exists on this line. The entire piping system was installed during original 1962 building construction.

The building sanitary is comprised of one 8" sanitary sewer line that exits the building from the west side to connect to the main outside sewer system. The sanitary line exiting the building is equipped with a house-trap located at the basement level.

The domestic water supply enters the basement level at the east side mechanical room. The incoming water supply is a 6" diameter with a recently installed double check valve backflow preventer assembly (ASSE-1013) and is equipped with an incoming Y-strainer. The incoming water service is teed-off (upstream of the BFP) with a 6" branch feeding the fire water system. A 4" water meter with a full 6" bypass is installed downstream of the BFP.

The domestic water supply, downstream of the backflow preventer, connects directly to the distribution system without a booster pump, using city supplied pressure only.

The existing domestic hot water was originally provided with two 350 gallon hot water storage tanks. These were later supplemented during the 1997 renovation with an additional 1500 gallon hot water storage tank equipped with a steam to water converter. The existing system was also originally equipped with two gas fired hot water heaters. The two gas fired hot water heaters were later slightly relocated within the same mechanical room during the 1997 renovation, however kept in service for summer use and for occasions where steam from the power plant may not be available. The hot water recirculation loop is equipped with a Bell & Gossett 1/3 hp inline circulator rated at 20 gpm @ 23 ft. head.

One 3-way pneumatically operated temperature regulating control valve is located on the hot water supply line to the building to control and maintain the hot water supply temperature at the desired level. The hot water discharge from the valve is set at 110°F.

The building is equipped with one in-ground ground water sump with two vertical pumps, each with 3 hp motors, located above the basin cover. The sump is located in the basement mechanical room. The capacity of the pumps is not known but the motors are 3 hp each and appear to have been replaced on 4-25-2012 (marked on the motors). A 2" discharge from the pumps connects and then extends to the storm sewer system. Both discharge lines are equipped with proper swing check valves.

The plumbing fixtures throughout are of existing installed in 1960's and are although in good condition but are of old materials and non-water saving features. These are comprised of wall mounted toilets with flush valves, wall mounted urinals with flush valves, wall mounted lavatories with hot and cold water faucets, and standing shower bays with shower valves.

Equipment

- Two gas fired water heaters with 350 gallon external tanks. In fair condition.
- One 1500 gallon Domestic hot water steam bundle storage tank installed in 1997. In fair condition.
- Inline 1/3 hp hot water circulation pump. in fair condition.
- 3-way pneumatically controlled hot water mixing valve. In fair condition.
- One duplex ground water sump pump with 3 hp pumps. In fair condition.
- 6" Domestic water backflow preventer assembly. In good condition.

Facilities Maintenance Planned

- Bottle fill station (one)

Additional Maintenance Recommendations

- Annual inspection of gas fired water heaters.
- Annual inspection of the hot water storage tank and steam to hot water converter.
- Annual inspection of the 1/3 hp circulation pump.
- Annual inspection of the ground water sump pumps and motor assemblies.
- Annual testing and inspection of the 6" domestic backflow preventer assembly.

System Recommendations

- Replace gas fired hot water heaters.
- Replace 1/3 hp circulating pump.
- Replace all plumbing fixtures with water saving fixtures.
- Replace shower valves throughout with anti-scald fixtures.
- Install building-level gas submeter.
- Install Low-Flow or Ultra Low-Flow showerheads.

Picture 15: Domestic HW Tank

FACILITIES MAINTENANCE RECOMMENDED

Proposed work for 1-5 year:

- Replace generator.
- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.
- Replace major heating equipment: pumps, hot water converter, PRV.

Proposed work for 5-10 year:

- Replace hot water convectors.
- Install cooling system for IT closets.

Proposed work for 10-20 year:

- Replace panelboards.
- Replace telephone/data systems.
- Replace domestic water service, and HW tank.
- Implement the proposed plumbing water conserving measures and install low flow fixtures.

Proposed work for 20+ year:

- Replace Fire Alarm.
- Replace HRV and HV units. Implement DCV.
- Replace fire protection system.

Funnelle Hall

Heating Plant

Summary

The existing heating system in Funnelle Hall is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the basement level mechanical room and is reduced to low pressure by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger to provide hot water to the building convectors and heating and ventilating (HV) units. Hot water is pumped to the building HVAC by five base mounted pumps. Steam condensate goes to two condensate receiver units which then pump condensate back to the central heating plant.

The heat exchanger was installed in 2020 and is in good condition. There appears to have been a leak that rusted the exterior of the heat exchanger. The condensate receivers were also installed in 2020 and are in good condition.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves in the basement mechanical room.
- A shell and tube heat exchanger (2020) provides hot water to convectors, heating and ventilating units (HV), and unit heaters.
- (P-1 through P-5) 7.5HP inline centrifugal hot water pumps circulate hot water to building heating equipment. Good condition, built in VFD on each pump, less than 10 years old.
    - Hot water supply temperature reset based on OA temperature. Turned on at OA less than 60F.
        - 180F at 20F OA
        - 110F at 50F OA
- A separate shell and tube heat exchanger serves HW for the resident director apartment suite.
    - Hot water pump P-6 with constant speed motor circulates to HW convectors.
        - 180F HW at 0F OA
        - 110F HW at 60F OA
- Duplex condensate receiver units (2020).

Facilities Maintenance Planned

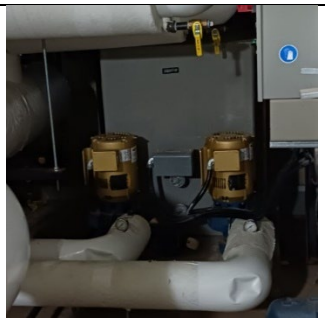
- Heating system seasonal startup

Additional Maintenance Recommendations

- The heat exchanger, pumps, and duplex condensate receiver were installed recently and are in good condition. Preventative maintenance should be considered.

System Recommendations

- No major system replacement recommended at this time.

Picture 1: Pressure Reducing Valve Station	Picture 2: Hot Water Pumps	Picture 3: Condensate Receiver Unit
		

Picture 4: Heat Exchanger


HVAC System

Summary

Student residences are served by hot water convectors, while common areas are heated, cooled, and ventilated by two rooftop heat recovery units (HRU). The convector system provides reliable heating, but lack of individual controls leads student rooms to be too hot in shoulder seasons. (Operable windows are present to help students control room temperature.) The HRUs are in good condition.

Equipment

- HV-1 is a 100% OA unit with hot water heating coil with two-way electronic control valve. HV-1 serves the laundry room makeup air. Supply fan motor controlled by VFD.
- HRU-1 and HRU-2 are rooftop heating only, heat recovery units. They have a fixed plate, cross flow heat exchanger, and supply fan and return fan both controlled by VFDs. HRUs serve corridors and common areas.
- Hot water convectors serve student rooms.
- 5 exhaust fans with constant speed motors serve building exhaust.

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- HV and HRUs are in good condition. Perform preventative maintenance.

System Recommendations

- Replace hot water convectors.

Picture 5: HRU	Picture 6: Exhaust Fan
	

Glycol Chilled Water System

Summary

One small, air-cooled chiller located on the roof provides chilled water to the mechanical room. Glycol is added by a glycol feeder tank, and chilled water is supplied to IT closet fan coil units by two inline pumps. The chiller, glycol feeder tank, and associated pumps and piping are in good condition and suitable for continued use.

Equipment

- Two inline glycol chilled water pumps serve IT rooms.
- Glycol Feeder Tank
- Air Cooled Chiller

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Preventative maintenance on CHW pumps and associated equipment.

System Recommendations

- No replacement recommended at this point in time.

Picture 7: Glycol Feeder Tank	Picture 8: Air Cooled Chiller
	

Control Systems

Summary

The existing temperature control system is electronic for both heating and cooling equipment. Controls for all equipment except chiller and HV unit are on the BAS. These unit's controls should be upgraded and connected to the building automation system (BAS).

Equipment

- Trane Trace SC system

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A

System Recommendations

- Connect building to BAS system.
- Add chiller and HV units to BAS system.
- Implement pump differential pressure reset control.
- Retro-Commissioning of HVAC systems and Controls
- Setback equipment during Academic Breaks

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loop. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room that was installed around 1998 and is still in very good condition. There is a 1200A 120/208V 3 phase 4 wire Cutler Hammer switchboard that was also installed around 1998 and located inside the electrical room that is in good condition. The majority of the Square D (120/208V 3 phase 4 wire) panelboards located inside of this building are in good condition.

Emergency Power is supplied by a 25kVA 120/208V 3 phase emergency generator installed in 1995 which is located inside this building and is in okay condition.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1200A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (25kVA)

Facilities Maintenance Planned

- None.

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- electrical panelboards

Picture 9: (Switchgear):	Picture 10: (Switchboard):	Picture 11: (Panelboard):
		

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 2007. The Fire Alarm Control Panel (Simplex 4100-9111) contains battery backup and all of the Fire Alarm equipment connected to this system is in good and operable condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Heat Detectors
- Exit Signs
- Gas Detectors
- Carbon Monoxide Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

- None

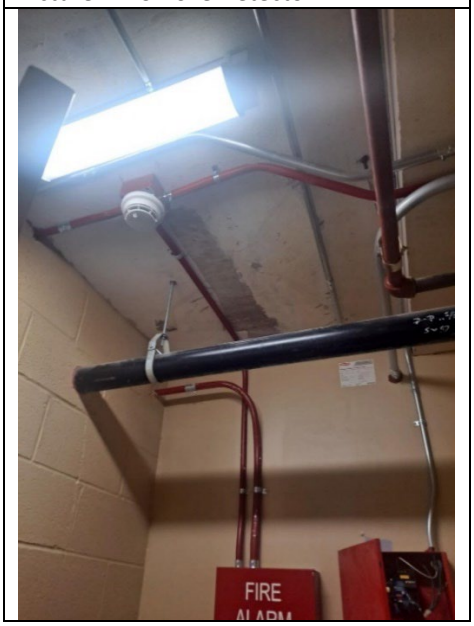
Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- None

Picture 12: Smoke Detector



Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in good condition and provided adequate light levels throughout the facility.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- None

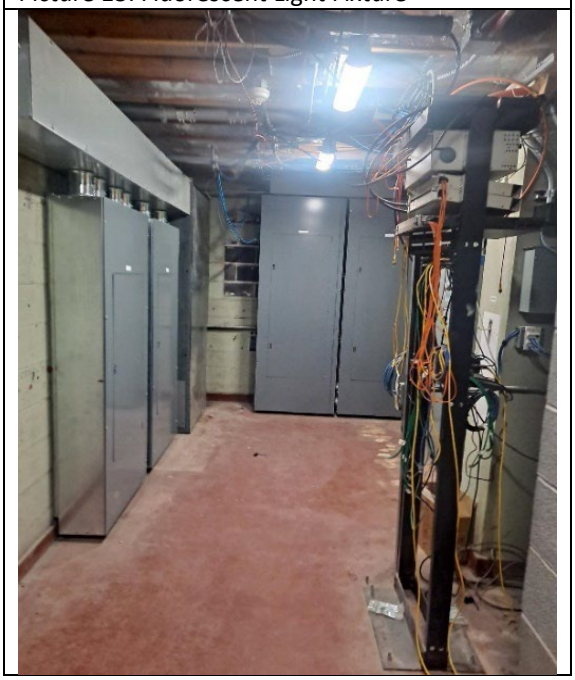
Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Replace all interior fluorescent lights with LED lighting.
- Replace all exterior light fixtures with LED fixtures.
- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Picture 13: Fluorescent Light Fixture



Fire Protection

Summary

Funnelle Hall was not originally sprinklered when constructed in 1962. During the 2020 Funnelle Hall renovation, the building was partially piped for an automatic wet pipe system that, when finished, would provide fire protection on residence floors. A second phase of construction is required to complete the system. A fire pump will be required.

The system consists of a 6" fire main that is teed-off of the incoming 6" domestic service in the basement mechanical room. The 2020 design drawings showed a new 6" double check valve backflow preventer assembly, however this valve was not installed. Instead, the existing 6" single check with a detector meter assembly was reused for the fire water service.

The distribution system does not have a fire booster pump and it relies on the city supply pressure for the pressure to flow water to the sprinkler system, even at 9th floor level.

The distribution system also consists of two 4" diameter standpipes located at two stair towers on the north and south of the building. There are 2-1/2" fire hose valves at each stair landing as well as sprinkler zone valve assembly at each floor landing connected to the 4" standpipes.

Equipment

- One 6" Single Detector Check Valve Assembly
- Two 4" diameter standpipes.

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Annual inspection of the system by a licensed fire protection company.

System Recommendations

- No replacement recommended.

Picture 14: Detector Check Valve (gold color), OS&Y valve with tamper switch, and the fire system Alarm Check valve (red color). Spare sprinkler valve box to the left.	Picture 15: Backflow Preventer
	

Plumbing

Summary

The Funnelle building is a nine story building with a full basement originally built in 1962, which went under a renovation in 2020.

The basement houses the laundry room, recreation room, storage spaces, and utility service rooms. The first floor houses the student lounge, Lobby, Director, and other specialty living spaces, and other administrative spaces. Floors two through nine house student dorm rooms, bathrooms, and showers.

The storm system is comprised of roof drains with internal rain leaders that connect below basement floor level, where it finally exists the building on the west side via a single 8" storm sewer line to connect to the main site storm system. No backwater valve exists on these lines. The lines are from the original 1962 building date.

The building sanitary is comprised of one 8" sanitary sewer line that exits the building from the west side to connect to the main outside sewer system. The sanitary line exiting the building is equipped with a house-trap located at the basement level.

Two small sump pumps were added in 2020 renovation to receive the condensate discharge from the AC fan coil units. The sump pumps are a simplex 1/2 and 1/3 hp pumps and rated at 10 gpm at 30 and 18 ft. head respectively. Each pump has a 15"x15" poly basin sump, high water alarms, and a local buzzer.

The domestic water supply enters the basement level at the east side mechanical room. The incoming water supply is a 6" diameter with a recently installed double check valve backflow preventer assembly (ASSE-1013) and is equipped with an incoming Y-strainer. The incoming water service is teed-off (upstream of the BFP) with a 6" branch feeding the fire water system. A 4" water meter with a full 6" bypass is installed downstream of the BFP.

The domestic water supply, after the backflow preventer, connects to a triplex booster pump package with vertical turbine pumps. The booster pump package (BP-1) is comprised of three 10 hp pumps (P-1, 2, and 3) that are rated at 225 gpm and 101 ft head each, manufactured by Grundfos Pumps. The cold water discharge piping is connected to the system via an 80 gallon bladder type Drawn Down Tank (DDT-1) manufactured by A.O. Smith.

The domestic hot water is provided by two 600 gallons tank capacity each, packaged steam to hot water hot water converter, which is located within the hot water storage tank. The tanks are maintained at 140°F. The heaters are each capable of supplying 16 gallons per minute of hot water at 90°F temperature rise. One 1/2 hp hot water circulation pump (RP-1) is used to circulate the hot water (15 gallons per minute at 26 ft head) throughout the building to prevent cooling off the hot water loop temperature.

One 3-way digital control valve, rated at 85 gpm, temperature regulating valve is located on the hot water supply line to the building to accurately control and maintain the hot water supply temperature at the desired level. The hot water discharge from the valve is set at 110°F. The DWH storage tank is original and in fair condition.

The system is equipped with a 165 gallon bladder type vertical expansion tank with an acceptance volume of 21 gallons.

There is an alternate gas-fired domestic hot water heaters, comprised of two gas-fired hot water heaters with an external 200 gallon storage tank. This system can be used for either summer or on standby for times when the central heating plant is down.

A small electric water heater serves the resident director apartment suite. The water heater is relatively new and in good condition. The actual size of the heater could not be verified.

The plumbing fixtures throughout are new and were installed in 2020 renovation and are in excellent condition. These are comprised of wall mounted toilets with flush valves, wall mounted urinals with flush valves, wall mounted lavatories with hot and cold water faucets, and standing shower bays with anti-scald shower valves.

Equipment

- DWH-1 and 2 - Domestic hot water steam bundle storage tanks with 600 gallon capacities each. Installed in 2020, with a 120F supply setpoint and electronic control valve. Good condition.
- BP-1 with pumps P-1, 2, and 3 – Triplex domestic booster pump package with vertical multi-stage turbine pumps. 10 hp each. Good condition.
- Two Gas fired water heaters with 200 gallon internal tank. Installed in 1986, fair condition.
- DMV-1 – Digital mixing valve, hot water system. Installed in 2020. Good condition.
- 6" domestic double check valve backflow preventer assembly

Facilities Maintenance Planned

- Bottle fill station (one)

Additional Maintenance Recommendations

- Preventative maintenance on domestic HW tank and heat exchanger.
- Preventative maintenance on triplex booster pumps.
- Annual inspection of the digital hot water mixing valve.
- Annual inspection of sump pumps.
- Annual inspection of the 6" domestic backflow preventer assembly

System Recommendations

- No major system replacement necessary.
- Install Building-Level Gas Submeter.
- Install Low-Flow or Ultra Low-Flow showerheads.

Picture 16: Domestic HW Tank

FACILITIES MAINTENANCE NEEDS

Proposed work for 1-5 year:

- Replace generator.
- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 5-10 year:

- Replace panelboards.

Proposed work for 10-20 year:

- Replace cooling equipment, glycol feeder, pumps, fluid cooler.

Proposed work for 20+ year:

- Replace Fire Alarm.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace HRV units. Implement DCV.
- Replace domestic water service, and HW tank.
- Implement the proposed plumbing water conserving measures and install low flow fixtures.
- Replace fire protection system.

Cooper Hall

Heating Plant

Summary

The existing heating system in Cooper Dining Hall is served by a high pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the basement level mechanical room and is reduced to low pressure by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger to provide hot water to the building convectors, air handling units (AHU) and heating and ventilating (HV) units. Hot water is pumped to the building HVAC by two base mounted pumps. Steam condensate goes to a condensate receiver unit which is then pumped back to the central heating plant.

There is an additional gas-fired boiler in the basement level mechanical room. The boiler is in good condition.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves in the basement mechanical room.
- A shell and tube heat exchanger (1964) provides hot water to convectors, AHUs, HVs, and unit heaters.
- Two base mounted hot water pumps circulate hot water to building heating equipment.
- Duplex condensate receiver unit.
- Gas Fired Boiler

Facilities Maintenance Planned

- Heating system seasonal startup

Additional Maintenance Recommendations

- The heat exchanger, pumps, and duplex condensate receiver were installed in 1964 and are in poor condition. All are well beyond their useful life and need to be replaced.
- Heating system miscellaneous repairs

System Recommendations

- Replace major heating equipment including heat exchangers, condensate receiver, and hot water pumps.
- Install building level steam submeter.

Picture 1: Gas Fired Boiler	Picture 2: Duplex Condensate Receiver
	

HVAC System

Summary

Air handling units AC-1 and AC-2 provide heating and cooling to the building dining area, lounge, and other spaces. HV-1 provides makeup air to the kitchen. Hot water convectors provide auxiliary heating to the perimeter of the building.

Equipment

- AC-1 serves the lounge and workout room. It has a HW heating coil and CHW cooling coil.
- AC-2 serves the dining area. It has a HW heating coil and CHW cooling coil with 5 zones with terminal reheat coils.
- HV-1 is a 100% OA unit which provides makeup air to the kitchen. It utilizes a HW heating coil and two-way pneumatic control valves.
- Hot water convectors serve the building perimeter.

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- ACs and HV-1 are original and require replacement.

System Recommendations

- Replace AC and HV units.
- Replace chilled water coils.

Cooling Plant

Summary

The chilled water (CHW) system serving Cooper Hall was recently renovated in 2013. A Trane, water-cooled chiller, and forced-draft cooling tower were installed in the renovation. These work in tandem with two CHW pumps to circulate chw to the AC units. One condenser water (CW) pump circulates CW between the cooling tower and chiller. The chiller, cooling tower, and associated pumps and piping are in good condition and suitable for continued use.

Equipment

- Trane water-cooled chiller with two constant speed screw compressors. Uses R-134A refrigerant.
- Forced Draft cooling tower with mist eliminator. The cooling tower uses VFD to control fan speed and set leaving water temperature.
- Two CHW pumps. (P-3 and P-4)
- One CW pump. (P-5)

Facilities Maintenance Planned

- Seasonal Transitions – Draining Chilled Water Systems

Additional Maintenance Recommendations

- Preventative maintenance on cooling tower, chiller, CHW pumps and associated equipment.

System Recommendations

- No system replacement recommended at this time.

Control Systems

Summary

The existing control system consists of partial BAS and partial pneumatic controls. The existing temperature control system is pneumatic for much of the older equipment. One air compressor station maintains compressed air for pneumatic controls. The air compressors and pneumatic control system are approximately 50 years old and in fair condition. Hot Water and Domestic Hot Water temperature is monitored by a BAS but controlled pneumatically. The chilled water system is controlled by BAS. All controls should be upgraded and connected to the building automation system (BAS).

Equipment

- Trane BAS
- Air compressor and Pneumatic controls

Facilities Maintenance Planned

- None

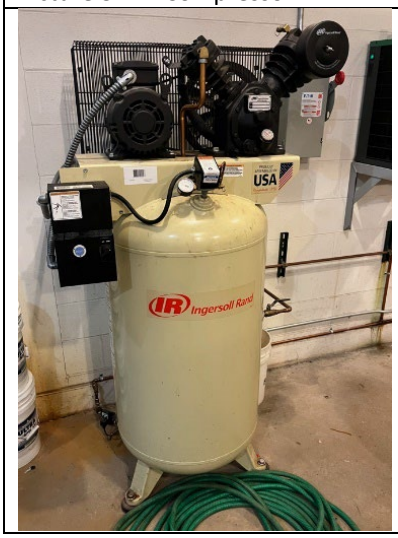
Additional Maintenance Recommendations

- N/A

System Recommendations

- Replace existing remaining analog with DDC controls system.
- Connect building system to BAS.
- Replace pneumatic control system and actuators with electronic.
- Implement chilled water supply temperature reset.
- Implement demand control ventilation.
- Implement kitchen demand control ventilation.
- Install occupancy-based HVAC controls.
- Retro-Commissioning of HVAC systems and controls
- Setback equipment during academic breaks

Picture 3: Air Compressor



Fire Protection

Summary

No Fire protection system exists within Cooper Hall.

Equipment

- N/A

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A

System Recommendations

- Provide a 6” incoming fire water supply to the building with propre backflow protection.
- Provide sprinklers throughout basement level.
- Provide sprinklers at first floor kitchen areas.
- Provide partial sprinklers at first floor level, along the egress paths and corridors.

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loop. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room that was installed around 1998 and is still in very good condition. There is a 2000A 120/208V 3 phase 4 wire Cutler Hammer switchboard that was also installed around 1998 and located inside the electrical room that is in good condition. The majority of the General Electric (120/208V 3 phase 4 wire) panelboards located inside this building are old and should be replaced.

Emergency Power is uncertain as there is a Generac generator located outside of this building, but it is inoperable. It seems to be defective and is in the process of possibly being replaced or repaired.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (2000A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Generator (120/208V 3 Phase 4 Wire)

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Megger test cables, test breakers in panels and test generator

System Recommendations

- Panelboards & Emergency Generator

Picture 4: (Emergency Generator)	Picture 5: (Panelboard PP-D):	Picture 6: (Panelboard PP-B):
		

Picture 7: (Switchgear):

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 1999. The Fire Alarm Control Panel (Simplex 4100-ES) contains battery backup and all of the Fire Alarm equipment connected to this system is in good and operable condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Exit Signs
- Heat Detectors
- Duct Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- N/A

Picture 8: Fire Alarm Control Panel (FACP)	Picture 9: Annunciator Panel
	

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in good condition and provided adequate light levels throughout the facility.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- N/A

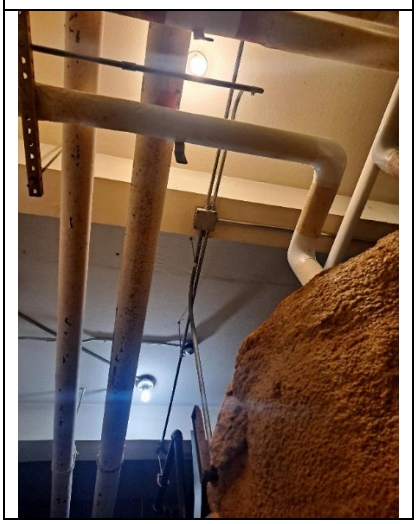
Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Replace all interior and exterior lights with LED lighting in the near future.
- Install daylight sensor controls.
- Install Occupancy/Vacancy sensor controls.

Picture 10: Light Fixture



Plumbing

Summary

Cooper Hall is a two story Dining Hall building, with a first floor level housing student lounge, storage spaces and utility services, and the second floor level used for dining and food prep. The building is used primarily for preparing and serving food to students in nearby dormitories. The building was built in 1965.

The storm system is comprised of roof drains with internal rain leaders that connect below basement floor level, where it finally exists the building on the east side via an 8" storm sewer line to connect to the site storm collection system. No backwater valve exists on this line.

The building sanitary is comprised of a 4" sewer line that is fitted with a house-trap and exits the building from the east side where it connects to the outside main sewer system.

The kitchen waste is via a separate 6" sewer line that collects the grease laden waste from kitchen and other cooking areas, it then passes through an in-ground grease trap in the basement of the building and then passes through a house-trap before exiting the building at the east side, to connect to the main sewer outside the building.

The domestic water supply enters the basement level at the west side mechanical room. The incoming water supply is a 3" and is fitted with a 2" water meter and a 2" full bypass. The 3" discharge from the water meter extends throughout to serve the kitchen and bathrooms throughout the building.

The domestic hot water is provided by a packaged steam to hot water converter that is housed within the hot water storage tank. An inline hot water recirculation pump is used to circulate the hot water through the system to prevent cooling off the hot water loop temperature. A 3-way pneumatically controlled temperature regulating valve is located on the hot water supply line to the building to accurately control the hot water supply temperature at the desired level. The hot water storage set point is 140°F. The DWH storage tank is original and in fair condition.

Plumbing fixtures throughout are original to the building and are comprised of wall mounted toilets with flush valve, wall mounted urinals with flush valve, and wall mounted lavatories with hot and cold water faucets.

Equipment

- Domestic hot water steam bundle storage tank
- Inline centrifugal hot water circulator
- 3-way pneumatic control valve
- Kitchen waste grease trap
- 3" Domestic water meter
- Sewer house trap
- Kitchen waste house trap

Facilities Maintenance Planned

- Bottle fill station (one)

Additional Maintenance Recommendations

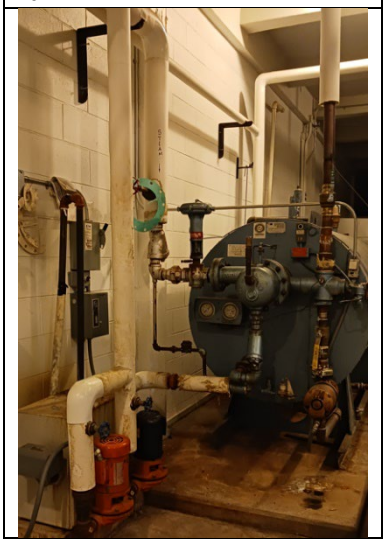
- Clean and inspect the internals of the hot water storage tank annually.
- Clean and inspect steam heat exchanger annually.
- Clean two house traps annually to assure free flowing sewer.

- Inspect the operation of the 3-way pneumatically controlled temperature control valve.
- Inspect the steam trap and duplex condensate pump assembly annually.
- Inspect the operation of the flush valves annually.
- Inspect the operation of the lavatory faucets annually.

System Recommendations

- Replace heat exchanger and domestic water heater tank. System age is unknow but appears to be past its useful life.
- Install building-level gas meter.

Picture 11: Domestic Hot Water Tank



FACILITIES MAINTENANCE NEEDS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace AC and HV units. Implement DCV.
- Replace panelboards.
- Replace generator.
- Install fire protection system.

Proposed work for 5-10 year:

- Replace domestic water service, and HW tank.
- Implement the proposed plumbing water conserving measures and install low flow fixtures.

Proposed work for 10-20 year:

- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 20+ year:

- Replace cooling equipment, glycol feeder, pumps, fluid cooler.
- Replace Fire Alarm.

Lakeside Community Existing Conditions

Excellent lake views, mature trees, and newly-renovated structures place Oswego's Lakeside residence halls among students' favorite places to live.

Johnson Hall

79,097 GSF
Ground floor plus 4 stories
252 Beds
Constructed: 1958
Comprehensive renovation: 2003

Riggs Hall

58,201 GSF
Ground floor plus 3 stories
216 Beds
Constructed 1960
Comprehensive renovation 2007

Waterbury Hall

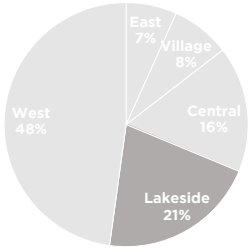
57,464 GSF
Ground floor plus 3 stories
238 Beds
Constructed 1960
Comprehensive renovation 2015

Scales Hall

57,464 GSF
Ground floor plus 3 stories
226 Beds
Constructed 1961
Comprehensive renovation 2017

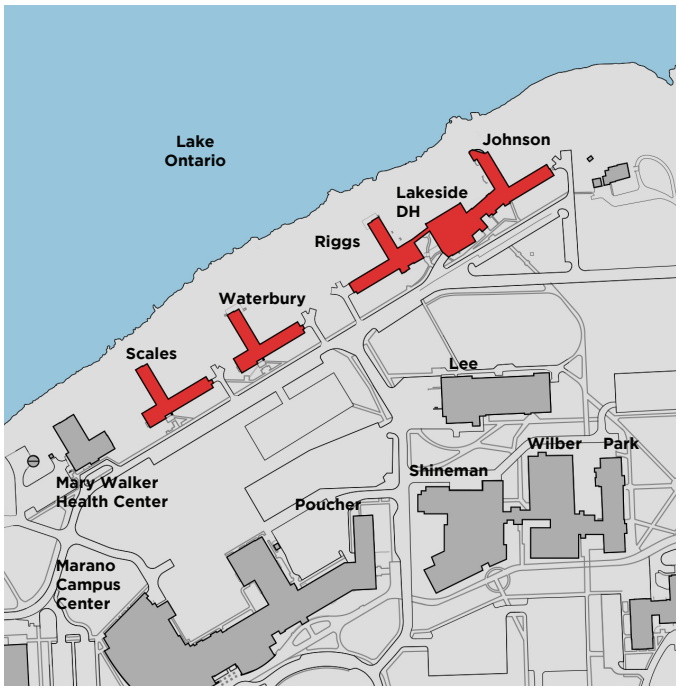
Lakeside Dining Hall

27,870 GSF
Ground floor plus 1 story
Constructed 1959
Comprehensive renovation 2007



Lakeside Bed Count

932 Design Capacity
21% of SUNY Oswego capacity



N
LOCATION PLAN
NTS

Lake Ontario behind Riggs, Lakeside Dining Hall, and Johnson

HVAC

Medium-pressure steam from the central heating plant provides heat to the Lakeside Residence Hall community. Heat exchangers, pumps, and dual condensate receivers in Lakeside buildings are in good condition. Chillers and a cooling tower at Lakeside Dining Hall were installed in 2006 and are in good condition. They provide primary chilled water for the dining hall and to Johnson and Riggs residence halls. Scales and Waterbury halls are cooled by split system AC units. Some temperature controls operate on outdated pneumatic actuators, yet all building systems are linked to Oswego's building automation system (BAS). Air handling units (AHU) are in good condition in all Lakeside facilities, yet some will be approaching the end of their useful life by the end of the 2020s. Some spaces are heated and cooled by fan coil units (FCU) or unit ventilators (UV), which were installed with each building's comprehensive renovation.

Recommendations:

- Implement recommendations in the 2023 Clean Energy Master Plan.
- Replace pneumatic actuators with electronic controls.

Electrical

Switchgear in Johnson, Riggs, Scales, Waterbury, and Lakeside Dining Hall was replaced between 1998 and 2002. All five buildings have switchgear in good condition. Switchboards were replaced between 1998 and 2016 in all five buildings and are in good condition. Residence halls have panel boards in good condition, yet the Lakeside Dining Hall panel boards are old and in poor condition. Emergency generators serve every building and are in very good condition.

Johnson Hall, Riggs Hall, and the basement of Lakeside Dining Hall have fluorescent fixtures. They are functional and relatively efficient. However, they are starting to look dated. Replacement with LED fixtures over time could improve the buildings' appearance and increase energy efficiency.

Lighting in the Lakeside Dining Hall is appropriate and functional. Replacement can take place during a future comprehensive renovation.

Scales and Waterbury halls, newly renovated, have efficient lighting in excellent condition.

Recommendations:

- Conduct routine Megger testing on cables.
- Conduct routine breaker tests.
- Replace panel boards in Lakeside Dining Hall.
- Upgrade remaining fluorescent lighting fixtures in Johnson Hall and Riggs Hall to LED.
- Implement recommendations in the 2023 Clean Energy Master Plan.

Plumbing

Fixtures and water service in Lakeside buildings are in good condition. Scales and Waterbury have high-efficiency fixtures. Low-flow fixtures are recommended for Johnson, Riggs, and Lakeside Dining Hall. Due to age, domestic hot water (DHW) tanks are recommended for replacement within the next decade, though they did not show signs of failure on visual inspection. Overall, plumbing in the Lakeside community is in good condition. Yet, some buildings have specific recommendations:

- Johnson: replace 2001 DHW tank.
- Riggs
  - Replace 2005 DHW tank.
  - Install a 4-inch reduced backflow preventer assembly.
- Lakeside Dining Hall: replace 2007 DHW tank.
- Scales
  - Replace 2001 DHW tank and steam-fired heat exchanger.
  - Provide a new sump pump (1.5 HP, 85 GPM at 20' head).
- Waterbury
  - Replace 2001 DHW tank.
- All Lakeside Community buildings
  - Annual inspection and preventative maintenance on DHW tanks and heat exchangers.
  - Annual inspection and cleaning of lint interceptors.
  - Annual inspection of reduced pressure zone assemblies by a licensed plumbing contractor.

CHWP-2 VDF in Johnson

Johnson switchgear

A panelboard in Johnson

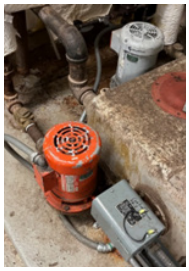
FCU-R-1 in Riggs Hall

CHWP-2 in Riggs

Riggs emergency generator

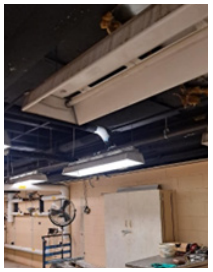
Riggs switchgear

Riggs DHW tank



Condensate receiver in Lakeside DH

Aging panelboard in Lakeside DH



Fluorescent fixture in Lakeside DH

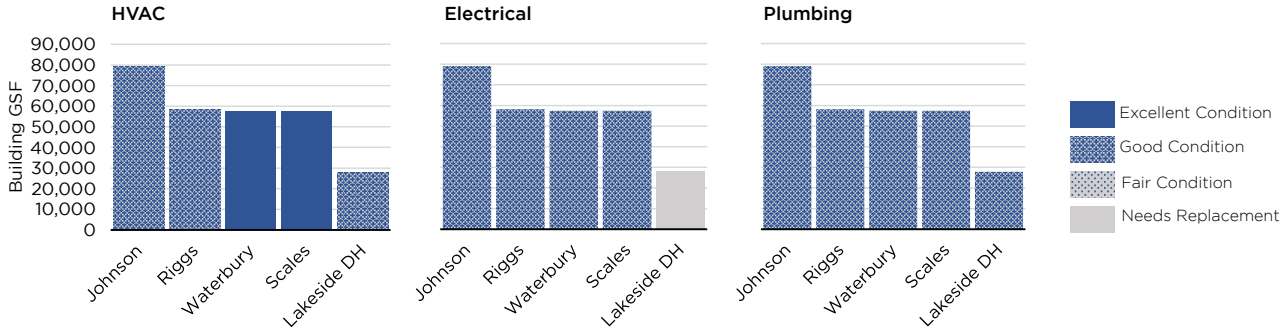
Lakeside DH DHW tank

HV-1 in Waterbury. HVs serve common areas in Waterbury.

Steam-fired DHW, Waterbury. Similar unit in Scales.

Hot water circulators in Scales

Building Condition Summary



- Annual inspection of sump pumps.
- Annual inspection of hot water circulators.
- Implement recommendations in the 2023 Clean Energy Master Plan.

Fire Alarm

Waterbury and Scales halls have new fire alarm systems, installed in the late 2010s when the buildings were renovated. Johnson and Riggs halls and Lakeside Dining Hall have fire alarm systems that were installed between 1999 and 2003. Fire alarm systems have a useful life of approximately 20 years.

Recommendations:

- Replace annunciator panels, exit signs, and fire alarm control panels in Johnson Hall, Riggs Hall, and Lakeside Dining Hall.
- Test systems annually in all buildings.

Fire Protection

Lakeside Community buildings are fully sprinklered. Routine maintenance and inspections are recommended.

- Annual inspection of the backflow preventer assembly by a licensed plumber.
- Annual inspection of the fire pump system by a licensed fire protection company.
- Annual inspection of the fire sprinkler system by a licensed contractor.

Exterior

The buildings in the Lakeside Community are generally in good condition. There are several common items throughout the community that require maintenance.

- Sand and reseal or repaint wood trim on pergolas, fences and overhangs.
- Inspect metal railings. Sand and repaint those showing signs of chalking or rust.
- Repair chipped concrete at outdoor patios.
- Unclog drains at outdoor patios.
- Repair concrete stairs and ramps where they are chipping, spalling, or show rust stains.

Building-specific maintenance is needed at the following locations:

- Riggs Hall – Re-point stone walls and seats where needed. Repair steel drip edge where damaged. Re-paint steel at loading dock.
- Lakeside Dining Hall – Repair damaged metal panels at


Johnson fire alarm control panel

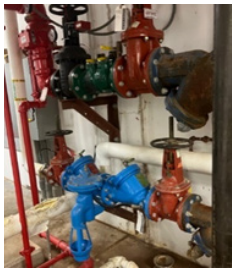

6-inch fire main at Johnson


Johnson Hall exterior finish, similar at Riggs

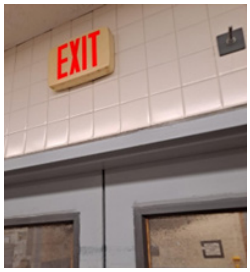

Johnson rear patio and pergola


Riggs stairs


Ponding on Riggs patio


4-inch fire backflow preventer and domestic RPZ, Lakeside DH

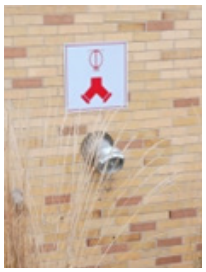
Lakeside DH Annunciator Panel



Exit sign at Lakeside DH


Natural wood accents at Scales. Similar at Waterbury.

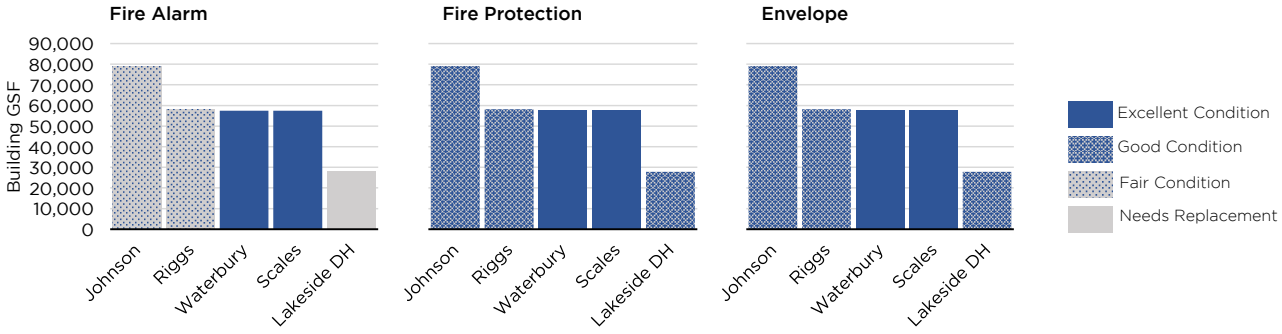

Waterbury fire service valve with tamper switch


5-inch FDC at Scales


Exterior finish, Waterbury and Scales


Ground floor door at Scales

Building Condition Summary



North side of building.
- Scales Hall – Repair broken window sill at first floor student room. Potential of water infiltration.
- Waterbury & Scales – Re-point seat wall caps.

Interior Finishes

Waterbury Hall and Scales Hall are very recently renovated and their interior finishes are in very good condition. Riggs Hall, Johnson Hall, and Lakeside Dining Hall were renovated in the 2000s. They have serviceable interior finishes that are starting to appear dated but do not require comprehensive replacement.

Recommendation:

Upgrade finishes in Johnson and Riggs over time to refresh their appearance, with particular attention given to lounges, lobbies, and kitchens.

Accessibility

All Lakeside Community buildings met code accessibility requirements at the time of their comprehensive renovations. The buildings do not have interior accessibility deficiencies. Outdoors, the buildings have clear, direct, accessible approaches to their main entrances. At their lower levels, however, access to the outdoors varies from building to building. Ramps from patios to the grass surface beyond have irregular surfaces that exceed allowable ADA tolerances.

Recommendations:

- Upgrade patio surfaces and ramps to create accessible outdoor recreation spaces.
- Verify that thresholds between buildings and patios meet accessibility standards.
- Create accessible routes to outdoor recreation and leisure features.


Johnson lounge, main floor


Johnson front desk


Johnson/Lakeside DH lobby

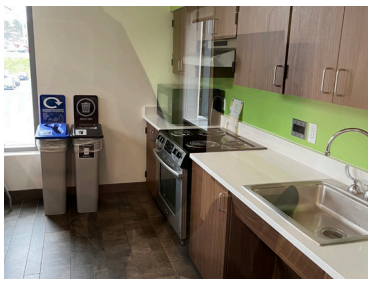

Lakeside DH, ground floor finishes


Riggs ground floor lounge, similar lounges in Johnson


Riggs main lounge


Riggs kitchenette, similar kitchenettes in Johnson


Interior finishes, main Scales lounge. Similar in Waterbury.

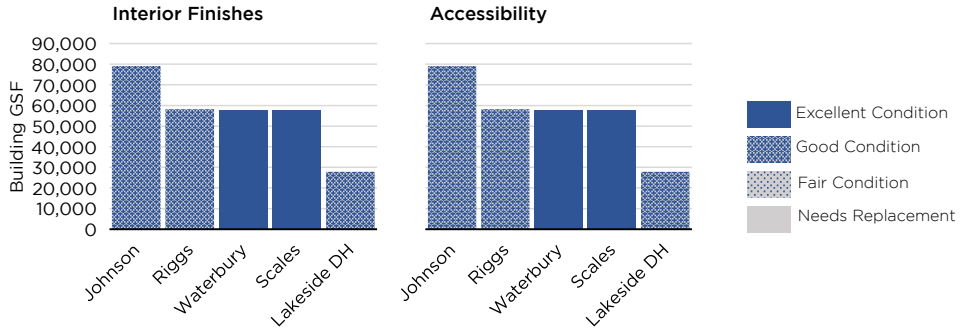

Waterbury kitchenette. Similar in Scales.


Lakeside DH ground floor covered patio lacks accessible path to the lawn.


A ramp to the lawn from Riggs Hall requires repair.


Riggs Hall patio surface requires cleaning. Railings need to be repainted.

Building Condition Summary



Waterbury Hall
Building Condition Assessment

Building Information			
Building Name	Waterbury	Primary Use	Residence Hall
Construction Year	1960	Occupancy Group	R-2 Congregate Living Facility
Major Renovations	2017	Number of Stories	Basement plus 2
		Gross Square Feet	57,464

System Information	
Heating/Cooling Systems	Fin tube radiators (FTR), HV unis, BCU, and VRF system serve bulding heating, cooling and
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	4" incoming domestic water.
Fire Protection Service and Capacity	6" dedicated fire main with three 4" standpipes

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Mechanical Systems						
Air-Handling Systems						
HV-1				■	5	Good condition, 2017 renovation
HV-2				■	5	Good condition, 2017 renovation
BCU-1				■	5	Good condition, 2017 renovation
Distribution Systems/Terminal Units						
AC-1				■	5	Good condition, 2017 renovation
AC-2				■	5	Good condition, 2017 renovation
AC-3				■	5	Good condition, 2017 renovation
AC-4				■	5	Good condition, 2017 renovation
Heating Systems				■	5	Heating systems, pumps, heat exchanger, concensate receiver all 2017 renovation, good condition
Cooling Systems				■	5	VRF system provides cooling to certain spaces, no chilled water system
Exhaust Systems				■	5	Exhaust systems in good condition, 2017 renovation
Building Controls				■	5	Controls DDC actuated with BAS, good condition
Average					**5.0**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 2001
Electrical Distribution			■		4	1200A 120/208V switchboard - installed around 2001; 120/208V panelboards - installed around 2001
Lighting Systems			■		4	Fluorescent fixtures throughout
Tel/Data Systems			■		4	System in good condition
Emergency Power Systems				■	4	100kVA emergency generator; installed around 2015
Average					**4.3**	
Fire Alarm Systems				■	5	system in good condition; upgraded around 2016

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Plumbing Systems						
Domestic Water Service			■		4	4" incoming domestic water, good condition
Domestic Water Distribution				■	5	Distribution renovated in 2017, good condition
Domestic Hot Water Systems				■	5	Hot water systems in good condition
Drainage Systems		■			3	One 6" sanitary line and one 10" storm line
Plumbing Fixtures				■	5	Fixtures from 2017 renovation, good condition
Average					**4.4**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Fire Protection Systems						
Fire Protection Service				■	5	6" dedicated fire service with there 4" standpipes, good condition
Fire Protection Distribution				■	5	6" dedicated fire service with three 4" standpipes, good condition
Fire Pumps						No fire pump
Sprinkler Coverage				■	5	Good sprinkler coverage, upgraded in 2017 renovation
Average					**5.0**	

Scales Hall
Building Condition Assessment

Building Information			
Building Name	Scales	Primary Use	Residence Hall
Construction Year	1961	Occupancy Group	R-2 Congregate Living Facility
Major Renovations	2018	Number of Stories	Basement plus 2
		Gross Square Feet	57,464

System Information	
Heating/Cooling Systems	Fin tube radiators (FTR), HV unis, BCU, and VRF system serve bulding heating, cooling and
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	4" incoming domestic water.
Fire Protection Service and Capacity	8" dedicated fire main with three 6" standpipes

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Mechanical Systems						
Air-Handling Systems						
HV-1				■	5	Good condition, 2017 renovation
HV-2				■	5	Good condition, 2017 renovation
BCU-1				■	5	Good condition, 2017 renovation
Distribution Systems/Terminal Units						
AC-1				■	5	Good condition, 2017 renovation
AC-2				■	5	Good condition, 2017 renovation
AC-3				■	5	Good condition, 2017 renovation
AC-4				■	5	Good condition, 2017 renovation
AC-5				■	5	Good condition, 2017 renovation
AC-6				■	5	Good condition, 2017 renovation
Heating Systems				■	5	Heating systems, pumps, heat exchanger, concensate receiver all 2017 renovation, good condition
Cooling Systems				■	5	VRF system provides cooling to certain spaces, no chilled water system
Exhaust Systems				■	5	Exhaust systems in good condition, 2017 renovation
Building Controls				■	5	Controls DDC actuated with BAS, good condition
Average					**5.0**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Electrical Systems						
Electrical Service			■		4	13.2kV incoming service, installed around 1998
Electrical Distribution			■		4	1200A 120/208V switchboard - installed around 1998; 120/208V panelboards - installed around 1998. Some panels are original and require replacement.
Lighting Systems		■			3	Fluorescent fixtures throughout. When replaced, use LED with occupancy/vacancy sensors and install daylight sensors.
Tel/Data Systems			■		3	System in good condition
Emergency Power Systems				■	5	100kVA emergency generator; installed around 2017
Average					**3.8**	
Fire Alarm Systems				■	5	system in good condition; upgraded around 2017

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Plumbing Systems						
Domestic Water Service		■			3	4" incoming domestic water, incoming original
Domestic Water Distribution				■	5	Distribution renovated in 2017, good condition
Domestic Hot Water Systems				■	5	Hot water systems in good condition
Drainage Systems		■			3	One 6" sanitary line and two 8" storm lines
Plumbing Fixtures				■	5	Fixtures from 2017 renovation, good condition
Average					**4.2**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Fire Protection Systems						
Fire Protection Service				■	5	6" dedicated fire service with two 4" standpipes, good condition
Fire Protection Distribution				■	5	6" dedicated fire service with two 4" standpipes, good condition
Fire Pumps				■	5	1000 gpm split case pump, good condition
Sprinkler Coverage				■	5	Good sprinkler coverage, upgraded in 2018 renovation
Average					**5.0**	

Johnson Hall
Building Condition Assessment

Building Information				
Building Name	Johnson	Primary Use		Residence Hall
Construction Year	1958	Occupancy Group		R-2 Congregate Living Facility
Major Renovations	2005	Number of Stories		Basement plus 4
		Gross Square Feet		79,097

System Information	
Heating/Cooling Systems	Unit ventilators in residence rooms, AHUs and MUAs serve common areas and corridors, Cooling system from Lakeside.
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	4" incoming domestic water.
Fire Protection Service and Capacity	6" fire main with fire pump and three 4" standpipes

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Mechanical Systems						
Air-Handling Systems						
AHU-1			■		5	AHU-1 functional, in good condition. Less than 10 years old
MUA-1			■		5	MUA-1 functional, in good condition. Less than 10 years old
MUA-2			■		5	MUA-2 functional, in good condition. Less than 10 years old
Distribution Systems/Terminal Units						
UVs			■		5	Unit ventilators functional, good condition, less than 20 years old
FCUs			■		5	Fan coil units functional, good condition
Heating Systems				■	5	Heating pumps, heat exchanger, and condensate receiver in good condition, less than 10 years old.
Cooling Systems				■	5	Cooling system in good condition, CT, chillers, and pumps less than 20 years old.
Exhaust Systems			■		4	Moderate condition.
Building Controls				■	4	Mixed pneumatic and DDC with BAS. Mixed conditions.
Average					**4.8**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 2002
Electrical Distribution				■	5	1200A 120/208V switchboard - installed around 2002; 120/208V panelboards - installed around 2002
Lighting Systems			■		4	Fluorescent fixtures throughout
Tel/Data Systems			■		3	System in good condition
Emergency Power Systems			■		4	200kVA emergency generator; installed around 2003
Average					**4.2**	
Fire Alarm Systems		■			3	System in okay condition; upgraded around 1999

Building Component	Remaining Life				Condition 1=Worst 5=Best	
	0-5	5-10	10-20	20+		
Plumbing Systems						
Domestic Water Service			■		5	4" incoming domestic water, good condition
Domestic Water Distribution			■		4	Distribution in good condition
Domestic Hot Water Systems				■	5	Steam to hot water converter tank, auxilliary water heater in good condition
Drainage Systems			■		4	One 6" sanitary, fair condition
Plumbing Fixtures			■		5	Fixtures in good condition
Average					**4.6**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	
	0-5	5-10	10-20	20+		
Fire Protection Systems						
Fire Protection Service				■	4	6" Fire main with three 4" standpipes, good condition
Fire Protection Distribution				■	4	6" Fire main with three 4" standpipes, good condition
Fire Pumps				■	4	1000 gpm, horizontal, split case fire pump, good condition
Sprinkler Coverage				■	4	Good sprinkler coverage, not fully sprinklered
Average					**4.0**	

Riggs Hall
Building Condition Assessment

Building Information			
Building Name	Riggs	Primary Use	Residence Hall
Construction Year	1960	Occupancy Group	R-2 Congregate Living Facility
Major Renovations	2007	Number of Stories	Basement plus 3
		Gross Square Feet	58,201

System Information	
Heating/Cooling Systems	Valence units in residence rooms, AHUs and FCUs serve common areas and corridors, Cooling system from Lakeside.
Fuel Source	High pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	8" combined fire and domestic line splits into 4" fire suppy and 4" domestic.
Fire Protection Service and Capacity	8" combined fire and domestic line splits into 4" fire suppy with three 4" standpipes.

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Mechanical Systems						
Air-Handling Systems						
AHU-R-1			■		5	AHU-R-1 functional, in good condition. Less than 20 years old
AHU-R-2			■		5	AHU-R-2 functional, in good condition. Less than 20 years old
FCUs			■		5	FCUs functional, good condition, less than 20 years old
Distribution Systems/Terminal Units						
Valence Units			■		5	Valence units functional, good condition, less than 20 years old
Heating Systems				■	5	Heating pumps, heat exchanger, and condensate receiver in good condition, less than 20 years old.
Cooling Systems				■	5	Cooling system in good condition, CT, chillers, and pumps less than 20 years old.
Exhaust Systems			■		4	Good condition.
Building Controls				■	3	Mixed pneumatic and DDC with BAS. Mixed conditions.
Average					**4.6**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 2000
Electrical Distribution			■		4	1200A 120/208V switchboard - installed around 2000; 120/208V panelboards - installed around 2000. Replace remaining original panel boards.
Lighting Systems			■		4	Fluorescent fixtures throughout. Upgrade to LED, provide occupancy sensors and daylight sensors
Tel/Data Systems			■		3	System in good condition
Emergency Power Systems				■	5	100kVA emergency generator; installed around 2006
Average					**4.2**	
Fire Alarm Systems				■	5	system in good condition; upgraded around 2003

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Plumbing Systems						
Domestic Water Service			■		5	4" incoming domestic water from 8" combined fire and water, good condition
Domestic Water Distribution			■		4	Distribution in good condition
Domestic Hot Water Systems				■	5	Steam to hot water converter tank, auxilliary water heater in good condition
Drainage Systems			■		4	One 6" cast iron sanitary, no storm line, fair condition
Plumbing Fixtures			■		5	Fixtures in good condition
Average					**4.6**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Fire Protection Systems						
Fire Protection Service				■	5	8" Fire-water main splits into 4" fire supply with three 4" standpipes, good condition
Fire Protection Distribution				■	5	8" Fire-water main splits into 4" fire supply with three 4" standpipes, good condition
Fire Pumps						No fire pump
Sprinkler Coverage				■	3	Good sprinkler coverage, not fully sprinklered
Average					**4.3**	

Lakeside Dining Hall
Building Condition Assessment

Building Information			
Building Name	Lakeside	Primary Use	Dining Hall
Construction Year	1959	Occupancy Group	A-2 Dining Facility
Major Renovations	2007	Number of Stories	Basement plus 1
		Gross Square Feet	27,870

System Information	
Heating/Cooling Systems	FCUs, AHUs and MUAs serve cafeteria, common areas and corridors, Cooling system serves this
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	6" combined fire and domestic line splits into 4" fire suppy and 4" domestic.
Fire Protection Service and Capacity	6" combined fire and domestic line splits into 4" fire suppy and 4" domestic.

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Mechanical Systems						
Air-Handling Systems						
AHU-1			■		5	AHU-1 functional, in good condition. Less than 10 years old
MUA-1			■		5	MUA-1 functional, in good condition. Less than 10 years old
Distribution Systems/Terminal Units						
FCUs			■		5	FCUs functional, good condition, less than 20 years old
Heating Systems				■	5	Heating pumps, heat exchanger, and condensate receiver in good condition, less than 10 years old.
Cooling Systems				■	5	Cooling system in good condition, CT, chillers, and pumps less than 20 years old.
Exhaust Systems			■		5	Good condition.
Building Controls				■	3	Mixed pneumatic and DDC with BAS. Mixed conditions.
Average					**4.7**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 2000
Electrical Distribution	■				1	1200A 120/208V switchboard - installed around 2000; 120/208V panelboards - installed around 2000. Replace remaining original panels.
Lighting Systems	■				1	Fluorescent fixtures throughout. Replace with LED. Improve dining hall lighting.
Tel/Data Systems		■			2	System in good condition
Emergency Power Systems					2	None Available
Average					**2.2**	
Fire Alarm Systems	■				2	System in okay condition; upgraded around 1999. Anticipate replacement of annunciator panel, exit signs, and FACP in the next decade when they reach end of useful life.

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Plumbing Systems						
Domestic Water Service			■		5	4" incoming domestic water, good condition
Domestic Water Distribution			■		4	Distribution in good condition
Domestic Hot Water Systems				■	5	Steam to hot water converter tank, auxilliary water heater in good condition
Drainage Systems			■		4	One 5" sanitary, one 4" sewer, fair condition
Plumbing Fixtures			■		5	Fixtures in good condition
Average					**4.6**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst	System Summary
Fire Protection Systems						
Fire Protection Service				■	5	6" Fire-water main splits into 4" fire supply, good condition
Fire Protection Distribution				■	5	6" Fire-water main splits into 4" fire supply, good condition
Fire Pumps						No fire pump
Sprinkler Coverage				■	4	Good sprinkler coverage, not fully sprinklered
Average					**4.7**	

Lakeside Residence Halls and Lakeside Dining Hall

EXISTING CONDITIONS

Johnson Hall

Heating Plant

Summary

The existing heating system in Johnson Hall is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the ground level mechanical room and is reduced to low pressure by two pressure reducing stations with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger to provide hot water to the building fan coil units, unit ventilators, air handlers and unit heaters. Hot water (HW) is pumped to the building HVAC by four pumps. Steam condensate goes to a condensate receiver unit which pumps condensate back to the central heating plant.

The heat exchanger was installed in 2006 and is in fair condition. The condensate receiver unit was likely installed around the same time and in good condition.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves in parallel, located within the ground level mechanical room.
- A shell and tube heat exchanger (2006) provides hot water to fan coil units (FCU), heating and ventilating units (HV), and unit heaters.
- (P-1, P-2) 15HP base mounted, centrifugal hot water pumps circulate hot water to building heating equipment. Good condition, pump motor controlled by VFD, less than 20 years old.
    - 140F supply temperature
- A separate shell and tube heat exchanger serves HW for the resident director apartment suite.
    - Two inline HW pumps on lead/standby (P-3, P-4)
- Duplex condensate receiver unit.

Facilities Maintenance Planned

- Heating system seasonal startup

Additional Maintenance Recommendations

- The heat exchanger, pumps, and duplex condensate receiver were installed somewhat recently and are in good condition. Preventative maintenance should be considered.

System Recommendations

- Replace major heating equipment, heat exchangers, pumps, condensate receiver.

Picture 1: Pressure Reducing Valve Station	Picture 2: Hot Water Pump	Picture 3: HW Pump VFD
		
Picture 4: Heat Exchanger		
		

HVAC System

Summary

Fan coil units recirculate air in the student dorms to provide heating and cooling. Unit ventilators provide heating, cooling, and outside air (OA) to the common areas they serve. Two MUAs are located in the attic space and provide 100% OA to the north and east wing corridors. One air handling unit (AHU) is located in the crawl space and provides heating, cooling, and ventilation to the main lobby. The MUAs and AHU were installed in 2005 and are in good condition. The building exhaust fans are in a similar condition. Both airside systems should continue to be used.

Equipment

- Fan Coil Units (FCU) (2001) serving student rooms.
- Unit Ventilators (UV) (2001) serving lounges and offices.
- AHU-1 (2005) serves the lobby. It uses HW heating coil and CHW cooling coil with DDC controls.
- MUA-1 and MUA-2 (2005) are 100% OA units with face and bypass dampers. They use steam heating coils and CHW cooling coils. MUAs serve the corridors.
- 14 exhaust fans with constant speed motors serve building exhaust including bathrooms, storage closets, mechanical rooms, attic, and elevators.

Facilities Maintenance Planned

- none

Additional Maintenance Recommendations

- Airside systems were installed in 2001 and 2005 and are in good condition. Perform preventative maintenance.

System Recommendations

- Replace chilled water coils.
- No replacement of major recommended at this time.

Picture 5: Main Lobby

Chilled Water System

Summary

Johnson Hall works with the Lakeside chilled water systems to provide CHW to the fan coil units, unit ventilators, AHU, and makeup air units. Two water-cooled, screw chillers located in the Lakeside basement mechanical room work with a cooling tower on the roof. Condenser water and primary chilled water pumps are located in the Lakeside basement mechanical room. Secondary chilled water pumps are located in the Johnson ground level mechanical room. The chillers, cooling tower, associated pumps and piping were installed in approximately 2006, and are in good condition and suitable for continued use.

Equipment

- Two 355 ton chillers in Lakeside DH mechanical room provide CHW to Lakeside, Johnson, and Riggs.
- Chillers work with Cooling Tower on Lakeside Roof
- CHW pumps CHWP-1 and CHWP-2 work on lead/standby on a secondary loop serving Johnson Hall. CHW pumps have VFDs for motor control based on differential pressure.
- AHU-1, FCUs, and UVs provide cooling to Johnson Hall using CHW.

Facilities Maintenance Planned

- Chilled water coils
- Seasonal Transitions – Draining Chilled Water Systems
- Apartment chilled coil replacement

Additional Maintenance Recommendations

- Preventative maintenance on AHU, FCUs and UVs, CHW pumps and associated equipment.

System Recommendations

- No replacement recommended at this point in time.

Picture 6: CHWP-2 VFD	Picture 7: Air Compressors
	

Control Systems

Summary

The existing temperature control system is partial electronically actuated and partially pneumatically actuated for both heating and cooling equipment. All equipment connects to a Carrier BAS system. Actuators for all equipment should be upgraded and all equipment should be connected to the building automation system (BAS) if not already.

Equipment

- Carrier BAS
- VFDs for HW and CHW pumps
- Air compressor for pneumatic actuators

Facilities Maintenance Planned

- none

Additional Maintenance Recommendations

- none

System Recommendations

- Implement chilled water supply temperature reset.
- Implement Demand Control Ventilation
- Implement pump differential pressure reset controls.
- Install occupancy-based hvac controls.
- Replace pneumatic actuators with electronic controls.
- Retro-commissioning of HVAC systems and Controls
- Setback equipment during academic breaks

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loops. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room was installed around 2002 and is still in good condition. There is a 4000A 120/208V 3 phase 4 wire Cutler Hammer switchboard that was also installed around 2002 and located inside the electrical room that is in good condition. The majority of the Cutler Hammer (120/208V 3 phase 4 wire) panelboards are in good condition.

Emergency Power is supplied by a 200kVA 120/208V 3 phase emergency generator installed in 2003 which is located inside this building and is in good condition.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (4000A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (200kVA)

Facilities Maintenance Planned

- none

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- none

Picture 8: (Switchgear):	Picture 9: (Cutler Hammer Panelboard):	Picture 10: (Switchboard):
		

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 1999. The Fire Alarm Control Panel (Simplex 4100-U) contains battery backup and all of the Fire Alarm equipment connected to this system is in good and operable condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

- none

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- none

Picture 11: Fire Alarm Control Panel	Picture 12: Exit Sign
	

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in good condition and provided adequate light levels throughout the facility.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Replace all interior fluorescent lights with LED lighting.
- Replace all exterior lights with LED lighting.
- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Fire Protection

Summary

Johnson Hall was not sprinklered when originally constructed. However, the building had gone through a major renovation in 2001 where a completely new sprinkler system with standpipes and a new fire pump were added.

The current fire protection system is fed from a 6" fire water service equipped with a double check valve backflow preventer assembly (ASSE-1015) with an inlet y-strainer. The supply line then passes through a horizontal split case pad mounted electric fire pump. The fire pump is rated at 1,000 gpm at 80 psi boost pressure with a 60 hp motor.

The fire water distribution system consists of two 4" Class 1 standpipe systems located at two stairways at the west end and at the north end of the building. These standpipes are equipped with 2-1/2" fire hose valves at each landing. The third 4" standpipe is a combination of standpipe and sprinkler supply system and is centrally located in the stairway at the south center of the building. This standpipe is also equipped with 2-1/2" fire hose valve at each landing and fire sprinkler zone control valve assemblies.

The sprinkler protection extends throughout the building and includes the basement areas, all four floor levels with student dorm rooms, and full protection of the attic level with a dry sprinkler system.

Equipment

- A 60 hp base-mounted fire pump, 1000 gpm @ 80 ft. head.
- Fire pump controller.
- 6" double check valve backflow preventer assembly.

Facilities Maintenance Planned

- none

Additional Maintenance Recommendations

- Annual testing of the fire pump system by a licensed fire protection company
- Annual testing of the 6" double check valve backflow preventer assembly by a licensed plumber.

System Recommendations

- No replacement recommended.

Picture 13: 6" Fire Main	Picture 14: Check Valve
	

Plumbing

Summary

Johnson Hall was originally built in 1955. However, the building had gone through a major renovation in 2001 where it was totally gut renovated and fitted with all new plumbing fixtures and systems.

The basement houses the laundry room, recreation room, storage spaces, and utility service rooms. The first floor houses the student lounge, Lobby, Director, and other specialty living spaces, a few student dorm rooms and other administrative spaces. Floors two through four house student dorm rooms, bathrooms, and showers. There is an unoccupied but fully sprinklered attic.

The building has a metal peak roof with gutters along the edge and interior drainage rain leader. The storm drainage system collected under the basement slab and then routed outside the building where it discharges to the lake shoreside. This system was upgraded in 2001 and is comprised of new piping within the building.

The building sanitary is comprised of one 6" cast iron sanitary sewer line that exits the building from the south side to connect to the sanitary main outside the building. The sanitary line exiting the building is equipped with a new (2001) house-trap located in a pit at the basement level.

The domestic water is provided via a 4" water supply that was installed under the 2001 renovation. The service pipe inside the building is equipped with a 4" reduced pressure zone (RPZ) backflow preventer (ASSE-1013) with an inlet strainer. No booster pump is provided for this building and city water pressure is used to provide water to the fourth floor bathrooms and showers. Due to high city supply pressure, a pair of pressure reducing valves, set at 65 psi each, are installed on the incoming water supply system.

The domestic hot water (DHW) is provided by one semi-instantaneous steam-fired hot water generator located in the basement level. The system has a 770 gallon storage capacity. The domestic hot water heater services building bathrooms, sinks, showers, bathtubs, and kitchenettes. The system is equipped with one hot water recirculation pump for maintaining the hot water temperature throughput the distribution system.

Two smaller electric water heaters, 40 gallons each, with a 4.5 kW electric heater, are provided for the two first floor staff apartments. Each of these two systems is equipped with one 1/12 hp circulating hot water recirculation for maintaining the hot water temperature.

One small duplex sump pump was added in 2021 renovation to receive the condensate discharge from the AC fan coil units. The sump pump is a duplex with two 1/2 hp submersible pumps rated at 45 gpm and 15 ft. head. The sump basin is a 3' diameter and 4' deep fiberglass basin.

The plumbing fixtures throughout are relatively new and were installed in 2001 renovation and are in good working condition. These are comprised of wall mounted toilets with flush valves, wall mounted urinals with flush valves, wall mounted lavatories with hot and cold water faucets, and standing shower bays with anti-scald shower valves.

Equipment

- Domestic hot water steam bundle storage tank.
- Inline hot water recirculation pump.
- Two 40 gallon, electric water heaters serving staff apartments.

Facilities Maintenance Planned

- Shower stalls being replaced over several years.
- Bottle fill stations

Additional Maintenance Recommendations

- Annual preventative maintenance and inspection on the domestic HW tank and steam heat exchanger.

System Recommendations

- Replace DHW tank.
- Install Low-Flow or Ultra Low-Flow showerheads.
- Install building-level gas submeter.

Picture 15: Domestic HW Tank

FACILITIES MAINTENANCE RECOMMENDATIONS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 5-10 year:

- Replace Fire Alarm.

Proposed work for 10-20 year:

- Replace generator.
- Replace panelboards.
- Replace telephone/data systems.
- Replace domestic water service, and HW tank.
- Implement the proposed plumbing water conserving measures and install low flow fixtures.
- Replace unit ventilators and FCUs.

Proposed work for 20+ year:

- Replace air handling units. Implement DCV.
- Replace fire protection system.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace major cooling system equipment.

Riggs Hall

Heating Plant

Summary

The existing heating system in Riggs Hall (DH) is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the ground level mechanical room and is reduced to low pressure by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger (HX-R-1) to provide hot water (HW) to the building valence units serving student dorms. A plate and frame heat exchanger (HX-R-2) provides glycol hot water to fan coil units (FCU) and air handlers (AHU). Hot water (HW) is pumped to the building HVAC by four HW pumps. Two HW pumps serve the HX-R-1 HW system, and two pumps serve the glycol HW system. Steam condensate goes to a condensate receiver unit which pumps condensate back to the central heating plant.

Heating equipment was installed in 2005 and is in good condition.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves, located within the ground level mechanical room.
- HX-R-1, a shell and tube heat exchanger provides hot water to valence units.
- (HWP-R-1, HWP-R-2) are 15 HP base mounted, centrifugal hot water pumps which operate in lead/standby to circulate hot water to valence units. Good condition, pump motor controlled by VFD.
- HX-R-2, a plate and frame, hot water to hot glycol converter generates hot glycol for FCUs and AHUs.
- GP-R-1 and GP-R-2 are 5 HP, base mounted, centrifugal pumps which operate in lead/standby to circulate hot glycol to FCUs and AHUs. Good condition, pump motor controlled by VFD.
- Duplex condensate receiver unit.

Facilities Maintenance Planned

- Heating system seasonal startup

Additional Maintenance Recommendations

- The heat exchanger, HW pumps, and duplex condensate receiver were installed recently and are in good condition. Preventative maintenance should be considered.

System Recommendations

- Replace major heating equipment, heat exchangers, pumps, condensate receiver.
- Install building-level steam submeter.

Picture 1: Pressure Reducing Valve Station	Picture 2: HWP-R-1 and HWP-R-2	Picture 3: Glycol Pumps
		

Picture 4: Plate and Frame HXGR


HVAC System

Summary

Five ducted fan coil units (FC-1 through FC-5) located in the ground level mechanical room serve the crawlspace, Director's apartment, laundry room, corridors, and mechanical room spaces. Two air handling units (AHU-R-1 and AHU-R-2) serve the community spaces and toilet makeup air respectively. Variable air volume (VAV) boxes with HW reheat coils serve the common areas. Valence units provide heating and cooling to dorms and common spaces. All airside systems were installed in 2006 and are in good condition. The building exhaust fans are in a similar condition.

Equipment

- AHU-R-1 (2006) provides heating and cooling to community spaces. It uses HW heating coil and chilled water (CHW) cooling coil with VFDs for supply fan and return fan motor control.
- AHU-R-2 (2006) provides makeup air for toilet exhaust. It uses a crossflow energy recovery system with HW heating coil and chilled water (CHW) cooling coil. There are VFDs for supply fan and return fan motor control.
- 5 FCUs serve the basement level spaces. FCU-1 is heating only, FCU-2 through FCU-5 use both HW heating and CHW cooling coils.
    - FCU-R-2 serves the Director's apartment. Fan controlled by VFD.
    - FCU-R-4 serves the corridor.
- VAV boxes use HW reheat coils to control temperature in common areas.
- Valence units provide heating and cooling to student dorms.

Facilities Maintenance Planned

- Chilled water coils

Additional Maintenance Recommendations

- Airside systems were installed in 2006 and are in good condition. Perform preventative maintenance.

System Recommendations

- Replace cooling coils (and controls where needed)
- No major equipment replacement necessary.

Picture 5: FCU-R-1

Chilled Water System

Summary

The Lakeside Dining Hall chilled water systems provides CHW to the fan coil units, unit ventilators, AHUs, and makeup air units in Riggs, Johnson, and Lakeside. Two water-cooled, screw chillers located in the Lakeside basement mechanical room work with a cooling tower on the roof. Condenser water and primary chilled water pumps are located in the Lakeside basement mechanical room. Secondary pumps for Riggs are located in the Riggs ground level mechanical room. The chillers, cooling tower, associated pumps and piping were installed in approximately 2006, and are in good condition and suitable for continued use.

Equipment

- Two 355 ton screw chillers (2006) in Lakeside DH mechanical room provide CHW to Lakeside, Johnson, and Riggs.
- Chillers work with Cooling Tower (2006) on Lakeside Roof. Cooling tower motor controlled by VFD.
- CHW pumps PCWP-1 and PCWP-2 are inline centrifugal pumps with 10HP motors. They work on lead/standby serving primary loop for Lakeside DH. CHW pumps have VFDs for motor control based on differential pressure.
- CHW pumps CHWP-1 and CHWP-2 are inline, centrifugal pumps with 7.5 HP motors. They serve the secondary loop which provides CHW to Riggs. CHWP-1 and CHWP-2 have VFDs to control motor speed.
- 3 condenser water pumps in Lakeside basement. Base mounted, centrifugal pumps operate in lead/standby with constant speed, 15HP motors.

Facilities Maintenance Planned

- Seasonal Transitions – Draining Chilled Water Systems

Additional Maintenance Recommendations

- Preventative maintenance on Chillers, Cooling Tower, CHW pumps and associated equipment.

System Recommendations

- No replacement recommended at this point in time.

Picture 6: Secondary CHW Pumps (CHWP-1 and CHWP-2)	Picture 7: Air Compressor
	

Control Systems

Summary

The existing temperature control system is partial electronically actuated and partially pneumatically actuated for both heating and cooling equipment. The two DDC control systems that exist at this building are the Carrier BAS and Trane Trace system. Actuators for all equipment should be upgraded and all equipment should be connected to the building automation system (BAS) if not already.

Equipment

- Carrier BAS i-Vu® 8.0 and Trane Tracer® Ensemble BAS used for monitoring, direct digital control (DDC), and Energy management of HVAC systems.
- VFDs for HW and CHW pumps
- Air compressor for pneumatic actuators

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- N/A

System Recommendations

- Implement chilled water supply temperature reset.
- Implement duct static pressure reset controls.
- Implement pump differential pressure reset controls.
- Install occupancy-based hvac controls.
- Replace pneumatic actuators with electronic controls.
- Retro-commissioning of HVAC systems and Controls
- Setback equipment during academic breaks.

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loops. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room that was installed around 2000 and is still in good condition. There is a 1200A 120/208V 3 phase 4 wire Cutler Hammer switchboard installed around 2006 which is in good condition and located inside the electrical room. The majority of the Cutler Hammer (120/208V 3 phase 4 wire) electrical panelboards were installed in 2006 and are in good condition.

Emergency Power is supplied by a 100kVA 120/208V 3 phase Olympian emergency generator installed in 2006 which is located inside this building and is in very good condition.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1200A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (100kVA)

Facilities Maintenance Planned

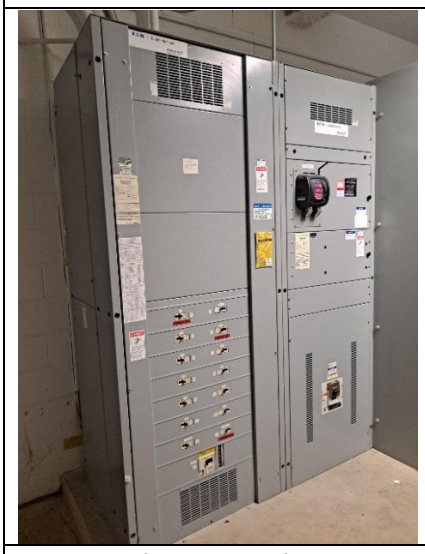
- N/A

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- Panelboards

Picture 8: (Switchboard):	Picture 9: (Panelboard):	Picture 10: (Switchgear):
		
Picture 11: (Switchboard):	Picture 12: (Emergency Generator):	
		

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 2003. The Fire Alarm Control Panel (Simplex 4100-U) contains battery backup and all of the Fire Alarm equipment connected to this system is in okay condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

- N/A

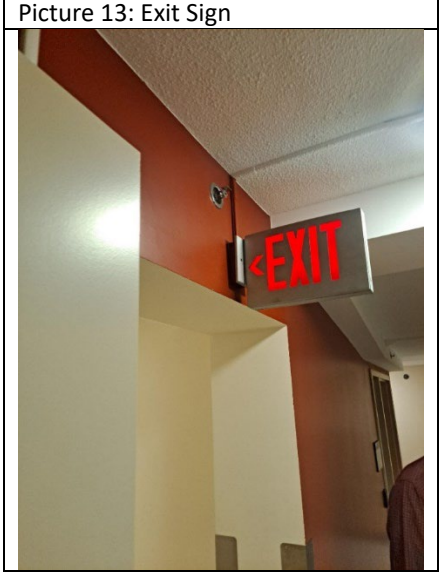
Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- N/A

Picture 13: Exit Sign



Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in good condition as majority of the light fixtures provided adequate lighting levels.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Replace all interior fluorescent lights with LED lighting.
- Replace all exterior lights with LED lighting.
- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Picture 14: Light Fixture

Fire Protection

Summary

The Riggs Hall was initially constructed in 1958. The original installation did not include sprinkler system. However, the building had gone through a major renovation in 2005 where a completely new sprinkler system with standpipes was added.

The current fire protection system is fed from an 8" combined domestic and fire water service that enters the building from the south side. After the split, a 6" fire water service is extended and provided with a 6" double detector check valve backflow preventer assembly.

The fire water distribution system consists of three 4" standpipe systems. Two of the three are combination standpipes, located at two stairways at the west end and the north end, supply fire water to the sprinkler system via sprinkler zone valves located at each floor landing. On all floors, the west wing sprinklers at each floor are fed from the sprinkler zone valve assembly connected to the west standpipe and the north wing sprinklers at each floor are fed from the zone valve assembly connected to the north standpipe system.

The third standpipe is located at the center area where the two north and west wings meet and is equipped with 2-1/2" fire hose valves at each landing. No sprinklers are connected to the third standpipe.

Attic is fed with only one sprinkler at the attic entry and the line is equipped with a flow switch monitored by the fire alarm system.

Equipment

- 6" double detector check valve backflow preventer assembly.

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Annual testing of the 6" double detector check valve backflow preventer assembly by a licensed plumber.

System Recommendations

- No replacement recommended.

Picture 15: 6" Fire Main	Picture 16: Check Valve
	

Plumbing

Summary

The Riggs Hall was originally built in 1958. However, the building had gone through a major renovation in 2005 where it was totally gut renovated and fitted with all new plumbing fixtures and systems.

The basement floor (ground floor) houses the laundry room, recreation room, storage spaces, utility service rooms and dorm rooms. Floors 1 through 3 student dorm rooms, bathrooms, and showers. There is an unoccupied and unprotected attic and crawl space.

The storm system is not collected. The high roof of the building has a metal pitched roof and the edge of the roof extends 30" beyond the building perimeter walls. The water from the roof is vertically drained to a perimeter ditch and flows away from the building via landscaping features.

The water from the pitched part of the low roof of the building storm runoff is also allowed to drip off the roof. There is a small flat roof area where roof drains are provided, and an interior rain leader is used to carry the storm runoff via a 3" line to the rear of the building toward the northeast manhole.

The building sanitary is comprised of one 6" cast iron sanitary sewer line that exits the building from the south side to connect to the sanitary main outside the building. The sanitary line exiting the building is equipped with a house-trap located in a pit at the basement level.

A new sump pump was installed for the elevator pit in 2005 renovation. The pump has a 1/2 hp motor and is equipped with an oil minder controller.

A second 1/3 hp submersible sump pump, was installed in the mechanical room, with a 30" diameter x 36" deep basin, was installed during the 2005 renovation, to handle the condensate drain from the hvac system air handlers throughout.

The domestic water is provided via a 4" water supply branch from an incoming 8" combined domestic and fire service, installed under the 2005 renovation. Although the 2005 design drawings called for two, the service pipe inside the building is equipped with only one 4" reduced pressure zone (RPZ) backflow preventer assembly (ASSE-1013) with an inlet strainer. No booster pump is provided for this building and city water pressure is used to provide water to the top floor bathrooms and showers.

The domestic hot water (DHW) is provided by one tank type semi-instantaneous steam-fired hot water generator located in the basement level. The system has a 770 gallon storage capacity and capable of heating 540 gallons per hour to 100˚F temperature rise. Two new fractional horsepower hot water circulators are provided to control the hot water temperature throughout the building. DHW services building bathrooms, sinks, showers, bathtubs, laundry and kitchenettes.

An electric water heater, 30 gallons with two non-simultaneous 4.5 kW electric heaters, is provided for the director's apartment.

The plumbing fixtures throughout are very new and were installed in 2005 renovation and are in good working condition. These are comprised of wall mounted toilets with flush valves, wall mounted urinals with flush valves, wall mounted lavatories with hot and cold water faucets, and standing shower bays with anti-scald shower valves.

Equipment

- Domestic hot water steam bundle storage tank, electronically actuated steam valves.
- One 4" reduced pressure zone backflow preventer assembly
- Two Inline centrifugal pumps, fractional horsepower.

- Electric Water Heater, 30 gallons
- Inline lint interceptor serving laundry drain.
- Elevator pit sump pump with oil-minder controller.
- Mechanical room submersible sump pump, 1/3 hp

Facilities Maintenance Planned

- Bottle fill stations

Additional Maintenance Recommendations

- Annual inspection and preventative maintenance on domestic HW tank and steam heat exchanger.
- Annual inspection and testing of the 4" reduced backflow preventer assembly.
- Annual inspection and cleaning of the lint interceptor.

System Recommendations

- Provide a 4" reduced backflow preventer assembly.
- Install Low-Flow or Ultra Low-Flow Showerheads.

Picture 17: Domestic HW Tank	Picture 18: Incoming Domestic and Fire BFP
	

FACILITIES MAINTENANCE RECOMMENDATIONS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 5-10 year:

- Implement the proposed plumbing water conserving measures and install low flow fixtures.

Proposed work for 10-20 year:

- Replace generator.
- Replace domestic water service, and HW tank.
- Replace AHUs, Valence units and FCUs. Implement DCV
- Replace telephone/data systems.
- Replace panelboards.

Proposed work for 20+ year:

- Replace Fire Alarm.
- Replace fire protection system.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace major cooling system equipment.

EXISTING CONDITIONS

Scales Hall

Heating Plant

Summary

The existing heating system in Scales Hall is served by a high pressure steam line from the central heating plant in Lee Hall. The high pressure steam enters the basement level mechanical room and is reduced to low pressure by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger (HX-1) to provide hot water (HW) to the fin tube radiation (FTR) serving the student dorms. A plate and frame, hot water to glycol converter (HX-2) provides hot glycol to heating and ventilating units (HV) and one blower coil unit (BCU). Hot water (HW) is pumped to the building HVAC by two HW pumps. Hot glycol is pumped to the HV and BCU units by two separate pumps. Steam condensate goes to a duplex condensate receiver unit which pumps condensate back to the central heating plant.

All heating equipment was installed in a 2017 renovation and is in good condition.

Equipment

- High pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves, located within the basement level mechanical room.
- HX-1, a shell and tube heat exchanger provides hot water to fin tube radiation. 6 zone valves are electronically actuated ton control supply to the 6 distribution zones.
    - HW supply temperature reset based on outside air (OA) temperature.
        - 170F at 0F OA
        - 110F at 60F OA
- (HWPP-1, HWPP-2) are 5 HP base mounted, centrifugal hot water pumps which operate in lead/standby for the primary hot water loop. Good condition, pump motor controlled by VFDs.
- (HWP-1 through HWP-6) are 6 secondary pumps ranging from 1/6 HP to 1.5 HP in size. They are inline, centrifugal hot water pumps which control supply to each zone in the secondary hot water loops. Good condition, pump motors controlled by VFDs.
- HX-2, a plate and frame, hot water to hot glycol converter generates hot glycol for HVs and BCU.
    - Hot Glycol supply temperature reset based on OA temperature.
        - 180F at 0F OA
        - 115F at 50F OA

- GHWP-1 and GHWP-2 are 3 HP, inline, centrifugal pumps which operate in lead/standby to circulate hot glycol to HVs and BCU. Good condition, pump motors controlled by VFDs.
- Duplex condensate receiver unit.

Facilities Maintenance Planned

- Heating system seasonal startup

Additional Maintenance Recommendations

- The heat exchanger, HW pumps, and duplex condensate receiver were installed recently and are in good condition. Preventative maintenance should be considered.

System Recommendations

- No replacement recommended at this time.

Picture 1: Primary and Secondary HW Pumps	Picture 2: Glycol Pumps	Picture 3: Shell and Tube Hot Water Converter
		
Picture 4: Plate and Frame Heat Exchanger		
		

HVAC System

Summary

Scales Hall HVAC is served by a combination of fin tube radiation (FTR), HV units, one BCU, and a VRF system with six air conditioners. The FTR system provides heating to the student dorms. Ventilation in the student dorms is provided by operable windows. The HV units serve common areas including the first floor lounge, corridors, and lobbies. The BCU provides makeup air to the laundry room. And the six VRF ACs serve the director's and assistant director's apartments, meeting room, mechanical rooms, and data closets. Exhaust is provided by 11 exhaust fans with constant speed motors for the bathrooms, janitor closets, mechanical rooms, and corridors. All equipment was installed in the 2017 renovation and is in good condition.

Equipment

- HV-1 provides heating and ventilation to the 1st floor lounge. It uses HW-glycol heating coil and is a single zone, variable air volume (VAV) unit. Both supply and return fans are controlled with VFDs. The lounge space has CO2 sensor for demand control ventilation (DCV).
- HV-2 provides heating and ventilation to the lobbies and corridors. It is a 100% OA unit that uses HW-glycol heating coil with two way, electronic control valve. The supply fan motor is controlled with VFD.
- One blower coil unit (BCU-1) provides makeup air to the laundry room. It is a 100% OA unit with HW-glycol heating coil with two way, electronic control valve. The supply fan is constant speed and interlocked with the laundry exhaust fan.
- VRF system with 6 AC units (AC-1 through AC-6) serves various building spaces.
    - AC-1 serves the ground floor data closet.
    - AC-2 serves the mechanical room.
    - AC-3 serves the 2nd floor data closet.
    - AC-4 serves the director's apartment.
    - AC-5 serves the assistant director's apartment.
    - AC-6 serves the meeting room.
    - 3 air cooled VRF heat pump units are located on the roof.
- FTRs serve the student dorms heating. Operable windows provide ventilation.
- 11 exhaust fans with constant speed motors serve building exhaust.

Facilities Maintenance Planned

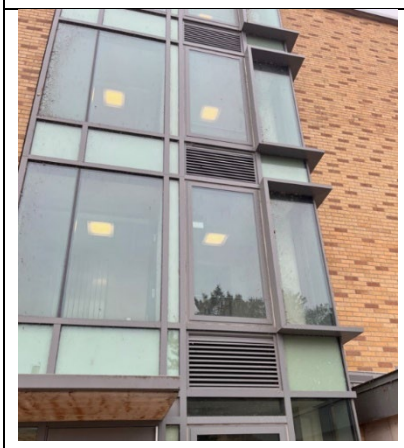
- None

Additional Maintenance Recommendations

- Airside systems were installed in 2017 and are in good condition. Perform preventative maintenance.

System Recommendations

- No replacement recommended at this time.

Picture 5: Corridor Exhaust Louvers	Picture 6: HV-2	Picture 7: Supply Fan VFD
		

Chilled Water System

Summary

Scales Hall has no cooling beyond split system AC units. There is no CHW system in Scales.

Equipment

- N/A

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A

System Recommendations

- N/A

Control Systems

Summary

The existing temperature control system is entirely electronically actuated with direct digital control (DDC). All equipment connects to a Carrier BAS system. The system is new and in good condition.

Equipment

- Carrier BAS i-Vu® 8.0
- VFDs for HW pumps, supply and return fans.

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A

System Recommendations

- Implement pump differential pressure reset controls.
- Install occupancy-based hvac controls.
- Retro-commissioning of HVAC systems and Controls
- Setback equipment during academic breaks

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loops. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room that was installed around 1998 and is still in good condition. There is a 800A 120/208V 3 phase 4 wire Cutler Hammer switchboard installed around 1998 which is in good condition and located inside the electrical room. The majority of the General Electric (120/208V 3 phase 4 wire) electrical panelboards were recently installed and are in great condition.

Emergency Power is supplied by a 100kVA 120/208V 3 phase Cutler Hammer emergency generator installed in 2017 which is located inside this building and is in very good condition.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (800A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (100kVA)

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- Panelboards

Picture 8: (Emergency Generator):	Picture 9: (Switchgear):	Picture 10: (Switchboard):
		

Picture 11: (Switchboard):


Fire Alarm

Summary

Fire Alarm system for this building was updated back in 2017. The Fire Alarm Control Panel (Simplex 4100-U) contains battery backup and all of the Fire Alarm equipment connected to this system is in good condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

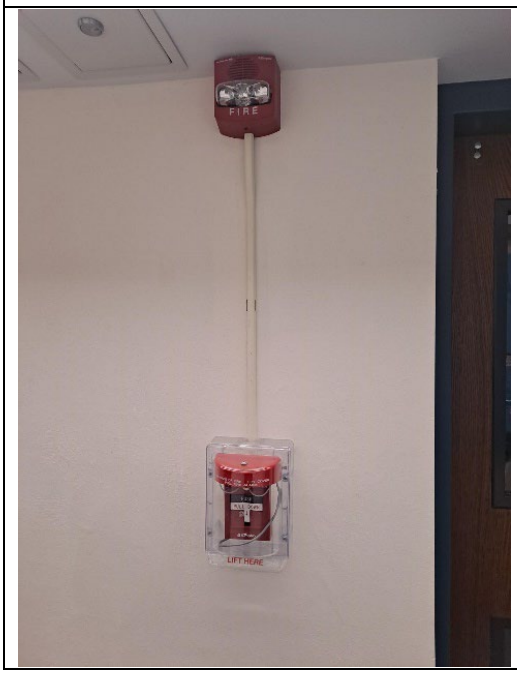
- N/A

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- N/A

Picture 12: Pull Station & Horn/Strobe	Picture 13: Annunciator Panel
	

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in good condition as majority of the light fixtures provided adequate lighting levels.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- N/A

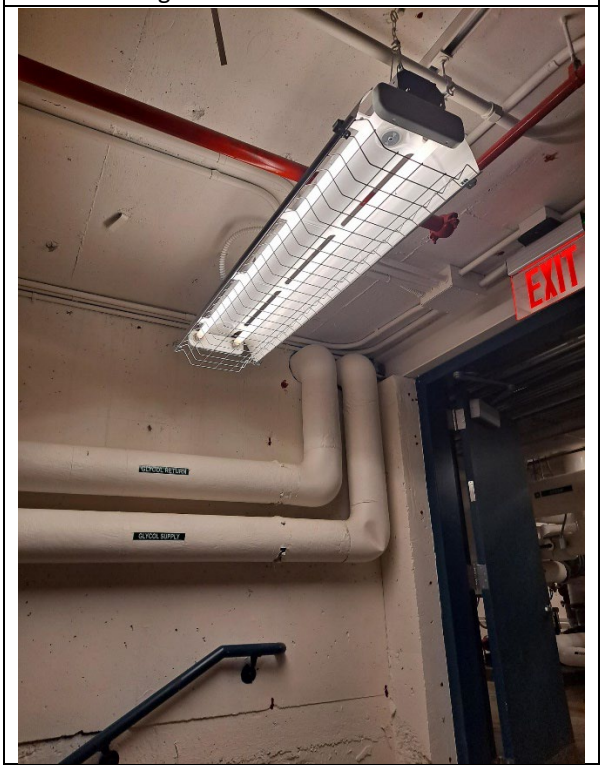
Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Picture 14: Light Fixture



Fire Protection

Summary

The scales Hall was not sprinklered when originally constructed. However, the building had gone through a major renovation in 2017 where a completely new sprinkler and standpipe system were added.

The current fire protection system is fed from a 6" dedicated fire water service equipped with a 6" double check valve backflow preventer with detector assembly (ASSE-1048). The supply line then passes through a horizontal split case pad mounted electric fire pump. The fire pump is rated at 1,000 gpm at 80 psi boost pressure with a 60 hp motor.

The fire water distribution system consists of two 4" Class 1 standpipe systems located at two stairways at the east end and at the north end of the building. These standpipes are equipped with 2-1/2" fire hose valves at each landings as well as sprinkler zone control valve assemblies supplied from each standpipe system.

The system is equipment with a 4" pipe that extends to outside and connects to a 5" Storz fire department connection, located at the south side of the building in close proximity of a nearby fire hydrant.

The sprinkler protection extends throughout the building and includes the basement areas and all three floor levels with student dorm rooms.

Equipment

- 6" double check valve backflow preventer with detector assembly (ASSE-1048)

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Annual inspection of the fire sprinkler system by a licensed contractor
- Annual inspection and testing of the backflow preventer by a licensed contractor

System Recommendations

- No replacement recommended.

Picture 15: 5" Storz FDC

Plumbing

Summary

The Scales Hall was originally built in 1961. However, the building had gone through a major renovation in 2017 where it was totally gut renovated and fitted with all new plumbing fixtures and systems.

The basement (ground floor) houses the laundry room, recreation room, storage spaces, and utility service rooms. The first floor houses the student lounge, Lobby, Director, and other specialty living spaces, a student dorm rooms and other administrative spaces. Floors two through three house student dorm rooms, bathrooms, and showers.

The building has a flat roof with roof drains and interior storm rain leader. The storm drainage piping system is run under the basement slab and then collected and routed outside the building where it discharges to the lake shoreside via two 8" diameter storm lines. All storm piping above ground was replaced in 2017 renovation however the underground piping was reused.

The building sanitary is comprised of one 6" cast iron sanitary sewer line that exits the building from the south side to connect to the sanitary main outside the building. The sanitary line exiting the building is equipped with a house-trap located in a pit at the basement level. The house-trap is original to the building.

The domestic water is provided via a 4" water supply that was original to the building. All piping downstream of the service entry was replaced under the 2017 renovation work. The service pipe inside the building is equipped with a service valve, y-strainer, a 4" water meter, and two 3" double check valve backflow preventer assemblies. No booster pump is provided for this building and city water pressure is used to provide water to the third floor bathrooms and showers. Due to high city supply pressure, a pair of pressure reducing valves, set at 65 psi each, are installed on the incoming water supply system.

The domestic hot water (DHW) is provided by one semi-instantaneous steam-fired hot water generator located in the basement level. The system's exact capacity could not be verified. A hot water recirculation system with two 1 hp pumps is provided to control the hot water temperature throughout the building. The domestic hot water serves building bathrooms, sinks, showers, bathtubs, and kitchenettes.

There is an additional 40 gallon electric water heater (4.5 kW element) that serves the first floor staff apartment.

There is a 3" gas service to the building with two regulators, one serving the emergency generator and another one serving the fireplace at the first floor lounge. The meters for both services are located inside the basement mechanical room.

There is a sanitary sump basin that receives the discharge from three floor drains in the mechanical room and uses an above ground vertical sump pump to discharge to the overhead sewer lines. The pump assembly appears to have been installed under the 2017 renovation. However, the 2017 design drawings called for two 1-1/2 hp, 85 gpm @ 20' head pumps but only one 1/2 hp pump seems to exist. The sump basin is an original 4' x 4' x 4' deep cast in place concrete with steel cover plate.

The laundry sanitary outfall is equipped with an in ground lint trap upstream of sanitary branch connection to the main sanitary system.

The plumbing fixtures throughout are relatively new and were installed in 2017 renovation and are in good working condition. These are comprised of wall mounted toilets with flush valves, wall mounted urinals with flush valves, wall mounted lavatories with hot and cold water faucets, and standing shower bays with anti-scald shower valves.

Equipment

- Domestic hot water steam bundle storage tank, electronically actuated steam valve.

- Two Inline centrifugal Hot Water Circulators, 1 hp each.
- Two 3” domestic water backflow preventers.
- One 1/2 hp sanitary sump pump

Facilities Maintenance Planned

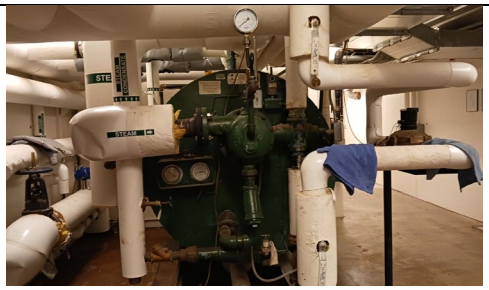
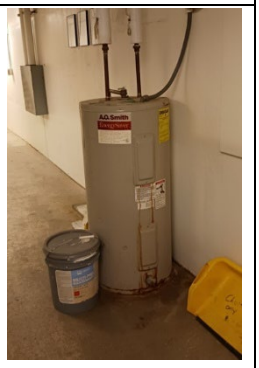
- Bottle fill stations

Additional Maintenance Recommendations

- Annual inspection of the hot water storage tank and steam heat exchanger assembly.
- Annual inspection of the sanitary sump pump assembly
- Annual inspection and testing of the two 3” backflow preventers by a licensed contractor.
- Annual inspection of the hot water circulators.
- Annual cleaning and inspection of the laundry’s sanitary lint trap.

System Recommendations

- Replace domestic hot water storage and steam-fired heat exchanger.
- Provide a new sump pump – 1-1/2 hp, 85 gpm @ 20’ head.
- Install Low-Flow or Ultra Low-Flow showerheads.

Picture 16: Hot Water Circulators	Picture x: Domestic Steam-Fired Water Heater	Picture 10: Electric Water Heater
		
Picture 11: Sump Cover and Pump Assembly	Photo 12: Gas Service Assembly	
		

FACILITIES MAINTENANCE RECOMMENDATIONS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 5-10 year:

- Implement the proposed plumbing water conserving measures.
- Replace domestic HW heat exchanger.

Proposed work for 10-20 year:

- Replace telephone/data systems.
- Replace panelboards.

Proposed work for 20+ year:

- Replace HV units, and VRF system.
- Replace generator.
- Replace Fire Alarm.
- Replace fire protection system.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace domestic water service, and HW tank.

EXISTING CONDITIONS

Waterbury Hall

Heating Plant

Summary

The existing heating system in Waterbury Hall is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the basement level mechanical room and is reduced to low pressure by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger (HE-1) to provide hot water (HW) to the fin tube radiation (FTR) serving the student dorms. A plate and frame, hot water to glycol converter (HE-2) provides hot glycol to heating and ventilating units (HV) and one blower coil unit (BCU). Hot water (HW) is pumped to the building HVAC by two HW pumps. Hot glycol is pumped to the HV and BCU units by two separate pumps. Steam condensate goes to a duplex condensate receiver unit which pumps condensate back to the central heating plant.

All heating equipment was installed in a 2017 renovation and is in good condition.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves, located within the basement level mechanical room.
- HE-1, a shell and tube heat exchanger provides hot water to fin tube radiation. 6 zone valves are electronically actuated ton control supply to the 6 distribution zones.
    - HW supply temperature reset based on outside air (OA) temperature.
        - 170F at 0F OA
        - 110F at 60F OA
- (HWP-6, HWP-7) are 1.5 HP inline, centrifugal hot water pumps which operate in lead/standby for the primary hot water loop. Good condition, pump motor controlled by VFDs.
- (HWP-1 through HWP-5 and HWP-8) are inline, centrifugal hot water pumps which control supply to each zone in the secondary hot water loops. Good condition, pump motors controlled by VFDs.
- HE-2, a plate and frame, hot water to hot glycol converter generates hot glycol for HVs and BCU.
    - System enabled when OA is less than 60F.
- GHWP-1 and GHWP-2 are 2 HP, inline, centrifugal pumps which operate in lead/standby to circulate hot glycol to HVs and BCU. Good condition, pump motors controlled by VFDs.
- Duplex condensate receiver unit.

Facilities Maintenance Planned

- Heating system seasonal startup

Additional Maintenance Recommendations

- The heat exchanger, HW pumps, and duplex condensate receiver were installed recently and are in good condition. Preventative maintenance should be considered.

System Recommendations

- No replacement recommended at this time.

Picture 1: Primary HW Pumps	Picture 2: Secondary HW Pumps with VFD	Picture 3: PRV Station
		
Picture 4: Shell and Tube Hot Water Converter	**Picture 5: Plate and Frame Heat Exchanger**	
		

HVAC System

Summary

Waterbury Hall HVAC is served by a combination of fin tube radiation (FTR), HV units, one BCU, and a VRF system. The FTR system provides heating to the student dorms. Ventilation in the student dorms is provided by operable windows. The HV units serve common areas including the first floor lounge and corridors. The BCU provides makeup air to the laundry room. The VRF system has four split system ACs which serve the director's apartment, mechanical rooms, and data closets. Exhaust is provided by 6 exhaust fans with constant speed motors for the bathrooms, janitor closets, mechanical rooms, and corridors. All equipment was installed in the 2017 renovation and is in good condition.

Equipment

- HV-1 provides heating and ventilation to the 1st floor lounge. It uses HW-glycol heating coil and is a single zone, variable air volume (VAV) unit with enthalpy economizer. Both supply and return fans are controlled with VFDs. The lounge space has CO2 sensor for demand control ventilation (DCV).
- HV-2 provides heating and ventilation to the corridors. It is a 100% OA unit that uses HW-glycol heating coil. The supply fan motor is controlled with VFD, and the unit is enabled when OA temperature is below 60F.
- One blower coil unit (BCU-1) provides makeup air to the laundry room. It is a 100% OA unit with HW-glycol heating coil with two way, electronic control valve. The supply fan is constant speed and interlocked with the laundry exhaust fan.
- VRF system with 4 AC units (AC-1 through AC-4) serves various building spaces.
    - AC-1 serves the ground floor data closet.
    - AC-2 serves the mechanical room.
    - AC-3 serves the 2nd floor data closet.
    - AC-4 serves the director's apartment.
    - One 6-ton air cooled, VRF heat pump is located on the roof.
- FTRs serve the student dorms heating. Operable windows provide ventilation.
- 6 exhaust fans with constant speed motors serve building exhaust.

Facilities Maintenance Planned

- None.

Additional Maintenance Recommendations

- Airside systems were installed in 2017 and are in good condition. Perform preventative maintenance.

System Recommendations

- No replacement recommended at this time.

Picture 6: HV-1	Picture 7: HV-2
	

Chilled Water System

Summary

Waterbury Hall has no cooling beyond. There is no CHW system in Waterbury.

Equipment

- None.

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- None.

System Recommendations

- None.

Control Systems

Summary

The existing temperature control system is entirely electronically actuated with direct digital control (DDC). All equipment connects to a Trane BAS system. The system is new and in good condition.

Equipment

- Trane BAS
- VFDs for HW pumps, supply and return fans.

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- None.

System Recommendations

- None.

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loops. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room that was installed around 2001 and is still in good condition. There is a 1200A 120/208V 3 phase 4 wire Cutler Hammer switchboard installed around 2016 which is in good condition and located inside the electrical room. The majority of the Square D (120/208V 3 phase 4 wire) electrical panelboards were recently installed around 2016 and are in good condition.

Emergency Power is supplied by a 100kVA 120/208V 3 phase Cutler Hammer emergency generator installed in 2015 which is located inside this building and is in very good condition.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1200A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (100kVA)

Facilities Maintenance Planned

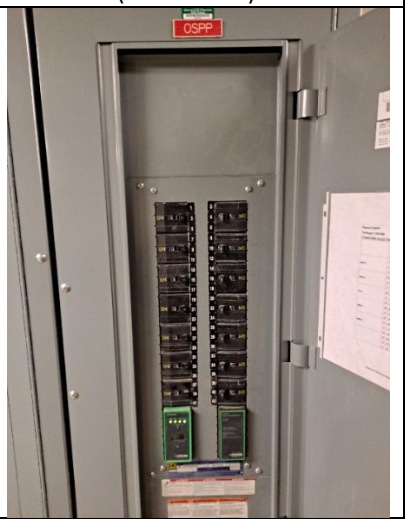
- N/A

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- Panelboards

Picture 8: (Emergency Generator):	Picture 9: (Panelboard):
	

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 2016. The Fire Alarm Control Panel (Simplex 4100-U) contains battery backup and all of the Fire Alarm equipment connected to this system is in good condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- N/A

Picture 10: Pull Station, Horn/Strobe & Annunciator Panel

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in good condition as majority of the light fixtures provided adequate lighting levels.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- N/A

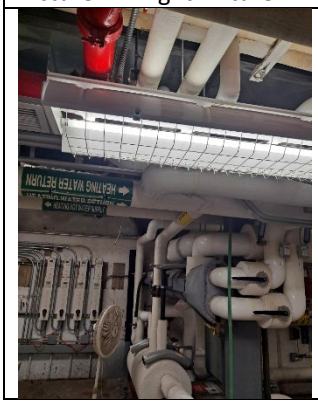
Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Picture 11: Light Fixture



Fire Protection

Summary

Waterbury Hall was initially constructed in 1958. The original installation did not include sprinkler system. However, the building had gone through a major renovation in 2017 where a completely new sprinkler system with standpipes was added.

The current fire protection system is fed from a 6" fire water service equipped with a double check valve backflow preventer assembly (ASSE-1015).

The fire water distribution system consists of two 4" Class 1 standpipe systems located at two stairways at the east end and at the north end of the building. These standpipes are equipped with 2-1/2" fire hose valves at each landing. The sprinkler system is fed from the third 4" standpipe that is a combination of standpipe and sprinkler supply system and is centrally located in the stairway at the south center of the building. This standpipe is also equipped with 2-1/2" fire hose valve at each landing and fire sprinkler zone control valve assemblies.

The sprinkler protection extends throughout the building and includes the basement areas, all four floor levels with student dorm rooms, and full protection of the attic level with a dry sprinkler system.

Equipment

- 6" double check valve backflow preventer assembly

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Annual testing of the 6" double check valve backflow preventer assembly by a licensed plumber

System Recommendations

- No replacement recommended.

Picture 12: Post Indicating Valve with Tamper Switch	Picture 13: FDC
	

Plumbing

Summary

The Waterbury Hall was originally built in 1958. However, the building had gone through a major renovation in 2017 where it was totally gut renovated and fitted with all new plumbing fixtures and systems.

The basement houses the laundry room, recreation room, storage spaces, and utility service rooms. The first floor houses the student lounge, Lobby, Director, and other specialty living spaces, a few student dorm rooms and other administrative spaces. Floors two through four house student dorm rooms, bathrooms, and showers. There is an unoccupied but fully sprinklered attic.

The storm system is collected at the roof level and then drained down via internal roof rain leaders to the basement level where it's collected and discharge from the west via a 10" storm line to lake side.

The building sanitary is comprised of one 6" cast iron sanitary sewer line that exits the building from the south side to connect to the sanitary main outside the building. The sanitary line exiting the building is equipped with a house-trap located in a pit at the basement level.

The domestic water is provided via a 4" water supply that was installed under the 2001 renovation. The service pipe inside the building is equipped with a 4" reduced pressure zone (RPZ) backflow preventer (ASSE-1013) with an inlet strainer. No booster pump is provided for this building and city water pressure is used to provide water to the fourth floor bathrooms and showers. Due to high city supply pressure, a pair of pressure reducing valves, set at 65 psi each, are installed on the incoming water supply system.

The domestic hot water (DHW) is provided by one tank type steam-fired hot water generator located on the basement level. The system has a 770 gallon storage capacity. Two new hot water circulators are provided to control the hot water temperature throughout the building. DHW services building bathrooms, sinks, showers, bathtubs, and kitchenettes.

Several smaller electric water heaters, 40 gallons each, with a 4.5 kW electric heater, are provided for the two first floor staff apartments. Each of these systems is equipped with one 1/12 hp circulating hot water recirculation for maintaining the hot water temperature.

The plumbing fixtures throughout are very new and were installed in 2017 renovation and are in good working condition. These are comprised of wall mounted toilets with flush valves, wall mounted urinals with flush valves, wall mounted lavatories with hot and cold water faucets, and standing shower bays with anti-scald shower valves.

Equipment

- Domestic hot water steam bundle storage tank, electronically actuated steam valves.
- Two Inline centrifugal pumps.
- Electric Water Heater, 40 gallons.

Facilities Maintenance Planned

- Bottle fill stations

Additional Maintenance Recommendations

- Preventative maintenance on domestic HW tank

System Recommendations

- Replace DHW tank.

Picture 13: Domestic HW Tank with Inline Pumps	Picture 14: Electric Water Heater	Picture 15: Steam-Fired DHW Heater
		
Picture 16: Gas Service with a Regulator		
		

FACILITIES MAINTENANCE NEEDS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 5-10 year:

- Implement the proposed plumbing water conserving measures and install low flow fixtures.
- Replace domestic HW heat exchanger.

Proposed work for 10-20 year:

- Replace telephone/data systems.
- Replace panelboards.

Proposed work for 20+ year:

- Replace HV units, and VRF system.
- Replace generator.
- Replace Fire Alarm.
- Replace fire protection system.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace domestic water service, and HW tank.

Lakeside Dining Hall

Heating Plant

Summary

The existing heating system in Lakeside Dining Hall (DH) is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the ground level mechanical room and is reduced to low pressure by two pressure reducing stations with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger to provide hot water to the building fan coil units, air handlers and unit heaters. Hot water (HW) is pumped to the building HVAC by four HW pumps. Steam condensate goes to a condensate receiver unit which pumps condensate back to the central heating plant.

The heat exchanger was installed in 2006 and is in good condition. The HW pumps, and condensate receiver unit were also installed in 2006 and in good condition.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves in parallel, located within the ground level mechanical room.
- A shell and tube heat exchanger (2006) provides hot water to FCUs, AHUs, and unit heaters.
- (P-1, P-2) 7.5 HP base mounted, centrifugal hot water pumps operate in lead/standby to circulate hot water to building heating equipment. Good condition, pump motor controlled by VFD.
- One 35% propylene glycol tank feed glycol into the HW system.
- Duplex condensate receiver unit.

Facilities Maintenance Planned

- Heating system seasonal startup

Additional Maintenance Recommendations

- The heat exchanger, HW pumps, and duplex condensate receiver were installed recently and are in good condition. Preventative maintenance should be considered.

System Recommendations

- Replace major heating equipment, heat exchangers, pumps, condensate receiver.
- Install building-level steam submeter.

Picture 1: Pressure Reducing Valve Station	Picture 2: Hot Water Pumps	Picture 3: HW Pump VFDs
		

Picture 4: Condensate Receiver


HVAC System

Summary

Concealed fan coil units (FC-1 through FC-5) provide heating and cooling to the basement level spaces. One air handling unit (AHU-1) provides heating and cooling to the first floor cafeteria and spaces in tandem with radiant floor heating. One makeup air unit (MUA) provides makeup air to the kitchen. All systems were installed in 2006 and are in good condition.

Equipment

- AHU-1 (2006) provides heating and cooling to cafeteria and first floor spaces. Uses HW heating coil and chilled water (CHW) cooling coil with a VFD for supply fan motor control.
- 5 FCUs serve the basement level spaces. FCU-1 is heating only, FCU-2 through FCU-5 use both HW heating and CHW cooling coils.
- MUA-1 is a 100% OA unit with HW heating coil that provides makeup air to the kitchen.
- 4 exhaust fans serve the kitchen and dining area.
- Axial exhaust fans serve the bathrooms, elevators, and mechanical closets.

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Airside systems were installed in 2006 and are in good condition. Perform preventative maintenance.

System Recommendations

- No replacement recommended at this time.

Picture 5: FCU

Chilled Water System

Summary

The Lakeside Dining Hall chilled water systems provides CHW to the fan coil units, unit ventilators, AHUs, and makeup air units in Riggs, Johnson, and Lakeside. Two water-cooled, screw chillers located in the Lakeside basement mechanical room work with a cooling tower on the roof. Condenser water and primary chilled water pumps are located in the Lakeside basement mechanical room. Secondary pumps for Lakeside DH are located in another Lakeside basement mechanical room. The chillers, cooling tower, associated pumps and piping were installed in approximately 2006, and are in good condition and suitable for continued use.

Equipment

- Two 355 ton screw chillers (2006) in Lakeside DH mechanical room provide CHW to Lakeside, Johnson, and Riggs.
- Chillers work with Cooling Tower (2006) on Lakeside Roof. Cooling tower motor controlled by VFD.
- CHW pumps PCWP-1 and PCWP-2 are inline centrifugal pumps with 10HP motors. They work on lead/standby serving primary loop for Lakeside DH. CHW pumps have VFDs for motor control based on differential pressure.
- CHW pumps CHW-1 and CHW-2 are inline centrifugal pumps with 1.5HP motors. They serve the secondary loop which provides CHW to Lakeside DH. CHW-1 and CHW-2 have VFDs to control motor, and triple duty valves.
- 3 condenser water pumps. Base mounted, centrifugal pumps operate in lead/standby with constant speed, 15HP motors.
- Glycol Feeder Tank
- AHU-1 and FCUs provide cooling to Lakeside Hall using CHW.

Facilities Maintenance Planned

- Seasonal Transitions – Draining Chilled Water Systems

Additional Maintenance Recommendations

- Preventative maintenance on Chillers, Cooling Tower, CHW pumps and associated equipment.

System Recommendations

- No replacement recommended at this point in time.

Picture 6: Secondary CHW Pumps (CHW-1 and CHW-2) and VFDs	Picture 7: Condenser Water Pumps	Picture 8: Primary Loop CHW Pumps
		

Picture 9: Screw Chiller


Control Systems

Summary

The existing temperature control system is partial electronically actuated and partially pneumatically actuated for both heating and cooling equipment. All equipment connects to a Carrier BAS system. Actuators for all equipment should be upgraded and all equipment should be connected to the building automation system (BAS) if not already.

Equipment

- Carrier BAS
- VFDs for HW and CHW pumps
- Air compressor for pneumatic actuators

Facilities Maintenance Planned

- None

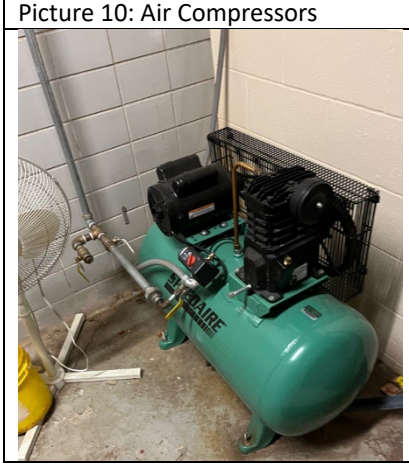
Additional Maintenance Recommendations

- N/A

System Recommendations

- Connect building systems to BAS.
- Implement chilled water supply temperature reset.
- Implement Demand Control Ventilation
- Implement duct static pressure reset controls.
- Implement kitchen demand control ventilation.
- Implement pump differential pressure reset controls.
- Install occupancy-based hvac controls.
- Replace pneumatic actuators with electronic controls.
- Retro-commissioning of HVAC systems and Controls
- Setback equipment during academic breaks

Picture 10: Air Compressors



Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loops. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room was installed around 2000 and is still in good condition. There is a 1600A 120/208V 3 phase 4 wire Cutler Hammer switchboard that was also installed around 2000 and located inside the electrical room that is in good condition. The majority of the General Electric (120/208V 3 phase 4 wire) panelboards are old and in poor condition, they should be replaced very soon.

Emergency Power is not connected to or affiliated with this building.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1600A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)

Facilities Maintenance Planned

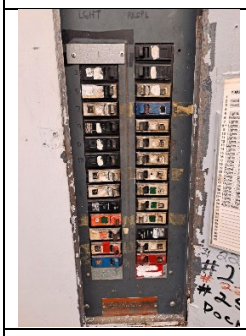
- N/A

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- Panelboards

Picture 11: (Panelboard):	Picture 12: (Panelboard):	Picture 13: (Switchgear):
		
Picture 14: (Switchboard):		
		

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 1999. The Fire Alarm Control Panel (Simplex 4100-U) contains battery backup and all of the Fire Alarm equipment connected to this system is in operable condition but looks old, should be replaced soon.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

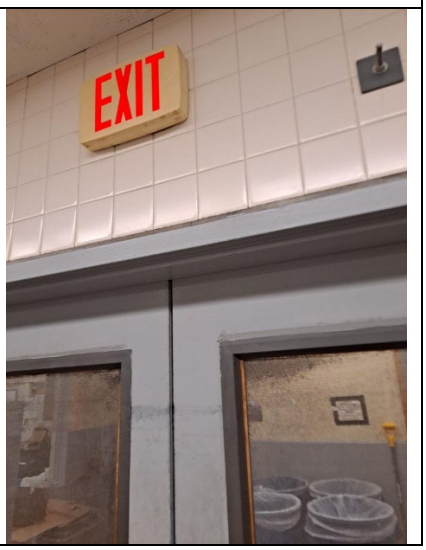
- N/A

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- Annunciator Panel, Exit Signs, FACP

Picture 15: Annunciator Panel	Picture 16: Exit Sign
	

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in okay condition, providing okay light levels throughout the facility but lighting in the actual dining area is extremely poor.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- N/A

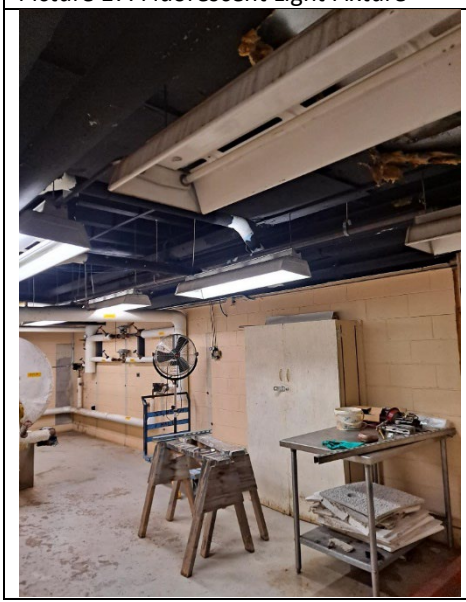
Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Replace all interior fluorescent lights with LED lighting.
- Replace all exterior lights with LED lighting.
- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Picture 17: Fluorescent Light Fixture



Fire Protection

Summary

Lakeside Hall was not sprinklered when originally constructed in 1950s. However, under the 2007 renovation, the building was fully sprinklered throughout.

The fire water service is supplied with an outside 6" underground fire water pipe that connects to an 8" site water supply system. The 6" pipe enters the building on the south side. Within the building, the incoming 6" line splits in to a 4" supply to the fire and 4" supply to the domestic. The domestic supply is further reduced to 2" before serving the domestic system. The incoming 6" combine supply line is equipped with an outdoor post indicating valve (PIV) located just south of the building wall. The 6" fire water is then reduced to 4" and is fitted with a 4" double check valve backflow preventer assembly (ASSE-1015) that is located within the building. Due to the low height of the building (two story), there is no fire pump at this building.

Equipment

- 4" Double check valve backflow preventer assembly
- Dry pipe valve assembly and air compressor.
- Wet pipe alarm check valve sprinkler valve assembly.

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Annually inspect the 4" Double check valve backflow preventer assembly by a licensed contractor
- Annually inspect the sprinkler system components by a licensed contractor

System Recommendations

- No replacement recommended.

Picture 18: 6" incoming fire water	Picture 19: 4" fire BFP and 4" domestic RPZ
	

Plumbing

Summary

The lakeside Dining hall was originally built circa 1950s. However, the building had gone through a major renovation in 2007 where it was totally gut renovated and fitted with all new plumbing fixtures and systems including a new kitchen and MEP systems.

The Lakeside dining hall is a 2 story building with a flat roof. The basement houses a large classroom on the north side, the lockers on the south side, mechanical and electrical spaces and service entry spaces on the south side, as well as gang bathrooms and chiller room. The first floor houses dining room on the north side (facing the lake) and kitchen and food prep area on the south side.

The building has a flat roof with roof drains that collect the storm water and convey via vertical storm leaders to a network of underslab piping where it collects and discharges on the north side of the building where it finally discharges toward the lake shore side. This system was not a part of the 2007 upgrade and is all the original system installed in 1950s.

The building sanitary is comprised of a 5" sanitary sewer line that is fitted with a house-trap and exits the building from the south side where it connects to the outside main sewer system. The discharge line exiting the building is equipped with a backwater valve just prior to connecting to the house-trap assembly.

The kitchen waste is collected and conveyed via a separate 4" sewer line that collects the grease laden waste from kitchen and other cooking areas, it then exists the building on south side and passes through an in-ground outdoor grease trap that is located just south of the building. The discharge pipe from the grease trap then returns back to the building and connects to the house sanitary sewer before exiting the building.

The incoming combined water service is a 6" underground combined fire and domestic water pipe that connects to an 8" site water supply system. The 6" pipe then enters the building on the south side. Within the building, the incoming 6" line splits in to a 4" supply to the fire and 4" supply to the domestic. The domestic supply is then fitted with a reduced pressure zone (RPZ) backflow preventer (ASSE-1013) with an inlet strainer. It is then further reduced to 2" before it continues to serve the domestic system throughout. Due to the low height of the building (two story), there is no domestic booster pump at this building.

The domestic hot water (DHW) is provided by one semi-instantaneous steam-fired horizontally-mounted hot water generator located in the basement mechanical room installed under the 2007 renovation task. The system has a 275 gallon storage capacity and is capable of providing 860 gallons per hour of hot water at 100°F temperature rise. An inline hot water recirculation pump, 1/25 hp and 2 gpm @ 8 ft. head, circulation pump is provided to maintain the hot water temperature throughout the building. Domestic hot water is provided to building bathrooms, sinks, showers, bathtubs, and kitchenettes.

One self-controlled submersible oil-minder pump is installed in the elevator pit to handle ground water from the pit. The pump is rated at 43 gpm @ 10 ft. head and is equipped with an oil-minder control package.

The plumbing fixtures throughout are relatively new and were installed in 2007 renovation and are in good working condition. These are comprised of wall mounted toilets with flush valves, wall mounted urinals with flush valves, wall mounted lavatories with hot and cold water faucets, and standing shower bays with anti-scald shower valves, hand sinks, and mop basins.

Equipment

- Domestic hot water generator – steam-fired storage tank, 275 gallon storage, 860 gph at 100°F.
- 4" reduced pressure zone backflow preventer.
- Hot water circulator - Inline centrifugal pump, 1/25 hp, 2 gpm @ 8 ft. head.

- Elevator pit submersible sum pump with an oil minder package.

Facilities Maintenance Planned

- Bottle fill stations

Additional Maintenance Recommendations

- Annual inspection and Preventative maintenance on domestic hot water generator and storage tank
- Annual inspection of the 2" RPZ by a licensed plumbing contractor.
- Annual inspection of the elevator sump pump assembly.
- Annual inspection of the hot water circulator.

System Recommendations

- Replace DHW tank.
- Install building-level gas Submeter.

Picture 20: Domestic HW Tank

FACILITIES MAINTENANCE RECOMMENDATIONS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.
- Replace panelboards.
- Replace Fire Alarm.

Proposed work for 5-10 year:

- Replace telephone/data systems.

Proposed work for 10-20 year:

- Replace generator.
- Replace domestic water service, and HW tank.
- Implement the proposed plumbing water conserving measures and install low flow fixtures.
- Replace AHUs, MUAs and FCUs. Implement DCV

Proposed work for 20+ year:

- Replace fire protection system.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace major cooling system equipment.

West Campus Community Existing Conditions

The oldest buildings in the West Campus Community are approaching 60 years old. SUNY Oswego has regularly maintained building systems and has replaced windows in all four residence halls. However, the buildings are showing their age. All are due for comprehensive renovation.

Cayuga Hall

105,072 GSF
5 stories
456 Beds
Constructed: 1967

Oneida Hall

105,000 GSF
5 stories
420 Beds
Constructed 1970

Onondaga Hall

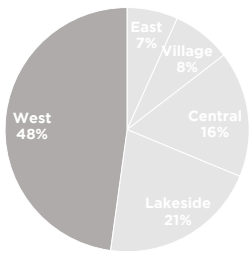
152,548 GSF
10 stories
628 Beds
Constructed 1968

Seneca Hall

152,548 GSF
10 stories
626 Beds
Constructed 1967

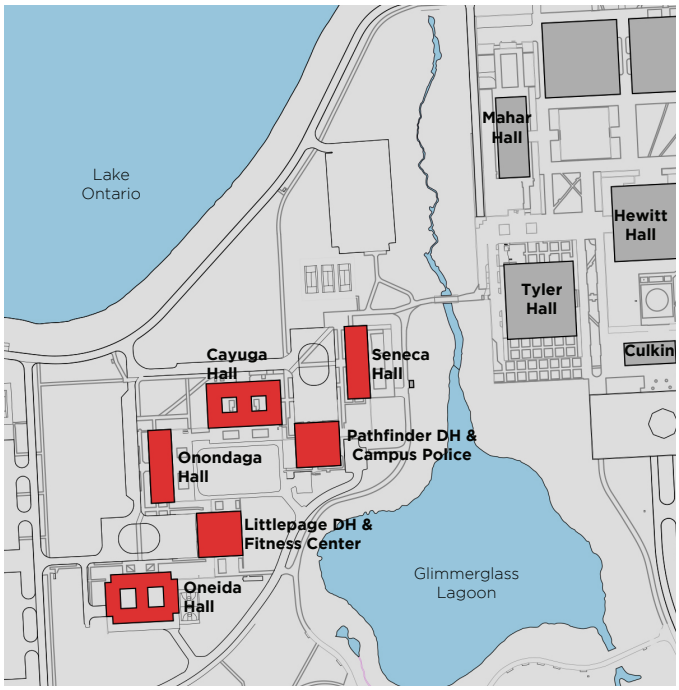
Pathfinder and Littlepage Dining Halls

33,827 GSF each
2 stories
Constructed 1967 & 1968

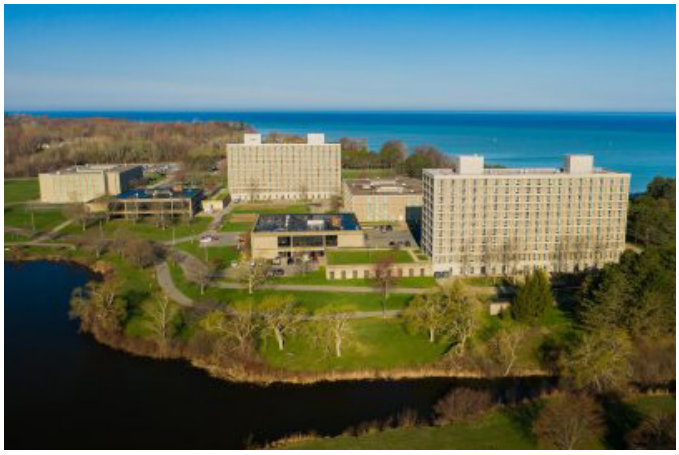


West Campus Bed Count

2,130 Design Capacity
48% of SUNY Oswego capacity



N
LOCATION PLAN
NTS



Seneca and Onondaga towers, Cayuga and Oneida low-rise residence halls, and Littlepage and Pathfinder dining halls. Glimmerglass Lagoon is in the foreground, with Lake Ontario on the horizon.

HVAC

- Medium-pressure steam from the central heating plant provides heat to the West Residence Hall community. Heat exchangers, pumps, and dual condensate receivers are very old in all buildings and should be replaced.
- Student residences are served by hot water convectors (Cayuga, Oneida, Onondaga, Seneca). The convector system provides reliable heating, but lack of individual controls leads student rooms to be too hot in shoulder seasons. (Operable windows help students control room temperature.)
- Common areas are heated, cooled, and ventilated by heating and ventilation units. The HV units were installed at the time of original construction and are beyond their useful life (Cayuga, Oneida, Onondaga, Seneca). System upgrades are planned for Seneca Hall.
- Air handling systems in Pathfinder Dining Hall are in fair condition and are near the end of their useful life. Exhaust fans are in fair to poor condition in Pathfinder.
- Cooling systems in Pathfinder Dining Hall are functioning properly but are in fair condition.
- Building controls are a mix of electronic and pneumatic controls. Compressors are aging and approaching end of useful life (Cayuga, Oneida, Onondaga, Seneca, Pathfinder).
- In residence halls, cooling is only present for the IT rooms. Air cooled chillers supply chilled water to mechanical rooms, a glycol feeder tank adds glycol, and inline pumps distribute chilled water. These systems are in good condition and are suitable for continued use.

Recommendations:

- Implement recommendations in the 2023 Clean Energy Master Plan.
- Provide electronic controls throughout and connect all units to the BAS.
- Replace major heating equipment.
- Perform regular preventative maintenance.
- Long term, anticipate replacement of HV units in the 2030s. When units are replaced, implement demand control ventilation.
- Long term, anticipate replacement of cooling systems in the 2040s.

Electrical

- Electric feed is 13.2 kv from the campus loop (Cayuga, Oneida, Onondaga, Pathfinder). Switchgear was replaced in the early 2000s and is in good condition. (Cayuga, Oneida, Onondaga, Pathfinder). Seneca Hall is fed by the National Grid substation on Washington Boulevard.
- Switchboards were replaced in the early 2000s and are in good condition. At least some distribution panels are very old and require replacement (Cayuga, Oneida, Onondaga, Seneca, Pathfinder)
- Emergency generator is scheduled for replacement (Cayuga). Other generators in West Campus residence halls were installed in the late 1990s and functional.
- Pathfinder generator was replaced in 2012 and is in good condition.
- Buildings are lit with fluorescent fixtures that provide adequate light levels but are not efficient.
- Fire alarm systems were updated in the early 2000s and are in good condition (Cayuga, Oneida, Onondaga, Seneca, Pathfinder).

Recommendations:

- Implement recommendations in the 2023 Clean Energy Master Plan.
- In all buildings, Megger test cables and test breakers in panels.
- In all buildings, replace outdated panelboards.
- Replace fluorescent and compact fluorescent lighting with LED fixtures. Provide occupancy sensors and daylight sensors.
- Long-term, anticipate replacement of fire alarm systems and generators starting in the 2030s.
- Upgrade telephone/data systems as buildings are renovated.

Plumbing

- Plumbing fixtures are original and at the end of their useful lives.
- Incoming water service and water distribution piping are in fair condition.
- Storm drainage systems do not have backwater valves.
- Building sanitary waste lines do not have inline house-traps.
- Hot water storage tanks are original and in fair condition.

Recommendations:

- Implement recommendations in the 2023 Clean Energy Master Plan.
- Replace domestic water service (Cayuga,.Oneida,
- Replace domestic hot water tanks (Cayuga, Oneida,
- Install low-flow fixtures. Provide scald-preventing fixtures.
- All West Campus Community buildings
  - Annual inspection and preventative maintenance on DHW tanks and heat exchangers.
  - Annual inspection and cleaning of lint interceptors.
  - Annual inspection of reduced pressure zone assemblies by a licensed plumbing contractor.
  - Annual inspection of sump pumps.
  - Annual inspection of hot water circulators.

Seneca pressure reducing station

Onondaga hot water pumps

Oneida duplex condensate receiver

Cayuga convector (shell and tube heat exchanger)

Oneida heating-ventilating unit

Cayuga glycol tank for chilled water system

Oneida inline pumps for chilled water

Onondaga panel board

Onondaga water service and meter

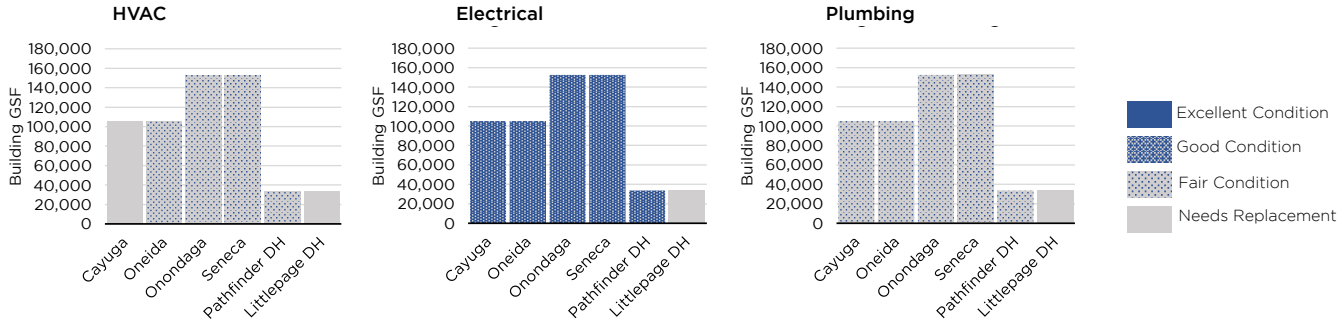
Seneca domestic hot water storage tank

Cayuga emergency generator

Oneida compressor for pneumatic controls

Oneida Trane controls system

Building Condition Summary



Fire Alarm

All buildings in this community had their fire alarm systems updated around 2000. Systems are in good condition

Recommendations:

- Test systems annually in all buildings.
- Long-term, anticipate system replacement in the 2040s.

Fire Protection

West Campus residence halls have standpipes and partial sprinklers, yet none of the buildings have full sprinkler coverage.

Seneca Hall and Onondaga Hall, both ten-story buildings, do not have fire pumps and rely on city water pressure to lift fire protection water to the top floor.

Pathfinder Dining Hall does not have a fire protection system.

Recommendations:

- Provide fire protection for the entirety of all West Campus residence halls and dining halls.
- Provide double check detector backflow prevention assemblies on incoming fire water service points. Annual inspection of the backflow preventer assemblies by a licensed plumber.
- Provide fire booster pumps for Seneca and Onondaga.
- Annual inspection of the fire sprinkler system by a licensed contractor.

Exterior

West Campus buildings have concrete structure and precast infill panels in good condition. Residence room windows are modern operable double-glazed vinyl replacement units.

Dining Halls have not had exterior finish or window upgrades.

There are no landscape amenities for leisure or recreation.

Recommendations:

- Perform regular maintenance on facades to prevent deterioration.
- Provide access control to enable return access from outdoor leisure and recreation areas.

Interior Finishes

SUNY Oswego has conscientiously replaced finishes in these residence halls when worn or deteriorated, however the durable finishes remaining from the 1960s are dated and potentially contain asbestos.

Recommendation:

Upgrade finishes in over time to refresh their appearance, with particular attention given to lounges, lobbies, and kitchens.

Accessibility

SUNY Oswego has upgraded residence halls to make then more accessible, yet when West Campus buildings were designed in the 1960s the buildings were not laid out with universal design in mind. The College's improvements have made these buildings partially accessible, yet they are not inviting for individuals with physical challenges.

- The routes to and from Dining Halls are circuitous, leading students through basements and tunnels, then up by stairs to the dining room. Floor plans for dining halls do not show elevators.
- Oneida Hall has two lounges that are accessed only by stairs.
- Some residence halls have knob hardware on residence room doors.
- Residence room casework occupies the clear floor area required at doors by ADA. Some fire doors between elevator lobbies and corridors lack required clear floor area.
- Door openings for residence rooms need to be enlarged to comply with ADA.

Recommendations:

- Provide lever hardware at all residence hall rooms.
- Widen residence room doors for accessibility. Provide new casework in residence hall rooms to allow ADA-compliant clear floor area.
- When sprinklers are provided, consider reworking elevator lobbies/fire separations to create ADA-compliant clear floor areas at doors.
- If Oneida Hall is renovated in the future, provide lifts or rework the elevator so all lounges can be accessed.

Cayuga fire department connection

Cayuga strobe

Oneida annunciator panel

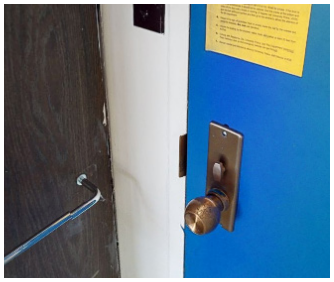
Onondaga Hall exterior

Seneca newer carpet throughout

Outdated finishes in Onondaga

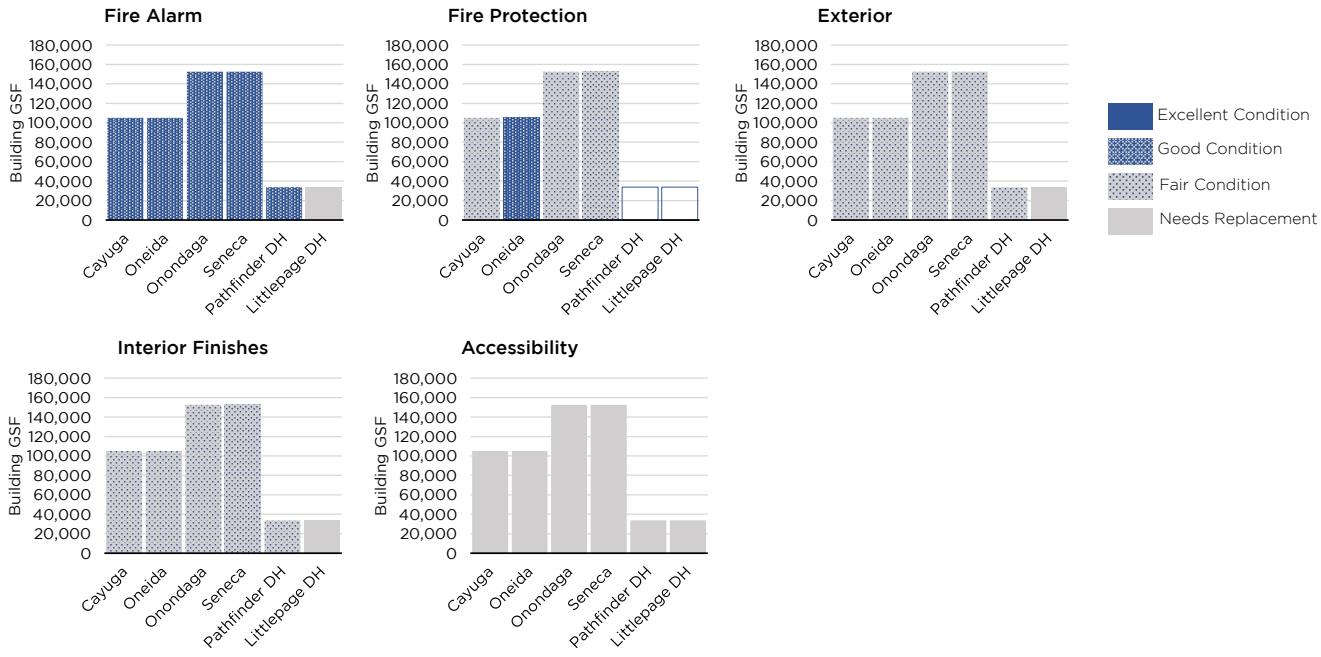
Doors too narrow for accessibility throughout

Lever door hardware present in Seneca



Knob hardware and insufficient ADA clear floor area at door in Oneida

Building Condition Summary



Cayuga Hall
Building Condition Assessment

Building Information			
Building Name	Cayuga	Primary Use	Residence Hall
Construction Year	1952	Occupancy Group	R-2 Congregate Living Facility
Major Renovations		Number of Stories	Basement plus 4
		Gross Square Feet	1,967

System Information	
Heating/Cooling Systems	Hot water convectors in residence rooms, Heating/Ventilating units in utility areas, Very limited air conditioning in IT closets
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	4" incoming domestic water.
Fire Protection Service and Capacity	Eight-inch fire main with two six-inch standpipes to sprinklers at stair areas

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Mechanical Systems						
Air-Handling Systems	■				1	
HV-1	■				1	HV units currently functional, but in poor condition. Over 50 years old and at the end of useful life.
HV-2	■				1	HV units currently functional, but in poor condition. Over 50 years old and at the end of useful life.
HV-3	■				1	HV units currently functional, but over 50 years old and at the end of useful life.
HV-4	■				1	HV units currently functional, but over 50 years old and at the end of useful life.
HV-5	■				1	HV units currently functional, but over 50 years old and at the end of useful life.
Distribution Systems/Terminal Units	■				0	
Hot Water Convectors		■			1	Convectors functional, at the end of useful life.
Heating Systems	■				1	Heating pumps, heat exchanger, and condensate receiver in poor condition, at end of useful life.
Cooling Systems				■	3	Limited to IT closets, but in good condition
Exhaust Systems		■			2	Moderate condition.
Building Controls		■			2	Mixed pneumatic and DDC with BAS. Mixed conditions.
Average					**1.3**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Electrical Systems						
Electrical Service				■	4	13.2kV incoming service, installed around 2000. Replace Panel LP-ST & Panel DA
Electrical Distribution			■		3	1600A 120/208V switchboard - installed around 2000; 120/208V panelboards - installed around 2000
Lighting Systems			■		3	Fluorescent fixtures throughout. Upgrade to LED when replaced. Provide occ. and daylight sensors.
Tel/Data Systems			■		3	System in good condition
Emergency Power Systems				■	4	Emergency Generator in good condition
Average					**3.4**	
Fire Alarm Systems				■	4	system in good condition; upgraded around 2007

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Plumbing Systems						
Domestic Water Service	■				2	4" main, 1967 installation.
Domestic Water Distribution	■				2	1967 installation.
Domestic Hot Water Systems	■				2	1967 installation.
Drainage Systems			■		3	Two 6" sanitary lines, three 8" storm lines, 1967 installation.
Plumbing Fixtures		■			3	Old, 1967 installation.
Average					**2.4**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Fire Protection Systems						
Fire Protection Service			■		2	Standpipe only, moderate condition
Fire Protection Distribution			■		2	Standpipe only, moderate condition
Fire Pumps			■		2	Standpipe only, moderate condition
Sprinkler Coverage			■		2	Standpipe only, moderate condition
Average					**2.0**	

SETTY

Oneida Hall
Building Condition Assessment

Building Information			
Building Name	Oneida	Primary Use	Residence Hall
Construction Year	1970	Occupancy Group	R-2 Congregate Living Facility
Major Renovations		Number of Stories	Basement plus 4
		Gross Square Feet	105,000

System Information	
Heating/Cooling Systems	Hot water convectors in residence rooms, HVs serve common areas and utility spaces, Limited cooling for IT rooms
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	4" incoming domestic water.
Fire Protection Service and Capacity	8" dedicated fire main with three 6" standpipes

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Mechanical Systems						
Air-Handling Systems						
HV-1	■				1	HV-1 is past its useful life and in poor condition
HV-2	■				1	HV-2 is past its useful life and in poor condition
Distribution Systems/Terminal Units						
Convectors	■				2	Convectors are original to building, past useful life, poor condition
Heating Systems		■			2	Heating systems, pumps, heat exchanger, concensate receiver all past useful life and in poor condition.
Cooling Systems				■	4	Cooling system installed in last 20 years, in good condition but limited service to IT rooms.
Exhaust Systems		■			2	Exhaust systems in fair to poor condition, similar age as heating equipment.
Building Controls			■		3	Controls mixed BAS and pneumatic, mixed condition
Average					**2.3**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 2000
Electrical Distribution			■		4	1600A 120/208V switchboard - installed around 2000; 120/208V panelboards - installed around 2000. Some panels are original and require replacement.
Lighting Systems		■			3	Fluorescent fixtures throughout. When replaced, use LED with occupancy/vacancy sensors and install daylight sensors.
Tel/Data Systems			■		3	System in good condition
Emergency Power Systems			■		4	75kVA emergency generator; installed around 1997
Average					**3.8**	
Fire Alarm Systems			■		4	system in good condition; upgraded around 2007

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Plumbing Systems						
Domestic Water Service		■			2	4" incoming domestic water, fair condition
Domestic Water Distribution		■			2	Distribution same age as incoming service, fair condition
Domestic Hot Water Systems		■			2	Hot water systems in fair condition
Drainage Systems			■		3	two 6" sanitary lines and two 10" storm lines
Plumbing Fixtures			■		3	Fixtures reaching end of useful life, fair condition
Average					**2.4**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Fire Protection Systems						
Fire Protection Service			■		3	8" dedicated fire main with three 6" standpipes, fair condition
Fire Protection Distribution			■		3	8" dedicated fire main with three 6" standpipes, fair condition
Fire Pumps						No fire pump
Sprinkler Coverage			■		3	Moderate sprinkler coverage
Average					**3.0**	

Onondaga Hall
Building Condition Assessment

Building Information			
Building Name	Onondaga	Primary Use	Residence Hall
Construction Year	1968	Occupancy Group	R-2 Congregate Living Facility
Major Renovations		Number of Stories	Basement plus 9
		Gross Square Feet	152,548

System Information	
Heating/Cooling Systems	Hot water convectors in residence rooms, HVs serve common areas and utility spaces, Limited cooling for IT rooms
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	4" incoming domestic water coming from 6" incoming fire-water supply.
Fire Protection Service and Capacity	6" fire main with two 6" standpipes

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Mechanical Systems						
Air-Handling Systems						
HV Units	■				1	HV units are past their useful life and in poor condition
Distribution Systems/Terminal Units						
Convectors	■				2	Convectors are original to building, past useful life, poor condition
Heating Systems		■			2	Heating systems, pumps, heat exchanger, concensate receiver all past useful life and in poor condition.
Cooling Systems				■	4	Cooling system installed in last 20 years, in good condition but limited service to IT rooms.
Exhaust Systems			■		3	Exhaust systems in fair to poor condition, similar age as heating equipment.
Building Controls			■		3	Controls mixed BAS and pneumatic, mixed condition
Average					**2.5**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 2000
Electrical Distribution			■		4	1600A 120/208V switchboard - installed around 2000; 120/208V panelboards - installed around 2000. Replace remaining original panels.
Lighting Systems			■		3	Fluorescent fixtures throughout. Replace with LED and install occupancy/vacancy sensors, daylight sensors.
Tel/Data Systems			■		3	System in good condition
Emergency Power Systems			■		3	100kVA emergency generator; installed around 1997
Average					**3.6**	
Fire Alarm Systems			■		4	system in good condition; upgraded around 2007

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Plumbing Systems						
Domestic Water Service		■			2	4" incoming domestic water, fair condition
Domestic Water Distribution		■			2	Distribution same age as incoming service, fair condition
Domestic Hot Water Systems		■			2	Hot water systems in fair condition
Drainage Systems			■		3	One 8" sanitary and one 10" storm line
Plumbing Fixtures			■		3	Fixtures reaching end of useful life, fair condition
Average					**2.4**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Fire Protection Systems						
Fire Protection Service			■		2	6" fire main with two 6" standpipes, fair condition
Fire Protection Distribution			■		2	6" fire main with two 6" standpipes, fair condition
Fire Pumps						No fire pump
Sprinkler Coverage			■		2	Moderate sprinkler coverage
Average					**2.0**	

Seneca Hall
Building Condition Assessment

Building Information			
Building Name	Seneca	Primary Use	Residence Hall
Construction Year	1967	Occupancy Group	R-2 Congregate Living Facility
Major Renovations		Number of Stories	Basement plus 9
		Gross Square Feet	152,548

System Information	
Heating/Cooling Systems	Hot water convectors in residence rooms, Heating/Ventilating and heat recovery units serve utility areas and corridors, Very limited air conditioning in IT closets
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	4" incoming domestic water from 6" fire-water main
Fire Protection Service and Capacity	6" fire main with two 6" standpipes

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Mechanical Systems						
Air-Handling Systems						
HV-1 thru HV-8	■				2	HV units are past thei useful life and in poor condition
Distribution Systems/Terminal Units						
Hot Water Convectors	■				2	Convectors are original to building, past useful life, poor condition
Heating Systems		■			5	Heating pumps, heat exchanger, and condensate receiver in good condition, less than 10 years old.
Cooling Systems				■	4	Cooling system installed in last 20 years, in good condition but limited service to IT rooms.
Exhaust Systems		■			2	Exhaust systems in fair to poor condition, similar age as heating equipment.
Building Controls				■	3	Controls mixed BAS and pneumatic, mixed condition
Average					**3.0**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 1998
Electrical Distribution				■	4	1200A 120/208V switchboard - installed around 1998; 120/208V panelboards - installed around 1998. Replace remaining original panels.
Lighting Systems				■	3	Fluorescent fixtures throughout. Replace with LED, include occupancy sensors and daylight sensors.
Tel/Data Systems			■		3	System in good condition
Emergency Power Systems					4	100kVA emergency generator; installed around 2017
Average					**3.8**	
Fire Alarm Systems				■	5	system in good condition; upgraded around 2017

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Plumbing Systems						
Domestic Water Service		■			3	4" incoming domestic water, fair condition
Domestic Water Distribution		■			3	Distribution same age as incoming service, fair condition
Domestic Hot Water Systems		■			3	Hot water systems in fair condition
Drainage Systems			■		3	two 6" sanitary lines and two 10" storm lines
Plumbing Fixtures			■		4	Fixtures reaching end of useful life, fair condition
Average					**3.2**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Fire Protection Systems						
Fire Protection Service			■		2	6" fire supply from 6" fire-water and two 6" standpipes.
Fire Protection Distribution			■		2	6" fire main with two 6" standpipes. Serves stairs and portions of corridors.
Fire Pumps						No fire pump
Sprinkler Coverage			■		2	Moderate sprinkler coverage
Average					**2.0**	

SETTY

Pathfinder Dining Hall
Building Condition Assessment

Building Information			
Building Name	Pathfinder	Primary Use	Dining Hall
Construction Year	1967	Occupancy Group	A-2 Dining Facility
Major Renovations		Number of Stories	2
		Gross Square Feet	33,827

System Information	
Heating/Cooling Systems	SF-1 and SF-2 heat and cool the cafeteria, an ERV provides kitchen makeup air, and convectors provide perimeter heating.
Fuel Source	Medium pressure steam from Central Plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	3" incoming domestic water
Fire Protection Service and Capacity	No observed Fire Protection system

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Mechanical Systems						
Air-Handling Systems						
SF-1	■				1	SF-1 is close to end of useful life, fair condition
SF-2	■				1	SF-2 is close to end of useful life, fair condition
ERV			■		3	ERV is close to end of useful life, fair condition
Distribution Systems/Terminal Units						
Convectors	■				2	Convectors are original to building, past useful life, poor condition
Heating Systems		■			2	Heating systems, pumps, heat exchanger, concensate receiver all past useful life and in poor condition.
Cooling Systems			■		3	Cooling system in fair condition, cooling tower and chiller function properly.
Exhaust Systems			■		3	Exhaust systems in fair to poor condition, similar age as heating equipment.
Building Controls			■		3	Controls mixed BAS and pneumatic, mixed condition
Average					**2.6**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 2000
Electrical Distribution	■				1	1600A 120/208V switchboard - installed around 2000; 120/208V panelboards - installed around 2000. Replace remaining original panels.
Lighting Systems	■				1	Fluorescent fixtures throughout. Replace with LED. Provide occupancy sensors and daylight sensors.
Tel/Data Systems			■		3	System in good condition
Emergency Power Systems				■	4	45kVA emergency generator; installed around 2012
Average					**2.8**	
Fire Alarm Systems			■		4	system in good condition; upgraded around 2001

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Plumbing Systems						
Domestic Water Service		■			2	3" incoming domestic water, fair condition
Domestic Water Distribution		■			2	Distribution same age as incoming service, fair condition
Domestic Hot Water Systems		■			2	Hot water systems in fair condition
Drainage Systems			■		3	Multiple sanitary lines and one 10" storm line
Plumbing Fixtures			■		3	Fixtures reaching end of useful life, fair condition
Average					**2.4**	

Building Component	Remaining Life				Condition 1=Worst 5=Best	System Summary
	0-5	5-10	10-20	20+		
Fire Protection Systems						
Fire Protection Service						No FP system
Fire Protection Distribution						No FP system
Fire Pumps						No FP system
Sprinkler Coverage						No FP system
Average						

West Campus Residence Halls and Village Townhouses

EXISTING CONDITIONS

Cayuga Hall

Heating Plant

Summary

The existing heating system in Cayuga is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the basement level mechanical room and is reduced to low pressure by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger to provide hot water to the building convectors and heating and ventilating (HV) units. Hot water is pumped to the building HVAC by two base mounted pumps. Steam condensate is returned to a condensate receiver unit which is then pumped back to the central heating plant.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves in the basement mechanical room.
- A shell and tube heat exchanger (1973) provides hot water to convectors, heating and ventilating units (HV), and unit heaters.
- Two 10HP hot water pumps rated at 510 GPM and 45 ft head circulate hot water to building heating equipment.
- Duplex condensate receiver unit.

Facilities Maintenance Planned

- Heating system repairs

Additional Maintenance Recommendations

- The heat exchanger, pumps, and duplex condensate receiver were installed between 1967 and 1973 and are in poor condition. All are well beyond their useful life and need to be replaced.

System Recommendations

- Replace major heating equipment including heat exchangers, condensate receiver, and hot water pumps.
- Install building-level steam submeter.

Picture 1: Pressure Reducing Valve Station	Picture 2: Hot Water Convector (Shell and Tube Heat Exchanger)	Picture 3: Hot Water Pumps
		

HVAC System

Summary

Student residences are served by hot water convectors, while common areas and the basement service spaces are heated by HV units. The system provides reliable heating, but lack of individual controls leads student rooms to be too hot in shoulder seasons. (Operable windows are present to help students control room temperature.)

Equipment

- HV-1 is a 100% OA unit with steam heating coil with 3 way valves. HV-1 serves the laundry room.
- HV-2 through HV-5 serve the lounges. They are constant volume units that use hot water heating coils. HV-2 and HV-3 have ¼ HP supply fan motors, and HV-4 and HV-5 have ¾ HP supply fan motors.
- Hot water convectors serve student rooms.

Facilities Maintenance Planned

- Heating system seasonal startup
- Heating system repairs

Additional Maintenance Recommendations

- Implement hot water supply temperature reset.

System Recommendations

- Replace HV units.
- HV-1 through HV-5 were installed in 1967 and require replacement.
- Implement demand control ventilation.

Picture 4: Hot Water Convectors	Picture 5: HV Unit
	

Glycol Chilled Water System

Summary

One small, air-cooled chiller provides chilled water to the basement mechanical room. Glycol is added by the glycol feeder tank, and chilled water is supplied to the IT closets by two inline pumps. The chiller, glycol feeder tank, and associated pumps and piping are in good condition and suitable for continued use.

Equipment

- Two inline glycol chilled water pumps serve IT rooms.
- Glycol Feeder Tank
- Air Cooled Chiller

Facilities Maintenance Planned

- List projects from Oswego's list (attached)

Additional Maintenance Recommendations

- Preventative maintenance on CHW pumps and associated equipment.

System Recommendations

- No replacement recommended at this point in time.

Picture 6: Glycol Feeder Tank

Control Systems

Summary

The existing control system consists of partial BAS and partial pneumatic controls. Air compressors in the basement mechanical room work with the old heating equipment. Chilled water pumps and glycol system work with the Trane BAS. All controls should be upgraded and connected to a DDC building automation system (BAS).

The existing temperature control system is pneumatic for much of the older equipment. Two air compressor stations maintain compressed air for pneumatic controls. The air compressors and pneumatic control system are approximately 50 years old and in fair condition. Hot Water and Domestic Hot Water temperature is monitored by a BAS but controlled pneumatically. The chilled water and glycol feeder are electronically controlled. All controls should be upgraded and connected to the building automation system (BAS).

Equipment

- Trane BAS
- Air compressor and Pneumatic controls (1967)

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- None

System Recommendations

- Replace pneumatic control system and connect to DDC system on BAS.
- Implement Demand Control Ventilation.
- Implement HW supply temperature reset.
- Install occupancy-based HVAC controls.
- Retro-commissioning of HVAC systems and controls
- Setback equipment during academic breaks

Picture 7: Air Compressors

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loop. The 13.2kV feeder feeds a 13.2kV switchgear located inside the electrical room that has been updated and installed around 2000 which is in very good condition. There is a 1600A 120/208V 3 phase 4 wire switchboard that was also installed around 2000 and located inside the electrical room that is in good condition. Outside of the General Electric (120/208V 3 phase 4 wire) panelboards LP-ST & panel DA, which are both very old, the duration of the panels inside this building are in good condition.

Emergency Power is supplied by a 50kVA 120/208V 3 phase Olympian emergency generator which is located inside this building. This generator is configured to supply emergency mechanical equipment with a 100A breaker and street lighting with a 60A breaker.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1600A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Generator (50kVA; 120/208V 3 Phase 4 Wire)

Facilities Maintenance Planned

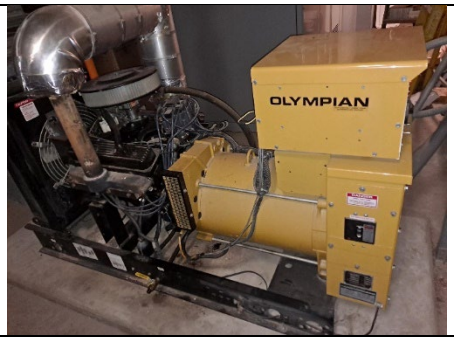
- Replace Generator

Additional Maintenance Recommendations

- Megger test cables, test breakers in panels and test generator

System Recommendations

- Replace Panelboards

Picture 8: (Panel LP-ST)	Picture 9: (Panel DA)	Picture 10: (Emergency Generator)
		

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 2007. Fire Alarm Control Panel (Simplex 4100-9111) contains battery backup and all of the Fire Alarm equipment connected to this system is in good condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Exit Signs
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

- Fire Alarm Maintenance

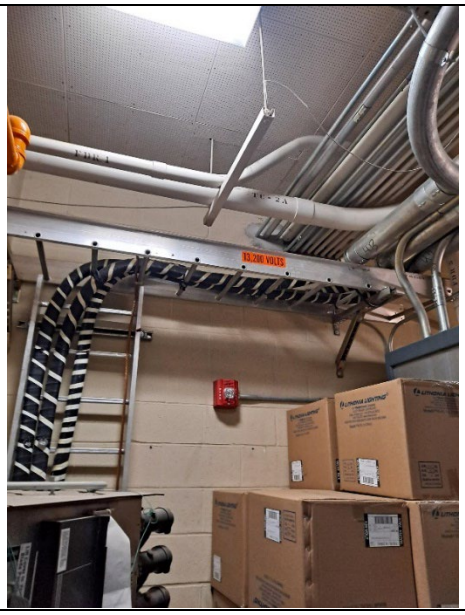
Additional Maintenance Recommendations

- Maintenance & Testing

System Recommendations

- None

Picture 11: Strobe



Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in good condition and provided adequate light levels throughout the facility.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- Replace lights in parts of the building.

Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Upgrade all interior and exterior lights to LED lighting in the near future.
- Install daylight sensor controls.
- Install occupancy/vacancy sensor controls.

Lightning Protection

Summary

The existing lightning protection system located on the roof is in good condition. There was a re-roofing that was done back in 2009 in which the equipment was reinstalled, the lightning protection system still looks good.

Equipment

- Air Terminals
- Bare Ground Cables
- Ground Riser

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Inspect/test air terminals, bare ground cables and ground riser.

System Recommendations

- None

Fire Protection

Summary

Cayuga Hall was not sprinklered when originally constructed. A 1986 renovation added a standpipe and a partial sprinkler system to the building. The system consists of an 8" dedicated fire main that enters the mechanical room at the basement level with an eight- inch single check valve and an alarm valve. A 4" pipe extends to the outside where it connects to a freestanding fire department Siamese connection (FDC).

There are three six-inch wet automatic standpipes in stairways A and B, both located at the southeast and southwest of the building, and stairway C located at the center north corridor of the building. These three standpipes are fitted with 2-1/2" fire hose valves at each stairway landing. The standpipes also supply water to the sprinkler system throughout some of the hallways and along the egress paths partially sprinklered.

The basement level is fully sprinklered using pendent and upright sprinkler heads while pendant and sidewall sprinkler heads are used in select corridors at floors 1 through four to provide partial sprinkler protection.

Equipment

- Three 6" diameter Standpipe (1986)
- One 8" Alarm Check Valve at service entry
- An outside freestanding Siamese FDC

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Annual inspection of the sprinkler system by a certified contractor.

System Recommendations

- Install a Double Check Detector Backflow Prevention Assembly on the incoming 8" fire water service to protect the city water supply from cross contamination caused by backflow from fire water to city supply system. The proposed valve shall comply with ASSE-1048
- Extend sprinkler protection throughout the building.

Picture 12: FDC

Plumbing

Summary

Cayuga building is a four story dormitory building with a full basement built in 1969. The basement houses the laundry room, recreation room, storage spaces, and utility service rooms. First floor houses student dorm rooms, recreation room, and administrative spaces. Floors two through four houses student dorm rooms and bathrooms and showers. Floors one to four are built around two courtyards that are open to above.

The storm system is comprised of roof drains with internal rain leaders that connect below basement floor level, where it finally exists the building on the south side via three 8" storm sewer line to connect to the main site storm system. The courtyards are drained via several area drains that drop and connect to the storm drainage system in the basement. No backwater valves exist on these lines.

The building sanitary is comprised of two 6" sewer lines that exist the building from the south side to connect to the main outside sewer system. No inline house-traps exist on these lines.

The domestic water supply enters the basement level at the east side mechanical room. The incoming water supply is a 4" fitted with a 4" water meter and 4" full bypass. A 4" discharge from the water meter extends throughout to serve the kitchen and bathrooms throughout the building.

The domestic hot water is provided by a packaged steam to hot water converter that is located within the hot water storage tank. Two 2 hp base-mounted centrifugal hot water recirculation pumps are used to circulate the hot water throughout the building to prevent cooling off the hot water loop temperature. Two 3-way pneumatically controlled temperature regulating valves are located on the hot water supply line to the building to accurately control and maintain the hot water supply temperature at the desired level. The hot water storage setpoint is at 140°F. The DWH storage tank is original and in fair condition.

A small electric water heater serves the resident director apartment suite. The water heater is relatively new and in good condition. The actual size of the heater could not be verified.

Plumbing fixtures throughout are original to the building and are comprised of wall mounted toilets with flush valve, wall mounted urinals with flush valve, wall mounted lavatories with separate hot and cold water faucets, and floor mounted bathtubs with hot and cold mixing valves.

Equipment

- Domestic hot water heat exchanger and storage tank (1969)
- Two base mounted centrifugal hot water circulators, 2 hp each
- Two 3-way pneumatic control valves
- Domestic water meter (size could not be verified)
- Electric water heater (size could not be verified)

Facilities Maintenance Planned

- Bottle fill station

Additional Maintenance Recommendations

- Preventative inspection of the domestic hot water storage tank and steam heat exchanger
- Annual inspection of recirculating pumps
- Annual inspection of two 3-way hot water pneumatic valves
- Annual inspection of domestic water meter

System Recommendations

- Replace heat exchanger and DHW tank.
- Install Low-Flow or Ultra Low-Flow showerheads.

Picture 13: Domestic HW Tank

FACILITIES MAINTENANCE NEEDS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace HV units. Implement DCV with new HV units.

Proposed work for 5-10 year:

- Replace domestic water service, and HW tank.
- Implement the proposed plumbing water conserving measures and install low flow shower heads, new plumbing fixtures.

Proposed work for 10-20 year:

- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 20+ year:

- Replace cooling equipment, glycol feeder, pumps, fluid cooler.
- Replace Fire Alarm.
- Replace Generator.

EXISTING CONDITIONS

Oneida Hall

Heating Plant

Summary

The existing heating system in Oneida Hall is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the basement level mechanical room and is reduced to low pressure by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger and to provide hot water to the building convectors, heating and ventilating (HV) units, and unit heaters. Two 10HP water pumps supply hot water to the building. Steam condensate goes to a duplex condensate receiver unit which uses two 3HP pumps to pump condensate back to the central heating plant.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves in the basement mechanical room.
- A shell and tube heat exchanger provides hot water to convectors, heating and ventilating units (HV), and unit heaters.
- Two 10HP hot water pumps rated at 510 GPM and 45 ft head circulate hot water to building heating equipment.
- Duplex condensate receiver unit.

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- The heat exchanger, pumps, and duplex condensate receiver were installed in 1969 and are in poor condition. All are well beyond their useful life and need to be replaced.

System Recommendations

- Replace major heating equipment including heat exchangers, condensate receiver, and hot water pumps.
- Install building-level steam submeter.

Picture 1: Pressure Reducing Valve Station	Picture 2: Duplex Condensate Receiver	Picture 3: Hot Water Pumps
		

HVAC System

Summary

Student residences are served by hot water convectors, while common areas and the basement service spaces are heated by HV units. The system provides reliable heating, but lack of individual controls leads student rooms to be too hot in shoulder seasons. (Operable windows are present to help students control room temperature.)

Equipment

- HV-1 is a 5,800 cfm unit, with hot water coil.
- HV-2 is a multizone unit that serves the student lounges on the 1st, 2nd, and 3rd floors. It supplies 6,000 cfm total, 2,000 to each floor, and uses a hot water coil.

Facilities Maintenance Planned

- Heating system seasonal startup

Additional Maintenance Recommendations

- HV-1 and HV-2 were installed in 1969 and require replacement.

System Recommendations

- Replace HV units.

Picture 4: HV-1

Glycol Chilled Water System

Summary

A glycol chilled water system provides CHW to the Oneida IT rooms. Two inline pumps located in the basement mechanical room pump water to the IT closets. The associated fluid cooler, pumps and piping were installed in approximately 2006, are in good condition and are suitable for continued use.

Equipment

- Two inline glycol chilled water pumps serve IT rooms (2012).

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Preventative maintenance on CHW pumps and associated equipment.

System Recommendations

- No replacement recommended at this point in time.

Picture 5: Glycol Feeder Tank	Picture 6: Glycol CHW Inline Pumps
	

Control Systems

Summary

The existing control system consists of partial BAS and partial pneumatic controls. Air compressors in the basement mechanical room work with the old heating equipment. Chilled water pumps and glycol system work with the Trane BAS. All controls should be upgraded and connected to a DDC building automation system (BAS).

Equipment

- Trane Trace SC BAS (2012).
- Carrier i-Vu 8.0
- Air compressor and Pneumatic controls (1969)

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A

System Recommendations

- Connect building to BAS system.
- Replace pneumatic actuators with electronic controls.
- Retro-commissioning of HVAC systems and Controls
- Setback equipment during academic breaks

Picture 7: Air Compressor	Picture 8: Trane Control System
	

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loops. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room that was installed around 2000 and is still in good condition. There is a 1600A 120/208V 3 phase 4 wire Cutler Hammer switchboard that was also installed around 2000 and located inside the electrical room that is in good condition. The majority of the (120/208V 3 phase 4 wire) electrical panelboards are in good condition except for the few Cutler Hammer panelboards which are old and in poor condition, they should be replaced very soon.

Emergency Power is supplied by a 75kVA 120/208V 3 phase Olympian emergency generator that was installed in 1997 and is located inside this building. This generator is configured to supply street lighting with a 100A breaker.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1600A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (75kVA)

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- Panelboards

Picture 9: (Emergency Generator):	Picture 10: (Panelboard):	Picture 11: (Switchboard):
		

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 2007. The Fire Alarm Control Panel (Simplex 4100-U) contains battery backup and all of the Fire Alarm equipment connected to this system is in good condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- N/A

Picture 12: Annunciator Panel

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in okay condition, as majority of the light fixtures are old but operable.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Replace all interior fluorescent lights with LED lighting.
- Replace all exterior lights with LED lighting.
- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Lightning Protection

Summary

The existing lightning protection system located on the roof is in good condition. There was a re-roofing that was done back in 2009 in which the equipment was reinstalled, the lightning protection system still looks good.

Equipment

- Air Terminals
- Bare Ground Cables
- Ground Riser

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Inspect/test air terminals, bare ground cables and ground riser.

System Recommendations

- N/A

Fire Protection

Summary

Oneida building is a four story dormitory building with a full basement built in 1969. The basement houses the laundry room, recreation room, storage spaces, and utility service rooms. First floor houses student dorm rooms, recreation room, and administrative spaces. Floors two through four houses student dorm rooms and bathrooms and showers. Floors one to four are built around two courtyards that are open to above.

Oneida Hall was not sprinklered when originally constructed. A 1986 renovation added a standpipe and a partial sprinkler system to the building. The system consists of an 8" dedicated fire main that enters the mechanical room at the basement level at the north-east corner of the building. The line then connects to an eight-inch single check valve and an alarm valve. A 4" pipe extends to the outside where it connects to a freestanding fire department Siamese connection (FDC).

There are three six-inch wet automatic standpipes in stairways A and B, both located at the southeast and southwest of the building, and stairway C located at the center north corridor of the building. These three standpipes are fitted with 2-1/2" fire hose valves at each stairway landing. The standpipes also supply water to the sprinkler system throughout some of the hallways and along the egress paths partially sprinklered.

Basement level is fully sprinklered using pendent and upright sprinkler heads while pendant and sidewall sprinkler heads are used in select corridors on floors 1 through four to provide partial sprinkler protection.

Equipment

- Three 6" diameter Standpipe (1986)
- One 8" Alarm Check Valve at service entry
- An outside freestanding Siamese FDC

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Annual inspection of the sprinkler system by a certified contractor.

System Recommendations

- Install a Double Check Detector Backflow Prevention Assembly on the incoming 8" fire water service to protect the city water supply from cross contamination caused by backflow from fire water to city supply system. The proposed valve shall comply with ASSE-1048
- Extend sprinkler protection throughout the building.

Picture 13: FDC

Plumbing

Summary

The Oneida Hall is a four story dormitory building with a full basement built in 1969. The basement houses the laundry room, recreation room, storage spaces, and utility service rooms. First floor houses student dorm rooms, recreation room, and administrative spaces. Floors two through four houses student dorm rooms and bathrooms and showers. Floors one to four are built around two courtyards that are open to above.

The storm system is comprised of roof drains with internal rain leaders that connect below basement floor level, where it finally exists the building on the south side via two 10" storm sewer line to connect to the main site storm system. The courtyards are drained via several area drains that drop and connect to the storm drainage system in the basement. No backwater valves exist on these lines.

The building sanitary is comprised of two 6" sewer lines that exist the building from the south side to connect to the main outside sewer system. No inline house-traps exist on these lines.

The domestic water supply enters the basement level at the east side mechanical room. The incoming water supply is a 4" fitted with a 4" water meter and 4" full bypass. A 4" discharge from the water meter extends throughout to serve the kitchen and bathrooms throughout the building.

The domestic hot water is provided by a packaged steam to hot water converter that is located within the hot water storage tank. Two 2 hp base-mounted centrifugal hot water recirculation pumps are used to circulate the hot water throughout the building to prevent cooling off the hot water loop temperature. Two 3-way pneumatically controlled temperature regulating valves are located on the hot water supply line to the building to accurately control and maintain the hot water supply temperature at the desired level. The hot water storage setpoint is at 140°F. The DWH storage tank is original and in fair condition.

A small electric water heater serves the resident director apartment suite. The water heater is relatively new and in good condition. The actual size of the heater could not be verified.

Plumbing fixtures throughout are original to the building and are comprised of wall mounted toilets with flush valve, wall mounted urinals with flush valve, wall mounted lavatories with separate hot and cold water faucets, and floor mounted bathtubs with hot and cold mixing valves.

Equipment

- Domestic hot water heat exchanger and storage tank (1969)
- Two base mounted centrifugal hot water circulators, 2 hp each
- Two 3-way pneumatic control valves
- Domestic water meter (size could not be verified)
- Electric water heater (size could not be verified)

Equipment

- Domestic hot water heat exchanger and storage tank (1969)
- Two base mounted centrifugal hot water circulators, 2 hp each
- Two 3-way pneumatic control valves
- Domestic water meter (size could not be verified)
- Electric water heater (size could not be verified)

Facilities Maintenance Planned

- Bottle fill station

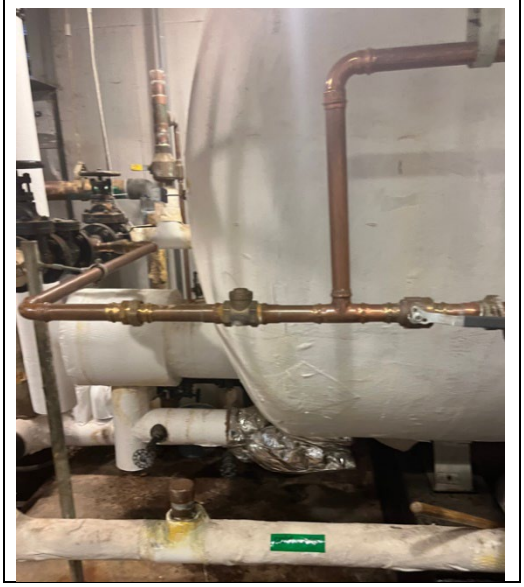
Additional Maintenance Recommendations

- Preventative inspection of the domestic hot water storage tank and steam heat exchanger
- Annual inspection of recirculating pumps
- Annual inspection of two 3-way hot water pneumatic valves
- Annual inspection of domestic water meter

System Recommendations

- Replace heat exchanger and DHW tank.
- Install Low-Flow or Ultra Low-Flow showerheads.

Picture 14: Domestic HW Tank



FACILITIES MAINTENANCE RECOMMENDATIONS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace convectors and HV units. Implement DCV.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 5-10 year:

- Replace domestic water service, and HW tank.
- Implement the proposed plumbing water conserving measures and install low flow fixtures.
- Install backflow preventer on fire main and extend sprinkler system.

Proposed work for 10-20 year:

- Replace panelboards.
- Replace generator.
- Replace Fire Alarm.
- Replace fire protection system.

Proposed work for 20+ year:

- Replace cooling equipment, glycol feeder, pumps, fluid cooler.

EXISTING CONDITIONS

Onondaga Hall

Heating Plant

Summary

The existing heating system in Onondaga Hall is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the basement level mechanical room at 50 psig and is reduced to low pressure around 12 psig by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger and to provide hot water to the building convectors, heating and ventilating (HV) units, and unit heaters. Two 7.5HP water pumps supply heating hot water to the building. Steam condensate goes to a 1.5HP condensate receiver unit and two 5HP condensate pumps which pump condensate back to the central heating plant.

The heat exchanger, condensate receiver, hot water and condensate pumps all appear to be original to the building. Therefore, they were installed in approximately 1966 and are 50 to 60 years old and in poor condition. All heating equipment is well beyond its useful life.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves, located within the basement level mechanical room.
- Shell and tube heat exchanger converts low pressure steam to heating hot water. Uses Pneumatic control valve to modulate HW supply temperature.
- HW pumps (P-1, P-2) are 7.5 HP base mounted, centrifugal hot water pumps which circulate hot water to the building terminal units. Rated for 316 gpm at 45 ft head. Original to the building and in poor condition.
- A separate shell and tube steam to hot water converter serves the resident director suite.
    - HW supply temperature reset based on outside air (OA), 180F at 30F OA, 140F at 60F OA.
- Duplex condensate receiver unit.

Facilities Maintenance Planned

- Shell and tube heat exchanger for majority of building scheduled to have an electronic control valve by 2023.

Additional Maintenance Recommendations

- The heating equipment is all over 50 years old and past its useful life.

System Recommendations

- Replace major heating equipment, heat exchangers, pumps, condensate receiver.
- Install building-level steam submeter.

Picture 1: HW Pumps	Picture 2: Steam and Condensate Lines
	

HVAC System

Summary

Student residences are served by hot water convectors, while common areas and the basement service spaces are heated by heating and ventilating (HV) units. The system provides reliable heating, but lack of individual controls leads student rooms to be too hot in shoulder seasons. (Operable windows are present to help students control room temperature.)

Equipment

- 1 HV unit provides makeup air to the laundry room exhaust. 100% OA unit with supply fan motor controlled by VFD to track exhaust fan VFD. HW heating coil with two-way pneumatic valve.
- 11 additional HV units supply ventilation to corridors and common areas. They use pneumatic damper actuators.
    - 9 units have HW heating coils.
    - 2 units have steam heating coils.
- HW convectors provide heating to student dorms.

Facilities Maintenance Planned

- Heating system seasonal startup

Additional Maintenance Recommendations

- HV units and convectors are beyond their useful life.

System Recommendations

- Replace HV units and convectors.

Picture 3: HV Unit

Chilled Water System

Summary

A glycol chilled water system provides CHW to the Onondaga IT rooms. Two inline pumps located in the basement mechanical room pump water to the IT closets. A glycol feeder tank located in the basement feed glycol into the CHW. The associated fluid cooler, pumps and piping were installed in the past 20 years, are in good condition and are suitable for continued use.

Equipment

- Two inline glycol pumps (GLP-1 and GLP-2) with triple duty valves.
- Glycol Feeder Tank
- Fluid Cooler
- Liebert FCUs

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Preventative maintenance on Chillers, Cooling Tower, CHW pumps and associated equipment.

System Recommendations

- No replacement recommended at this point in time.

Picture 4: Glycol Pumps	Picture 5: Glycol Feeder Tank	Picture 6: Fluid Cooler
		

Control Systems

Summary

The existing temperature control system is partial electronically controlled and mostly pneumatically actuated.

There is a Carrier BAS working with only the laundry HV unit and exhaust fans.

Actuators for all equipment should be upgraded to electronic, and all equipment should be connected to the building automation system (BAS).

Equipment

- Carrier BAS i-Vu 8.0
- Air compressor for pneumatic actuators

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A

System Recommendations

- Connect building systems to BAS.
- Replace pneumatic actuators with electronic controls.
- Retro-commissioning of HVAC systems and Controls
- Setback equipment during academic breaks

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loops. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room that was installed around 2000 and is still in good condition. There is a 1600A 120/208V 3 phase 4 wire Square D switchboard that is very old located inside the electrical room that should be replaced soon. The majority of the Cutler Hammer (120/208V 3 phase 4 wire) electrical panelboards were installed in 2000 and are in good condition.

Emergency Power is supplied by a 100kVA 120/208V 3 phase emergency generator that was installed back in 1997 located inside this building which is in okay condition.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1600A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (100kVA)

Facilities Maintenance Planned

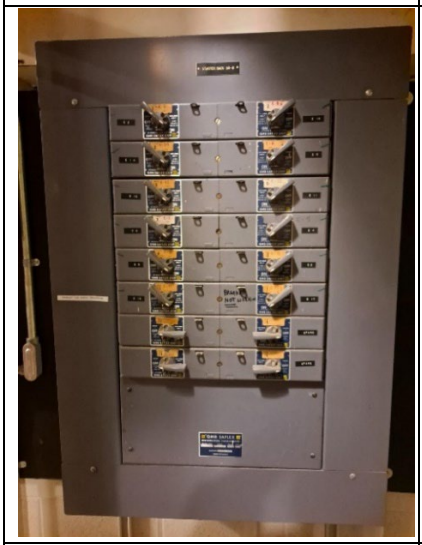
- Replace Generator

Additional Maintenance Recommendations

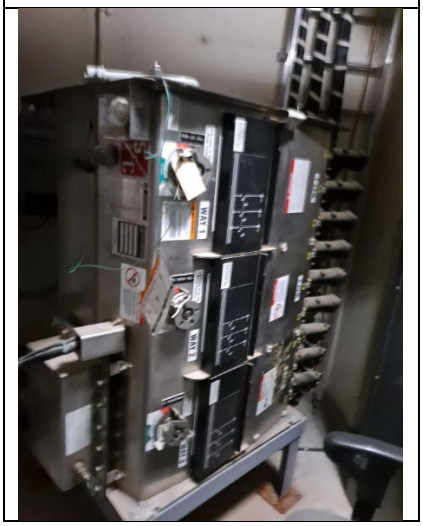
- Megger test cables and test breakers in panels

System Recommendations

- Switchboard & Panelboards

Picture 7 (Switchboard):	Picture 8: (Panelboard):	Picture 9: (Panelboard):
		

Picture 10 (Switchgear):



Fire Alarm

Summary

Fire Alarm system for this building was updated back in 2007. The Fire Alarm Control Panel (Simplex 4100-U) contains battery backup and all of the Fire Alarm equipment connected to this system is in good condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- N/A

Picture 10: Exit Sign

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in okay condition, as majority of the light fixtures are old but operable.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- Replace lighting in parts of building.

Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Replace all interior fluorescent lights with LED lighting.
- Replace all exterior lights with LED lighting.
- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Fire Protection

Summary

Onondaga Hall is a ten story building with a full basement that is a walkout on the west side. It was originally constructed in 1966 and not sprinklered at the time. However, initially a basic fire standpipe system was included in the building installation with a connection to the city water supply. During a 1987 life safety renovation, partial sprinkler protection was added to parts of the building such as egress corridors.

The current system consists of a 6" fire main that is teed-off of the incoming 6" combined domestic and fire water service in the basement mechanical room. An existing 6" single check with a detector meter assembly is installed on the fire water service side. The incoming water service is from the east side and very close to the north-east corner of the building. The system is equipped with an outside Siamese connection at the grade level.

The distribution system does not have a fire booster pump and it relies on the city supply pressure for the pressure to flow water to the sprinkler system, even at the 10th floor level.

The distribution system also consists of two 6" diameter standpipes located at two stair towers on the north and south of the building. There are 2-1/2" fire hose valves at each stair landing. There is partial sprinkler system off both standpipes with sprinkler zone control valve that serves small areas at each floor, mostly egress corridors.

Equipment

- Single check valve backflow preventer assembly
- Two 6" Standpipe
- Outside FDC

Facilities Maintenance Planned

- Annual inspection of the fire system by a licensed contractor.

Additional Maintenance Recommendations

- Inspect the single check valve backflow preventer assembly.

System Recommendations

- Install a Double Check Detector Backflow Prevention Assembly on the incoming 8" fire water service to protect the city water supply from cross contamination caused by backflow from fire water to city supply system. The proposed valve shall comply with ASSE-1048
- Extend sprinkler protection throughout the building.

Plumbing

Summary

The Onondaga building is located to the west of Cayuga and pathfinder buildings and sharing a common quad. The Onondaga building is a 10 story building with a full basement originally built in 1966. As it relates to plumbing system, the building had a major laundry renovation in 2007, a major bathroom renovation in 2008, and minor fire protection work in 2008.

The basement houses the laundry room, recreation room, storage spaces, and utility service rooms. The first floor houses the student lounge, Lobby, Director, and other specialty living spaces, and other administrative spaces. Floors two through nine house student dorm rooms, bathrooms, and showers.

The storm system is comprised of roof drains with internal rain leaders that connect below basement floor level, where it finally exists the building on the west side via a single 10" storm sewer line to connect to the main site storm system. No backwater valve exists on this line. The entire piping system was installed during original 1966 building construction.

The building sanitary is comprised of one 8" sanitary sewer line that exits the building from the west side to connect to the main outside sewer system. The sanitary line exiting the building is not equipped with a house-trap.

There is a small gas supply to the building, with an outside regulator, which provides gas for the emergency generator at the building.

The domestic water supply enters the basement level at the east side mechanical room near the very north-east corner of the room. The incoming water supply is a 6" diameter entering the mechanical room, where it then splits in to 4" domestic and a 6" fire. There is no backflow preventer installed on the domestic water supply. A full size 4" bypass is installed around the water meter. There is basket strainer installed before the meter however due to close installation of a fintube heater, the basket strainer is no longer accessible.

The domestic water supply, downstream of the meter, connects directly to the distribution system without a booster pump, using city supplied pressure only.

The existing domestic hot water was, still in use, has a single 1,000 gallon hot water storage tanks with a steam to water heating tube bundle within. This unit appears to be the original tank installed for this building. A hot water recirculation system uses an inline pump to maintain the hot water temperature throughout the building distribution system. DHW services building bathrooms, sinks, showers, and kitchenettes.

One 3-way pneumatically operated temperature regulating control valve is located on the hot water supply line to the building to control and maintain the hot water supply temperature at the desired level. The hot water discharge from the valve is set at 110°F.

The plumbing fixtures throughout were all replaced during the 2008 Bathroom Renovation project. These are comprised of wall mounted toilets with flush valves, wall mounted urinals with flush valves, wall mounted lavatories with hot and cold water faucets, and standing shower bays with shower valves. Due to their recent change, it is believed that all the flush valves and faucets throughout are of water saving type.

Equipment

- 1,000 gallon domestic hot water storage tank and steam heating bundle
- Pneumatic control valves hot water temperature regulator.
- Inline centrifugal pump

Facilities Maintenance Planned

- Bottle fill station

Additional Maintenance Recommendations

- Preventative maintenance on domestic HW tank

System Recommendations

- Replace DHW tank.
- Install Low-Flow or Ultra Low-Flow showerheads.

Picture 11: Domestic HW Tank	Picture 12: Incoming Water Service and Meter Assembly
	

FACILITIES MAINTENANCE RECOMMENDATIONS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace convectors and HV units. Implement DCV.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 5-10 year:

- Replace domestic water service, and HW tank.
- Implement the proposed plumbing water conserving measures and install low flow fixtures.
- Install backflow preventer on fire main and extend sprinkler system.

Proposed work for 10-20 year:

- Replace panelboards.
- Replace generator.
- Replace Fire Alarm.
- Replace fire protection system.
- Replace telephone/data system.

Proposed work for 20+ year:

- Replace cooling equipment, glycol feeder, pumps, fluid cooler.

EXISTING CONDITIONS

Seneca Hall

Seneca Hall was constructed in 1967 and is a ten story high rise dormitory with a full walk out basement. The building was under design for a major gut renovation in 2023 to 2024 at the start of this Master Plan report, yet the project was put on hold for budget reasons.

Heating Plant

Summary

The existing heating system in Seneca Hall is served by a medium pressure steam line from the central heating plant. The medium pressure steam enters the basement level mechanical room at 50 psig and is reduced to low pressure around 12 psig by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger and to provide hot water to the building convectors, heating and ventilating (HV) units, and unit heaters. Two 10 HP water pumps supply heating hot water to the building. Steam condensate goes to a condensate receiver unit and two 5 HP condensate pumps which pump condensate back to the central heating plant.

The heat exchanger, condensate receiver, hot water and condensate pumps all appear to be original to the building. Therefore, they were installed in approximately 1966 and are 50 to 60 years old and in poor condition. All heating equipment is well beyond its useful life.

Equipment

- Steam to water hot water converter.
- Hot water circulating pumps, 10 hp each.
- Steam PRV station, 2-stage hi-med-low.
- Condensate receiver and pumps. 5 hp each

Facilities Maintenance Planned

- None, due to planned renovation

Additional Maintenance Recommendations

- None.

System Recommendations

- Install building-level steam submeter.

Picture 1: Condensate Pumps	Picture 2: PRV Station
	

HVAC System

Summary

The ventilation air is provided through eight ceiling mounted HV units in the basement. Some units serve the basement, and some serve the upper floors core areas with bathrooms and corridors. Ventilation air enters the building through perforated grilles above the basement windows into fresh air plenums above the basement ceiling. The air from the fresh air plenums then enters the HV units. The HV units have hot water coils to heat the air and fans to distribute the air into the building ductwork. Ventilation air is distributed to basement common student spaces and support areas, first floor lounges and lobbies, and typical floor 2-10 lounges and corridors.

Student residences are served by hot water convectors, while common areas and the basement service spaces are heated by HV units. The system provides reliable heating, but lack of individual controls leads student rooms to be too hot in shoulder seasons. (Operable windows are present to help students control room temperature.)

Building exhaust is served by nine exhaust fans on the roof. The exhaust fans are directly connected to vertical exhaust shafts that run down to the lower levels of the building. The exhaust shafts are ducted to building bathrooms, janitor closets, lockers, and the basement mechanical room.

Equipment

- HV units 1 through 8
- Exhaust fans 1 through 9

Facilities Maintenance Planned

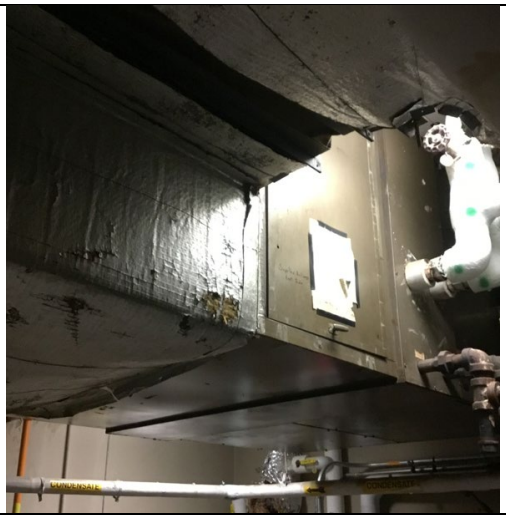
- A planned renovation was put on hold for budget reasons.

Additional Maintenance Recommendations

- N/A.

System Recommendations

- N/A

Picture 3: Hot Water Convectors	Picture 4: HV Unit
	

Glycol Chilled Water System

Summary

One small, air-cooled chiller provides chilled water to the basement mechanical room. Glycol is added by the glycol feeder tank, and chilled water is supplied to the IT closets by two inline pumps. The chiller, glycol feeder tank, and associated pumps and piping are in good condition and suitable for continued use.

Equipment

- Two inline glycol chilled water pumps serve IT rooms.
- Glycol Feeder Tank
- Air Cooled Chiller

Facilities Maintenance Planned

- A planned renovation was put on hold for budget reasons.

Additional Maintenance Recommendations

- Preventative maintenance on CHW pumps and associated equipment.

System Recommendations

- No replacement recommended at this point in time.

Picture 5: Glycol Feeder Tank

Control Systems

Summary

The existing control system consists of partial BAS and partial pneumatic controls. Air compressors in the basement mechanical room work with the old heating equipment. Chilled water pumps and glycol system work with the Trane BAS. All controls should be upgraded and connected to a DDC building automation system (BAS).

The existing temperature control system is pneumatic for much of the older equipment. Two air compressor stations maintain compressed air for pneumatic controls. The air compressors and pneumatic control system are approximately 50 years old and in fair condition. Hot Water and Domestic Hot Water temperature is monitored by a BAS but controlled pneumatically. The chilled water and glycol feeder are electronically controlled. All controls should be upgraded and connected to the building automation system (BAS).

Equipment

- Trane BAS, controls HV units and pumps.
- Carrier i-Vu 8.0 controls the chiller/dry cooler and laundry room.
- Air compressor and Pneumatic controls (1973)

Facilities Maintenance Planned

- A planned renovation was put on hold for budget reasons.

Additional Maintenance Recommendations

- N/A

System Recommendations

- Connect building systems to BAS.
- Implement hot water supply temperature reset.
- Install occupancy-based hvac controls.
- Replace pneumatic actuators with electronic controls.
- Retro-commissioning of HVAC systems and Controls
- Setback equipment during academic breaks

Picture 6: Air Compressors

Electrical

Summary

Electrically, this building is fed from the National Grid substation located on Washington Boulevard. Outside of electrical panels LP-ST & panel DA, which are both very old, the duration of the panels inside this building are in good condition. Emergency Power is supplied by an emergency generator which is located inside this building.

Equipment

- Transformer, Switchgear & Panelboards

Facilities Maintenance Planned

- A planned renovation was put on hold for budget reasons.

Additional Maintenance Recommendations

- N/A

System Recommendations

- electrical panels LP-ST & panel DA
- Replace generator.

Fire Alarm

Summary

A new fire alarm system was installed in 2007. Fire Alarm Control Panel contains battery backup, and all of the Fire Alarm equipment is in good condition**.**

Equipment

- Strobes, Pull Station & Control Panel

Facilities Maintenance Planned

- A planned renovation was put on hold for budget reasons.

Additional Maintenance Recommendations

- N/A

System Recommendations

- N/A

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of several styles of T8 and compact fluorescents. All were in good condition and provide adequate light levels throughout the facility.

Equipment

- T8 Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- A planned renovation was put on hold for budget reasons.

Additional Maintenance Recommendations

- N/A

System Recommendations

- Replace all interior fluorescent lights with LED lighting.
- Replace all exterior lights with LED lighting.
- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Fire Protection

Summary

Seneca Hall is a ten story building with a full basement that is a walkout on the east side. It was originally constructed in 1967 and was not sprinklered at the time. However, a basic fire standpipe system was included in the building construction with a connection to the city water supply. During a 1987 life safety renovation, partial sprinkler protection was added to parts of the building such as egress corridors.

The current system consists of a 6" fire main that is teed-off of the incoming 6" combined domestic and fire water service in the basement mechanical room. An existing 6" single check valve is installed on the fire water service side. The incoming water service is from the west side and very close to the south-west corner of the building. The system is equipped with an outside Siamese connection at the grade level facing the courtyard.

The distribution system consists of two 6" diameter standpipes located at two stair towers on the north and south of the building. There are 2-1/2" fire hose valves at each stair landing. There is partial sprinkler system off both standpipes with sprinkler zone control valve that serve small areas at each floor, mostly egress corridors.

The distribution system does not have a fire pump and it relies on the city supply pressure for the pressure to flow water to the sprinkler system including the 10th floor level.

Equipment

- Single check valve backflow preventer assembly
- Two 6" Standpipe
- Outside FDC

Facilities Maintenance Planned

- A planned renovation was put on hold for budget reasons.

Additional Maintenance Recommendations

- Inspect the single check valve backflow preventer assembly.

System Recommendations

- Install a Double Check Detector Backflow Prevention Assembly on the incoming 8" fire water service to protect the city water supply from cross contamination caused by backflow from fire water to city supply system. The proposed valve shall comply with ASSE-1048
- Extend sprinkler protection throughout the building.

Plumbing

Summary

The Seneca building is located to the north of Pathfinder Dining Hall. The Seneca building is a 10 story building with a full basement originally built in 1966. As it relates to plumbing system, the building had a major laundry renovation in 2007, a major bathroom renovation in 2008, and minor fire protection work in 2008.

The basement houses the laundry room, recreation room, storage spaces, and utility service rooms. The first floor houses the student lounge, Lobby, Director, and other specialty living spaces, and other administrative spaces. Floors two through nine house student dorm rooms, bathrooms, and showers.

The storm system is comprised of roof drains with internal rain leaders that connect below basement floor level, where it finally exists the building on the west side via a single 10" storm sewer line to connect to the main site storm system. No backwater valve exists on this line. The entire piping system was installed during original 1966 building construction.

The building sanitary is comprised of one 10" sanitary sewer line that exits the building from the west side to connect to the main outside sewer system. The sanitary line exiting the building is not equipped with a house-trap.

There is a small gas supply to the building, with an outside regulator, which provides gas for the emergency generator at the building. There is no gas meter at the building.

The domestic water supply enters the basement level at the east side mechanical room near the very north-east corner of the room. The incoming water supply is a 6" diameter entering the mechanical room, where it then splits in to 4" domestic and a 6" fire. There is no backflow preventer installed on the domestic water supply. A full size 4" bypass is installed around the water meter. There is basket strainer installed before the meter however due to close installation of a fintube heater, the basket strainer is no longer accessible.

The domestic water supply, downstream of the meter, connects directly to the distribution system without a booster pump, using city supplied pressure only.

The existing domestic hot water was, still in use, has a single 1,000 gallon hot water storage tanks with a steam to water heating tube bundle within. This unit appears to be the original tank installed for this building. A hot water recirculation system uses an inline pump to maintain the hot water temperature throughout the building distribution system. DHW services building bathrooms, sinks, showers, and kitchenettes.

One 3-way pneumatically operated temperature regulating control valve is located on the hot water supply line to the building to control and maintain the hot water supply temperature at the desired level. The hot water discharge from the valve is set at 110°F.

The plumbing fixtures throughout are original. These are comprised of wall mounted toilets with flush valves, wall mounted urinals with flush valves, wall mounted lavatories with hot and cold water faucets, and bathtubs and standing shower bays with shower valves.

Equipment

- 1,000 gallon domestic hot water storage tank and steam heating bundle
- Two pneumatic control valves hot water temperature regulator.
- Inline centrifugal pump Domestic hot water heat exchanger and storage tank (1969)

Facilities Maintenance Planned

- A planned renovation was put on hold for budget reasons.

Additional Maintenance Recommendations

- Preventative inspection of the domestic hot water storage tank and steam heat exchanger
- Annual inspection of recirculating pumps
- Annual inspection of two 3-way hot water pneumatic valves

System Recommendations

- Replace heat exchanger and DHW tank.
- Replace all plumbing fixtures and faucets throughout with energy saving products.
- Install Low-Flow or Ultra Low-Flow showerheads.

Picture 7: Domestic HW Tank

FACILITIES MAINTENANCE RECOMMENDATIONS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace convectors and HV units. Implement DCV.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 5-10 year:

- Replace domestic water service, and HW tank.
- Implement the proposed plumbing water conserving measures and install low flow fixtures.
- Install backflow preventer on fire main and extend sprinkler system.

Proposed work for 10-20 year:

- Replace and expand fire protection system.
- Replace telephone/data systems.

Proposed work for 20+ year:

- Replace cooling equipment, glycol feeder, pumps, fluid cooler.
- Replace panelboards.
- Replace generator.
- Replace Fire Alarm.

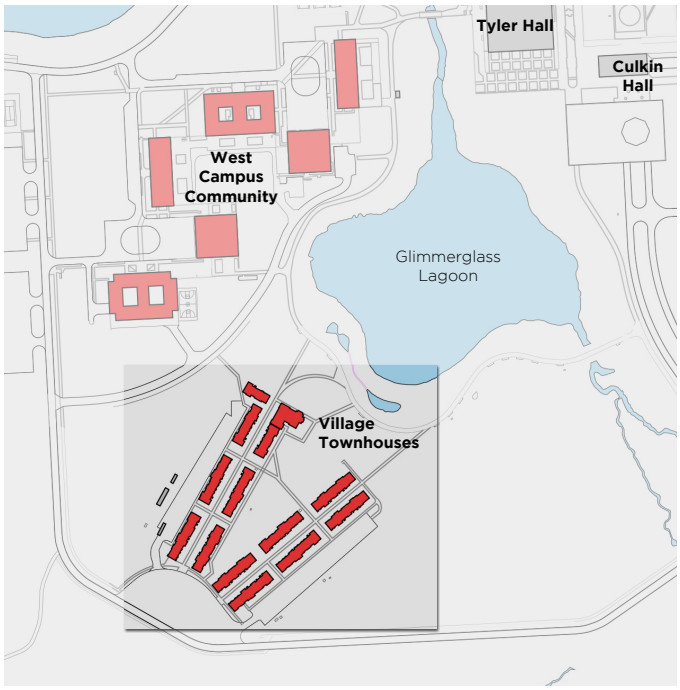
West Campus - Village Townhouses Existing Conditions

The Village Townhouses are in very good condition. Continued regular maintenance is all that is required for these buildings through the 2020s.

150,551 GSF
Two to three stories
336 Beds
Constructed: 2010

Planned facilities maintenance includes:

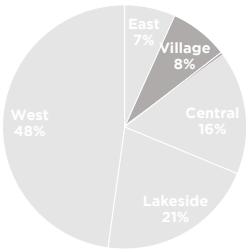
- Replacement of domestic hot water tanks in all units.
- Heating system routine maintenance.
- Replace kitchen countertops in all units.
- Replace asphalt shingles as needed.
- Provide digital code key boxes.
- Repaint units.
- Add bottle filling stations in common areas.



LOCATION PLAN
NTS

Townhouse A	7,535 SF
Townhouse B	7,083 SF
Townhouse C	9,944 SF
Townhouse D	10,000 SF
Townhouse E	13,173 SF
Townhouse F	14,185 SF
Townhouse G	7,102 SF
Townhouse H	7,582 SF
Townhouse I	10,004 SF
Townhouse J	9,940 SF
Townhouse K	13,173 SF
Townhouse L	9,736 SF
Support Space	31,094 SF
Total Gross Area	150,551 GSF

Village Townhouses over the Glimmerglass Lagoon



Village Bed Count
336 Design Capacity
8% of SUNY Oswego capacity

Village Townhouses
Building Condition Assessment

Building Information			
Building Name	The Village Townhouses	Primary Use	Residence Hall
Construction Year	2010	Occupancy Group	R-2 Congregate Living Facility
Major Renovations		Number of Stories	2 to 3
		Gross Square Feet	150,551

System Information	
Heating/Cooling Systems	Fin tube radiators (FTR), HV unis, BCU, and VRF system serve bulding heating, cooling and ventilation, all good condition
Fuel Source	Gas from utility plant
Electrical Service and Capacity	13.2kV Incoming Service
Domestic Water Service and Capacity	4" incoming domestic water to utility plant, then to townhouses
Fire Protection Service and Capacity	Townhouses fed via 2" fire sprinkler line

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Mechanical Systems						
Air-Handling Systems						No major airside equipment in the Villages
Distribution Systems/Terminal Units						
Hot Water Convectors				■	5	Valence units installed in 2010, good condition
Heating Systems				■	5	High efficiency, condensing boilers, pumps, and heating equipment from 2010, good condition
Cooling Systems				■	5	Chillers, heat exchangers, pumps and cooling equipment in good condition
Exhaust Systems				■	3	Moderate condition.
Building Controls				■	5	DDC with BAS. Good condition.
Average					**4.6**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Electrical Systems						
Electrical Service				■	5	13.2kV incoming service, installed around 2010
Electrical Distribution				■	5	1200A 120/208V switchboard - installed around 2010; 120/208V panelboards - installed around 2010
Lighting Systems				■	4	Fluorescent fixtures throughout. When replaced, use LED with occupancy/vacancy sensors and install daylight sensors.
Tel/Data Systems			■		4	System in good condition
Emergency Power Systems				■	5	100kVA emergency generator; installed around 2006
Average					**4.6**	
Fire Alarm Systems				■	5	system in good condition; upgraded around 2010

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Plumbing Systems						
Domestic Water Service				■	5	4" incoming domestic water to utility plant, then to townhouses, good condition
Domestic Water Distribution				■	5	Distribution from 2010, good condition
Domestic Hot Water Systems				■	5	High efficiency condensing water heaters at utility plant, good condition
Drainage Systems					2	No roof drains, sanitary not observed
Plumbing Fixtures				■	5	Fixtures in good condition
Average					**4.4**	

Building Component	Remaining Life 0-5	5-10	10-20	20+	Condition 1=Worst 5=Best	System Summary
Fire Protection Systems						
Fire Protection Service				■	5	Townhouses fed via 2" fire sprinkler line, good condition
Fire Protection Distribution				■	5	Townhouses fed via 2" fire sprinkler line, good condition
Fire Pumps				■	5	No fire pumps
Sprinkler Coverage				■	5	Good sprinkler coverage
Average					**5.0**	

EXISTING CONDITIONS

The Village

The scope of this report is focused on the heating plants adjacent to buildings A and H that provide power, hot water, and chilled water to the townhouses at the West Village. The entire site is relatively new and was commissioned in 2010.

Heating Plant

Summary

The existing heating system at the West Village is located at two central plants that are an extension of buildings A and H. Both heating plants are similar design and layouts, and each serve a network of buildings similar in capacity and layout but mirrored to one another. The hot water for heating of the buildings is generated using two high-efficiency condensing boilers at each plant. The boilers are made by AERCO Benchmark, 2.0 Low NOx, 1,720 MBH output (52 Bhp) each. Each boiler is capable of heating 350 gpm to 20°F temperature rise. The boilers are approximately 14 years old and are still in good condition, however hi-efficiency condensing boilers tend to deteriorate faster than older hot boilers, and thus these boilers are fast reaching the end of their useful 15 year life and ought to be considered for replacement in near future. The current installation appear to be missing condensate neutralization kits. The acidic condensate drain could damage the drain piping if not neutralized.

The hot water from the boilers are circulated to the townhouses via a network of 6" diameter dual-temperature (DT) piping where they feed a variety of heating systems such as the Valance radiant ceiling-mounted units, fan coil units, panel heaters, cabinet heaters, makeup air units, and fin tube heaters. There are two dual temperature pumps, base-mounted end-suction centrifugal pumps, at each of the two heating plants, each rated at 396 gpm at 126 ft head, and equipped with a 15 hp motors each (original design drawings called for 25 hp pumps). These pumps are all controlled via VFD drives to adjust their flow based on cooling or heating demand depending on the mode of operation.

Equipment

- Four boilers, high-efficiency condensing, AERCO Benchmark, 2.0 Low NOx, 1,720 MBH output.
- Two base-mounted end suction pumps, 396 gpm at 126 ft head, 15 hp motors each, with VFD drives.

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Annual maintenance of the boilers.
- Install acid neutralization kits on the boilers' condensate drain lines.

System Recommendations

- None

Picture 1: Heating Boilers	Picture 2: Heating and Cooling Pumps
	

HVAC System

Summary

The HVAC system for the townhouses is provided via the use of Valance radiant heating and cooling systems installed at the townhouses. A network of piping provides chilled water to the valance units. The piping is a dual temperature service (chilled water during summer and hot water during winter months) and both the piping and the pumps were discussed in the previous section called “Heating Plant”.

Chilled Water System

Summary

The chilled water is provided at each of the two plants using an outdoor packaged air-cooled chiller. The current chiller model by AAON evaporative cooled model LL-075. The chiller capacity is 75 tons and provides 210 gpm of chilled water at 10°F delta.

The cooled chillers are located outdoors and in order to prevent freezing, the chilled water loops for both chillers contain a 35% glycol solution. Other system components are a set of chilled water pumps, and one Plate & Frame heat exchanger as described below:

The chilled water glycol loop is comprised of 4” diameter supply and return chilled water piping. The circulation between the outdoor chiller and the indoor plate & frame heat exchanger is achieved by a set of two base-mounted end-suction centrifugal pumps, at each of the two heating plants, each rated at 210 gpm at 95 ft head, and equipped with a 7.5 hp motors each (original design drawings called for 15 hp pumps). These pumps are constant drive.

The heat transfer between the glycol filled chilled water loop and the dual-temp loop is achieved by the use of a single Plate & Frame Heat Exchanger (P&F Hx) at each plant. The P&F Hx is rated at 987 MBH heat transfer and 210 gpm on cold side (44°F/53°F) and 400 gpm on the hot side (53°F/47°F). The P&F Hx are reported to be in good working condition, however these products have a relatively short life span due to their delicate internal construction system. The models installed are ITT P62-187-TLA.

The system is equipped with a 55 gallon glycol feed mixing and storage tank and an electric fill pump with a 1” supply to the glycol loop.

Equipment

- Two base-mounted end suction pumps, 210 gpm at 95 ft head, 7.5 hp motors each.
- One Plate & Frame Hx, 987 MBH heat by ITT model P62-187-TLA.
- A 75 ton outdoor air-cooled chiller

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Annual inspection of the two base-mounted chilled water pumps.
- Annual inspection of the P&F Hx.
- Annually inspect the glycol feed mixing and storage tank for capacity and functionality.
- Annually inspect the glycol mixture within the chilled water loop to verify 35% glycol concentration.

System Recommendations

- two base mounted pumps, 210 gpm at 95 ft head, 7.5 hp, within the next ten years.
- Option: P&F Hx, within the next ten years.

Control Systems

Summary

Building was commissioned in 2010 and all systems within the building are electronically controlled.

Equipment

- Carrier BAS i-Vu® 8.0 used for monitoring, direct digital control (DDC), and Energy management of HVAC systems.
- VFDs for HW and CHW pumps

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- N/A

System Recommendations

- Implement pump differential pressure reset controls.
- Install Occupancy-Based HVAC Controls
- Retro-Commissioning of HVAC systems and Controls
- Setback equipment during academic breaks

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loops. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room that was installed around 2001 and is still in good condition. There is a 1200A 120/208V 3 phase 4 wire switchboard installed around 2010 which is in good condition and located inside the electrical room. The majority of the (120/208V 3 phase 4 wire) electrical panelboards were recently installed around 2010 and is in good condition.

Emergency Power is supplied by a 75kVA 120/208V 3 phase Cummins emergency generator installed in 2010 which is located outside and is in very good condition.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1200A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (75kVA)

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- None

Picture 3: (Emergency Generator):	Picture 4: (Incoming Service):
	

Fire Alarm

Summary

Fire Alarm system for this building was updated back in 2010. The Fire Alarm Control Panel (Simplex 4100-U) contains battery backup and all of the Fire Alarm equipment connected to this system is in good condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- N/A

Picture 5: Horn/Strobe

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in good condition as majority of the light fixtures provided adequate lighting levels.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.
- Replace interior and exterior light fixtures with LED light fixtures.

Fire Protection

Summary

The cooling and heating plant at the buildings A and H are fully sprinklered. There is a dedicated fire water supply to the plants that provide the fire protection supply. The townhouses are also fed from the plant via a 2" fire sprinkler supply that extends from the plant to the townhouses.

Equipment

- N/A

Facilities Maintenance Planned

- N/A

Additional Maintenance Recommendations

- Annual inspection of the sprinkler system by a certified contractor.

System Recommendations

- Install a Double Check Detector Backflow Prevention Assembly on the incoming 8" fire water service to protect the city water supply from cross contamination caused by backflow from fire water to city supply system. The proposed valve shall comply with ASSE-1048

Plumbing

Summary

The Village townhouses are located to the west of the campus and are a series of townhouse buildings and all their services are provided from two utility buildings located near the Iroquois Trail adjacent to buildings A and H, and are known as Utility building A and Utility Building H. The entire site is relatively new and was commissioned in 2010.

As mentioned earlier in this report, the scope of this report is focused on the utility plants A and H, adjacent to buildings A and H that provide services to the townhouses. The interior systems within the townhouses is not in the scope of this project.

One 4" domestic water enters the utility plant on the roadway side. Upon entry, the incoming line passes through a 4" water meter with a bypass, and then through a 4" reduced pressure backflow preventer assembly before it distributes to feed the townhouses with hot and cold water supply.

All the domestic hot water demand at the townhouses is supplied from their respective plant. The hot water for domestic hot water use is generated by three high-efficiency commercial grade condensing hot water heaters, manufactured by Lochinvar model Shield. The water heaters are set to 120°F tank temperature. The product data of the water heaters appear to have been covered with insulation and no data is available for these units. However, they appear to be 80 gallon tank capacity each.

Septate gas services with separate meters are provided to the utility buildings for domestic hot water heating and building heating boilers. Each utility building has one service with one meter and multiple number of regulators. The available hvac design drawings noted the gas train as "IRI", thus it is believed the entire system is in accordance with the Industrial Risk Insurers design guidelines.

Besides the water heaters and the boilers, there is an outside emergency generator, located next to the transformer, which is supplied with the gas from the utility plant.

There are no roof drains at this facility. The rooks are pitched to handle the snow and no gutters are provided at the buildings.

Due to lack of design documents for plumbing and fire protection, the information about the building sanitary system is not known. However no inline house-trap was observed within the building.

There are no sump pumps in this building.

The plumbing fixtures at the townhouses were not observed since townhouses are not in the scope of this project however the townhouse were commissioned in 2010 and it is believed that all their plumbing fixtures are of water saving type.

Equipment

- Three domestic hot water heater.
- Two inline hot water circulators
- Two 3-way temperature control valve.
- A 4" Domestic water meter
- A 4" reduced pressure backflow preventer assembly.

Facilities Maintenance Planned

- Hot water tanks.

Additional Maintenance Recommendations

- Annual preventative inspection of the domestic hot water heaters.
- Annual inspection of recirculating pumps.
- Annual inspection of the hot water thermostatic mixing valves.
- Annual inspection of the acid neutralization kits for the water heaters.
- Annual inspection and testing of the RP BFP by licensed plumber.
- Annual inspection of domestic water meter.

System Recommendations

- Install Low-Flow or Ultra Low-Flow showerheads.

Picture 6: Incoming Water service, Water meter, and RPZ BFP	Picture 7: Domestic Water Heater (typical of 3)	Picture 8: Incoming Gas Service Regulators and Meter
		

FACILITIES MAINTENANCE RECOMMENDATIONS

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Proposed work for 5-10 year:

- Implement the proposed plumbing water conserving measures and install low flow fixtures.
- Replace plate and frame heat exchanger.
- Replace boilers with high efficiency condensing.

Proposed work for 10-20 year:

- Install backflow preventer valve on fire main.
- Replace telephone/data systems.
- Replace outdoor air cooled chiller.
- Replace dual-temperature pumps.
- Replace generator.

Proposed work for 20+ year:

- Replace panelboards.
- Replace Fire Alarm.
- Replace fire protection system.
- Replace domestic water service, and HW tank.

East Campus - Mackin Complex Existing Conditions

The Mackin Complex consists of two residence halls and one dining hall. These buildings are 72 years old and have never had comprehensive renovations. They are not in use. They are not suitable for use as residence halls or dining facilities and should be decommissioned or repurposed for other uses.

Lonis Hall

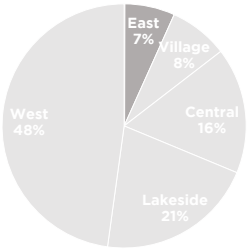
32,285 GSF
3 stories
188 Beds
Constructed: 1951

Moreland Hall

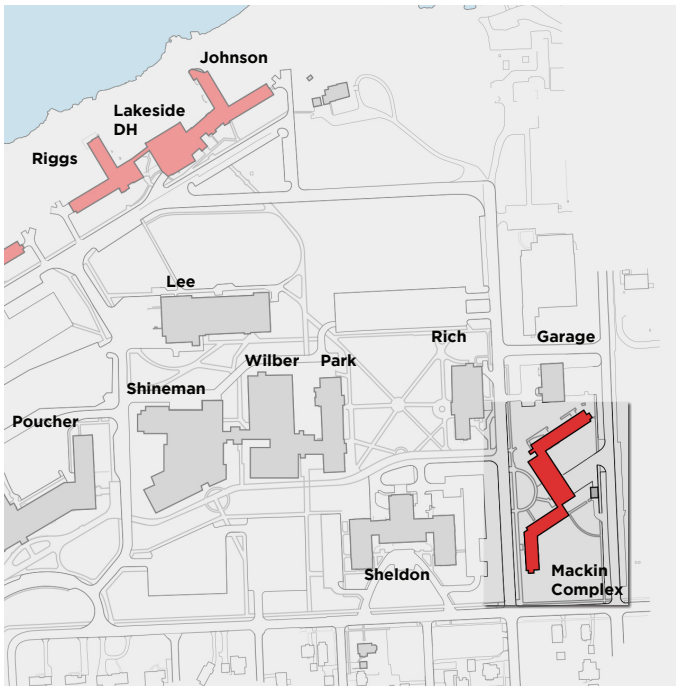
29,400 GSF
3 stories
153 Beds
Constructed 1951

Mackin Dining Hall

41,984 GSF
Ground floor plus 2 stories
238 Beds
Constructed 1951



Mackin Complex Bed Count
171 Bed Design Capacity
7% of SUNY Oswego capacity



N
LOCATION PLAN
NTS

Mackin Dining Hall

Engineers' Field Report

EXISTING CONDITIONS

Mackin Hall	Lonis Hall	Moreland Hall
		

Mackin, Lonis, and Moreland Halls

Mackin, Lonis, and Moreland Halls are not in use. Therefore, much of the HVAC equipment is in poor condition and not maintained. The MEP survey team was only able to view Mackin Hall, but it is assumed that Lonis and Moreland are in similar condition.

Heating Plant

Summary

The existing heating system in Mackin Hall is served by a medium pressure steam line from the central heating plant in Lee Hall. The medium pressure steam enters the basement level mechanical room and is reduced to low pressure by a pressure reducing station with pressure reducing valves (PRV). The low pressure steam is converted to hot water through a shell and tube heat exchanger to provide domestic hot water to the building. There is a Weil McLain steam boiler which provides steam at 15 psi to the building. Steam condensate from the boiler and the heat exchanger goes to two separate condensate receiver units which pump condensate back to the central heating plant.

The heat exchanger, boiler, and heating equipment all appear original to the building and are in poor condition.

Equipment

- Medium pressure steam from the central heating plant, pressure reduced for service by pressure reducing valves, located within the ground level mechanical room.
- Shell and tube heat exchanger.
- Gas fired steam boiler. 2,452 MBH output.
- 1 HW pump.
- 2 condensate receiver units.

Facilities Maintenance Planned

- Mackin steam line, Phase II, construction 2023
- Heating system seasonal startup

Additional Maintenance Recommendations

- The heat exchanger, HW pumps, and duplex condensate receiver are all original and in poor condition.

System Recommendations

- Replace major heating equipment, heat exchangers, pumps, condensate receiver.
- Install building-level steam submeter.

Picture 1: Pressure Reducing Valve Station	Picture 2: Steam Boiler	Picture 3: Condensate Receiver
		

Picture 4: Condensate Receiver


HVAC System

Summary

The HVAC system serving Mackin consists of hot water radiators and convectors. Radiators and convectors use steam heating. One HW pump provides heating HW to terminal units. One heating and ventilating unit (HV) serves the dining room. Exhaust fans are expected to be in the same poor condition as the rest of the HVAC equipment.

Equipment

- Steam radiators and convectors
- Window AC units
- HV unit serves dining room.

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A.

System Recommendations

- Option 1: Replace all HVAC equipment.

Picture 5: Radiator and Window AC unit

Chilled Water System

Summary

There is no cooling in Mackin beyond window AC units.

Equipment

- Window AC units

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A.

System Recommendations

- Option 1: Provide cooling.

Control Systems

Summary

The majority of the existing temperature control system is pneumatically actuated. Actuators for all equipment should be upgraded and all equipment should be connected to the building automation system (BAS). Only one HV unit, exhaust fans, perimeter radiation control valves, and domestic hot water (DWH) are on the BAS.

Equipment

- Air compressors for pneumatic actuators (original to building)
- Carrier –Vu 8.0 Building Automation System

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- N/A

System Recommendations

- Connect building systems to BAS.
- Expand existing BAS system to accommodate all hvac units.
- Implement chilled water supply temperature reset.
- Implement Demand Control Ventilation
- Implement duct static pressure reset controls.
- Implement kitchen demand control ventilation.
- Implement pump differential pressure reset controls.
- Install occupancy-based hvac controls.
- Replace pneumatic actuators with electronic controls.
- Retro-commissioning of HVAC systems and Controls
- Setback equipment during academic breaks

Picture 6: Air Compressors

Electrical

Summary

Electrically, this building is fed from the 13.2kV campus feeder loops. The 13.2kV feeder feeds a 13.2kV S&C switchgear located inside the electrical room was installed around 1998 and is still in good condition. There is a 1600A 120/208V 3 phase 4 wire Cutler Hammer switchboard that was also installed around 1998 and located inside the electrical room that is in good condition. The majority of the (120/208V 3 phase 4 wire) electrical panelboards are in good condition except for the Square D panelboards located in the mechanical room and Westinghouse panelboards which are old and in poor condition, they should be replaced very soon.

Emergency Power is supplied by a 15kVA 120/208V 3 phase emergency generator installed in 1967 which is located inside this building and should be replaced due to age.

Equipment

- Transformer (13.2kV – 120/208V)
- Switchgear (13.2kV)
- Switchboard (1600A; 120/208V 3 Phase 4 Wire)
- Panelboards (120/208V 3 Phase 4 Wire)
- Emergency Generator (15kVA)

Facilities Maintenance Planned

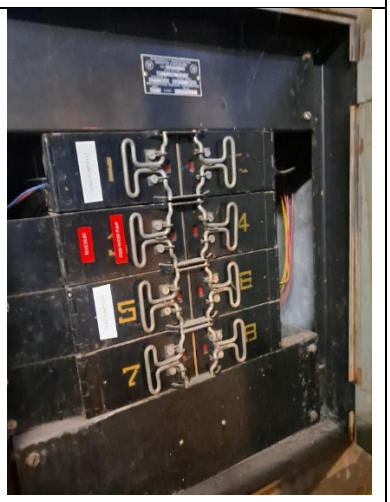
- N/A

Additional Maintenance Recommendations

- Megger test cables and test breakers in panels

System Recommendations

- Panelboards
- Emergency Generator

Picture 7: (Switchgear):	Picture 8: (Panelboard):	Picture 9: (Panelboard):
		

Picture 10: (Switchboard):


Fire Alarm

Summary

Fire Alarm system for this building was updated back in 2007. The Fire Alarm Control Panel (Simplex 4100-U) contains battery backup and all of the Fire Alarm equipment connected to this system is in good condition.

Equipment

- Strobes
- Horn/Strobes
- Pull Stations
- Smoke Detectors
- Annunciator Panel
- Fire Alarm Control Panel (FACP)

Facilities Maintenance Planned

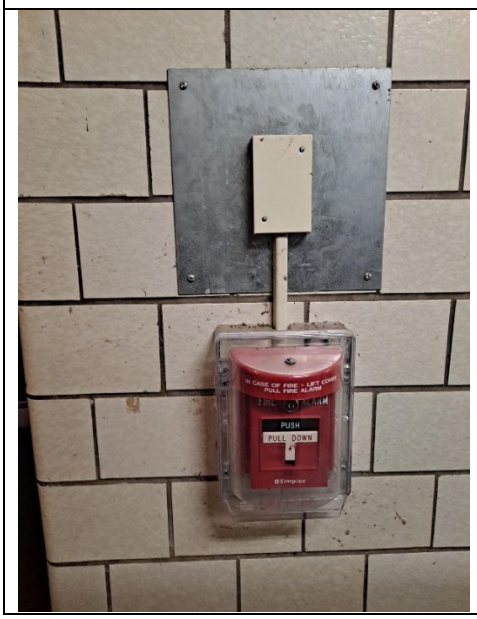
- N/A

Additional Maintenance Recommendations

- Test equipment to make sure that they are still operating optimally.

System Recommendations

- N/A

Picture 11: Pull Station	Picture 12: Exit Sign
	

Lighting

Summary

The lighting throughout the facility is being utilized mainly from a variety of linear and compact fluorescent fixtures. All were in okay condition, providing okay light levels throughout the facility but lighting in the actual dining area is extremely poor.

Equipment

- Linear Fluorescent Fixtures
- Compact Fluorescent Fixtures

Facilities Maintenance Planned

- N/A

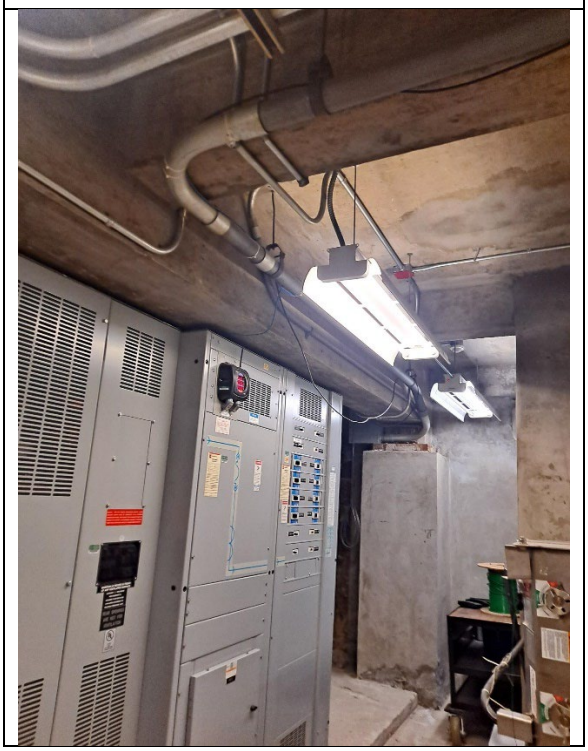
Additional Maintenance Recommendations

- Replace bulbs that are no longer working.

System Recommendations

- Replace all interior fluorescent lights with LED lighting.
- Replace all exterior lights with LED lighting.
- Install occupancy/vacancy sensor controls.
- Install daylight sensor controls.

Picture 13: Fluorescent Light Fixture



Fire Protection

Summary

The only part of this complex that has fire protection is the boiler plant that is located at Mackin section C, accessible from the rear parking lot off of 6th Ave.

The fire protection system is supplied via a 6" fire water supply off of 6th Ave. The incoming line is fitted with an outdoor post indicating valve (PIV) that is just outside the boiler room wall and is protected from vehicle damage with two concrete filled bollards.

The 6" fire water extends to the lower level of the boiler room where it's fitted with a fairly new looking double check valve backflow preventer assembly (ASSE-1015). The line then continues to a 6" alarm check valve that provides sprinkler protection throughout the boiler room. The system has a Siamese fire department connection (FDC) outside the building wall which provides a point of connection from the fire department pumper. There is a city fire hydrant within close proximity of the FDC.

We were unable to locate any standpipes in any of the buildings and thus no standpipe system appears to exist.

Equipment

- N/A

Facilities Maintenance Planned

- None

Additional Maintenance Recommendations

- Annual testing of the double check valve backflow preventer assembly by a licensed contractor.

System Recommendations

- Option 1: Install fire protection system throughout the complex.

Picture 14: PIV, bollards, and FDC outside the boiler plant:	Picture 15: Fire sprinkler BFP and Alarm Check Valve
	

Plumbing

Summary

The complex is comprised of three buildings connected end to end and arranged as follows: Lonis Hall to the north, Moreland Hall to the south, and Mackin Hall located in the middle of the Lonis (to the north) and Moreland (to the south) and sandwiched end to end between the two.

All three buildings are currently abandoned and not being used. Although heat and some basic ventilation is maintained to keep the buildings from freezing and to prevent mold issues.

The original design drawings are utilized to gather the following information since this could not be verified during the site visit.

Lonis Hall (segments A and B):

The storm system from Lonis Hall is comprised of roof drains that drop down via internal rain leaders and connect to exit the building via a 6" storm outfall. There is also a 3" storm outfall that serves an area drain of the area well just outside the water service entry room.

Sanitary system for Lonis Hall is comprised of a 5" sanitary sewer outfall that exits the building at the rear and connects to the city sewer system. The pipe leaving the building is fitted with an inline house-trap that is located inside the building in the Rec room.

Domestic water to Lonis Hall is provided from the rear of the building via a 4" city water service that enters the building at basement level and within a storage room. The incoming water line is fitted with a 4" water meter, strainer, check valve, and a full size bypass.

Domestic hot water to this wing is provided from the boiler plant's hot water generators using steam to water heat exchangers.

Mackin Hall (segment C): (houses the boiler plant)

The storm system from Mackin Hall is comprised of roof drains that drop down via internal rain leaders and connect to exit the building via a 4", an 8", and another 4" to outside storm outfall.

Sanitary system for Mackin Hall is comprised of a 5" sanitary sewer outfall that exits the building at the rear and connects to the city sewer system. The pipe leaving the building is fitted with an inline house-trap that is located inside the boiler plant's lower level. We were unable to locate the grease trap that would have served the Kitchen facility.

Domestic water to Lonis Hall is provided from the rear of the building via a 4" city water service that enters the building at basement level and within a storage room. The incoming water line is fitted with a 4" water meter, strainer, check valve, and a full size bypass.

Domestic hot water to the Mackin Hall's kitchen and bathroom facilities is provided from the boiler plant's single domestic hot water (DHW) tank and heat exchanger using steam to water heat exchangers.

Gas is supplied to the Mackin Hall's boiler plant for the operation of the heating boilers and for cooking in the kitchen facility.

Moreland Hall (segments D and E):

The storm system from Moreland Hall is comprised of roof drains that drop down via internal rain leaders and connect to exit the building via a 6" storm outfall at segment D and another 6" storm outfall at segment E.

Sanitary system for Moreland Hall is comprised of a two 5” sanitary sewer outfalls, each serving one segment of this building, which exit the building at the rear and connect to the city sewer system. At both locations, the pipe leaving the building is fitted with an inline house-trap that is located inside the building at the basement level.

Cold and hot water for domestic use to Moreland Hall is provided from the Mackin Hall’s boiler plant via a 4” cold water, a 2” hot water, and a 1” hot water recirculating pipes. Pipes are located in the tunnels and are not easily accessible.

Equipment

- Domestic hot water steam bundle storage tank, pneumatic control valve at the boiler plant. (Unable to locate nameplate and size of equipment)
- Inline circulating pumps (several throughout), (unable to locate nameplate and size of equipment)

Facilities Maintenance Planned

- Bottle fill station (one in each building)

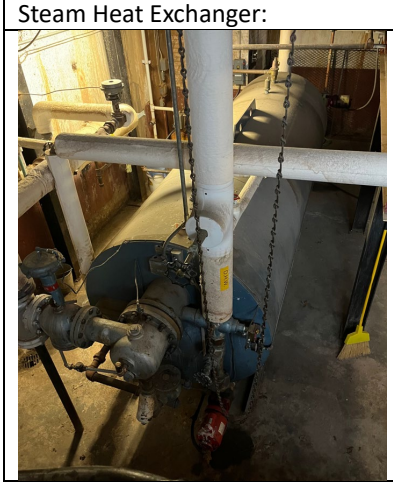
Additional Maintenance Recommendations

- Annual preventative maintenance and inspection of the domestic HW tank and heat exchanger.

System Recommendations

- Replace DHW tank and heat exchanger.
- Install Low-Flow or Ultra Low-Flow shower heads.

Picture 16: Domestic Hot Water Storage Tank and Steam Heat Exchanger:



FACILITIES MAINTENANCE RECOMMENDED

Proposed work for 1-5 year:

- Annual maintenance of the HVAC heating and cooling systems.
- Implement the proposed Controls strategies.
- Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.
- Replace generator.

Proposed work for 5-10 year:

- Implement the proposed plumbing water conserving measures and install low flow fixtures.
- Install fire protection systems throughout all buildings.
- Replace major heating equipment: pumps, hot water converter, PRV.
- Replace domestic water service, and HW tank.
- Replace HVs and convectors.

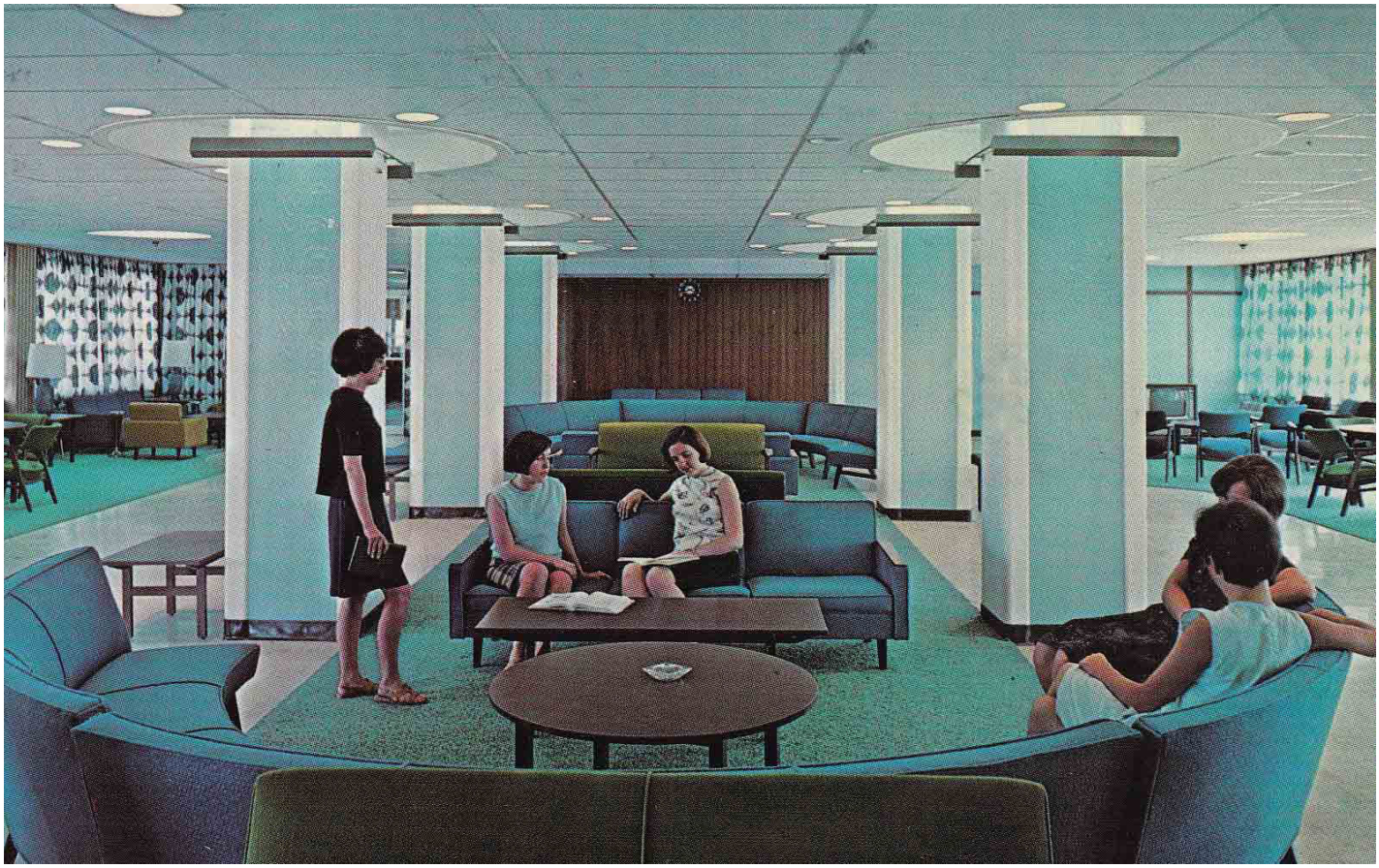
Proposed work for 10-20 year:

- Replace Fire Alarm.
- Install cooling system.

Proposed work for 20+ year:

- Replace telephone/data systems.
- Replace panelboards.

Appendix D
Residence Hall Suitability Reports and Enhancement Projects



Central Community

Hart Hall (Funnelle Hall recommendations in the body of the report)

Assets

- Good access to natural light.
- Good condition.
- Showers have changing areas for privacy.
- Good lighting in corridors.
- Central location.

Challenges

- Floor lounges and study rooms have outdated furnishings and finishes.
- Door frames and baseboards require new paint.
- Restrooms lack privacy.
- Building lacks identity, indoors and outdoors.
- Large main lounge has undefined spaces and heavy, old furniture.
- Residence room doors are not ADA-compliant.
- Assume hazardous materials abatement will accompany any demolition.

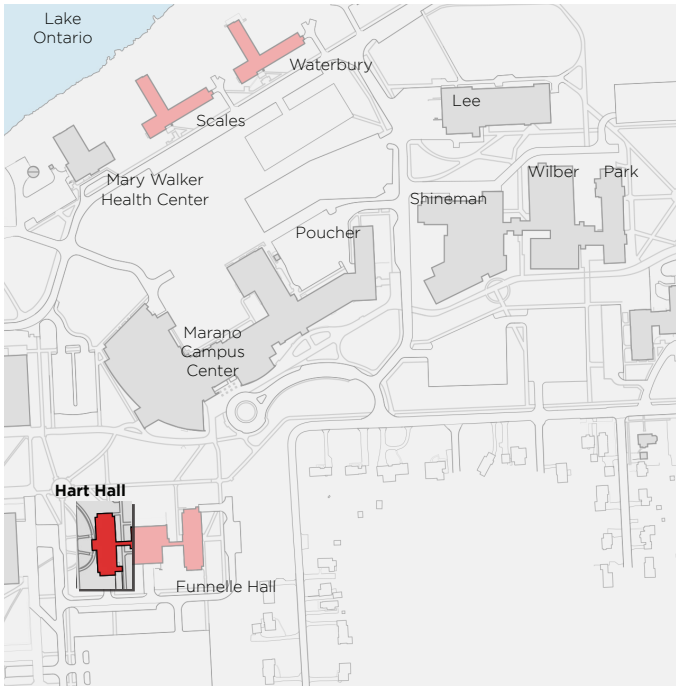
Facilities Maintenance Needs

SUNY Oswego reported planned facilities maintenance projects, totaling $5,400,000.

- Perform heating system repairs and maintenance.
- Major elevator upgrade/replacement.
- Replace south interior stairs.
- Study and repair foundation leak (in progress 2023).
- Repoint masonry.
- Add interior window shades.
- Roof replacement study and design.
- Add bottle filling stations.

In addition, engineers recommend planning for the following systems upgrades:

- Anticipate replacing the emergency generator in the next decade. Replace major heating equipment in the next decade.
- When funds are available, extend standpipe fire protection to provide sprinkler coverage throughout the building.
- When systems are upgraded, implement recommendations of the Clean Energy Master Plan.
- In the 2030s:
  - Replace cooling equipment for IT rooms.
  - Replace hot water convectors.
  - Replace electrical panelboards.
  - Replace telephone and data systems.
  - Replace domestic water service and hot water tank.
- In the 2040s:
  - Replace fire alarm.
  - Replace heating and ventilating units. Implement demand control ventilation.
  - Replace the fire protection system (any components original to the 1997-98 installation).



N
LOCATION PLAN
NTS

Space Allocation

Hart Hall has a higher proportion of social space and study per bed than most residence hall on campus. It is known as the home to international students. Its rooms are occupied year-round.

Bed Count

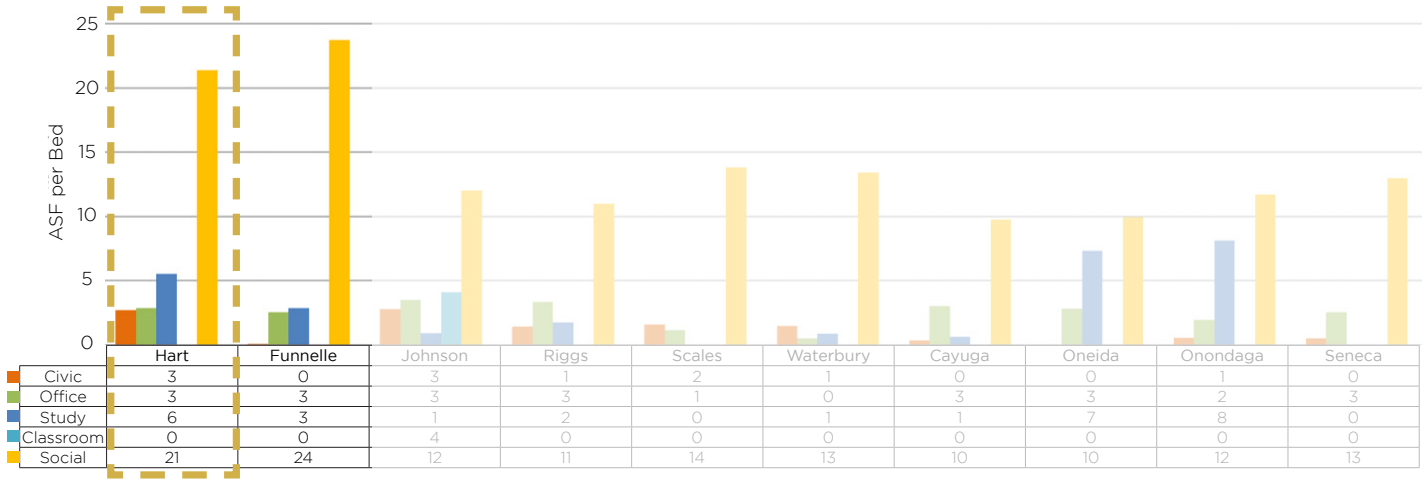
Hart Hall has 344 beds in double rooms. There are two graduate student/staff apartments per floor.

Impact of Potential Upgrades

Hart Hall was constructed in the 1960s, renovated in the 1990s, and awaits further improvements. Hart Hall is in generally good condition, yet its finishes and furnishings are showing their age. Improvements could be made to keep its appearance fresh.

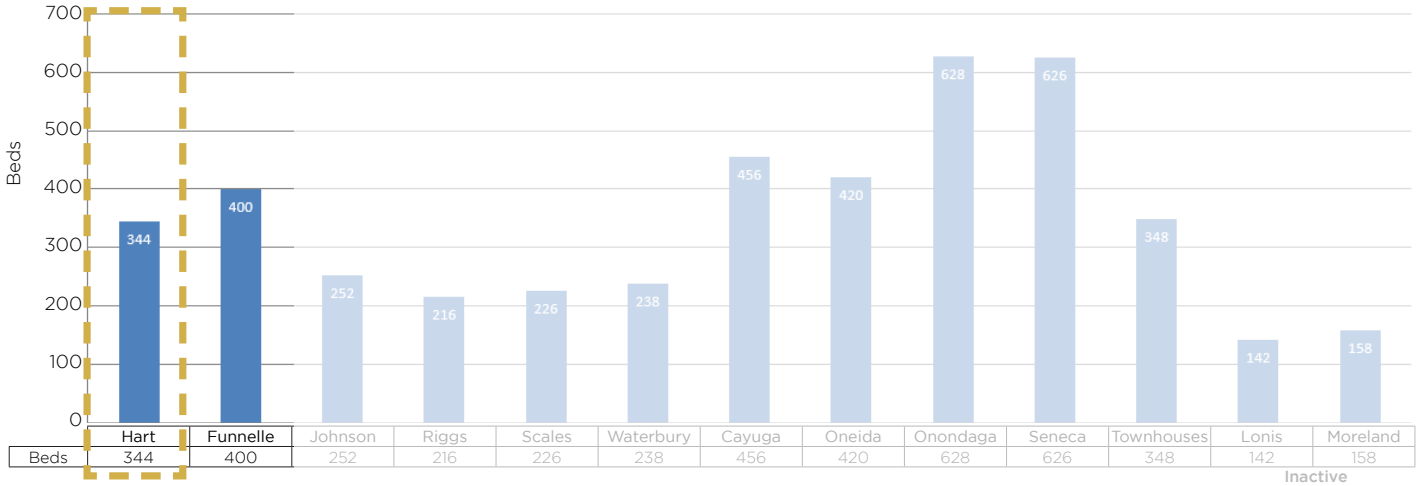
At 344 beds, Hart is a mid-sized residence hall at Oswego. Due to its general good condition, **no capital improvements are recommended at this time.** However, enhancement projects (elective projects that can be implemented at any time) are listed.

Hart Hall Space Allocation



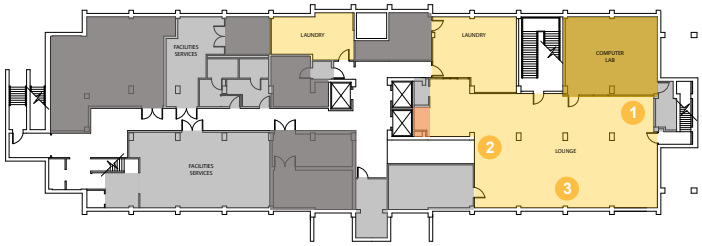
	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca
Civic	3	0	3	1	2	1	0	0	1	0
Office	3	3	3	3	1	0	3	3	2	3
Study	6	3	1	2	0	1	1	7	8	0
Classroom	0	0	4	0	0	0	0	0	0	0
Social	21	24	12	11	14	13	10	10	12	13

Hart Hall Bed Count

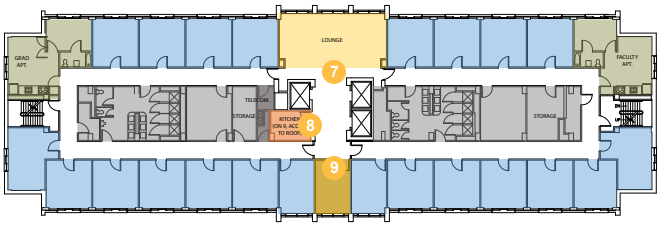


	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca	Townhouses	Lonis	Moreland
Beds	344	400	252	216	226	238	456	420	628	626	348	142	158

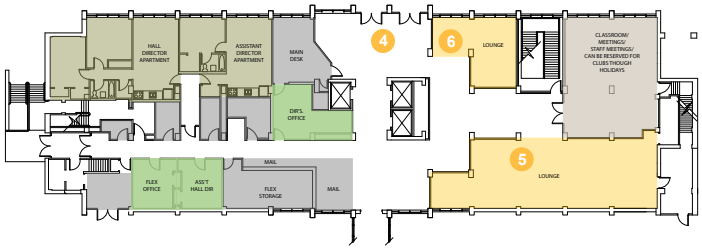
Hart Hall Existing Floor Plans



BASEMENT
NTS



TYPICAL RESIDENCE HALL FLOOR
NTS



FIRST FLOOR
NTS

- STUDENT LIVING UNIT
- LOUNGE
- KITCHEN
- CLASSROOM / SEMINAR
- ADMIN OFFICE
- STAFF RESIDENCE
- GUEST RESIDENCE
- RECREATION ROOM
- STUDY
- SUPPORT SPACES
- MEP SYSTEMS
- FOOD SERVICE

The TV area of LOUB has unattractive furniture in random arrangements.

A ramp past the kitchenette would be a good place for Oswego Heritage graphics.

The north end of LOUB has an ad-hoc movie area that could be formalized to a better venue.

A view of the main desk from the first floor lobby. Finishes were updated in the 1990s.

Main Lounge LOU1 is very large and has been divided by grilles to help organize the space.

A games table in LOU1 would be better housed in LOUB.

Floor lounges are generously sized and have updated furniture.

Floor kitchenettes are outdated. Cooking in them often causes fire alarms.

Study rooms on each residence floor are plain.

Hart Hall Enhancement Projects

Enhancement projects are elective projects that can be implemented at any time.

First Impressions		
First Steps	**Moderate Improvements**	**Major Improvements**
Display Oswego art and heritage - LOB1, LOU1, and throughout Allow $116,000		

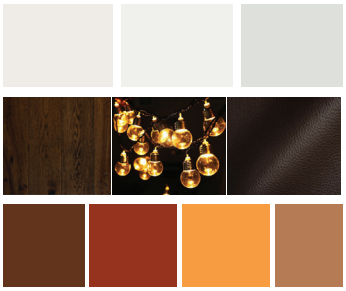
Student Experience		
First Steps	**Moderate Improvements**	**Major Improvements**
Upgrade furniture in main lounge LOU1 and Seminar Room SEM1. Allow $243,000	Upgrade finishes and fixtures main lounge LOU1 and Seminar Room SEM1. $382,000	Widen residence room doors for accessibility and provide ADA clear floor area at all student rooms. $1,872,000 (one-phase) $450,000 per 50 doors (if phased)
Upgrade furniture in TV lounge LOUB. Allow $103,000	Upgrade finishes and fixtures in TV lounge LOUB. $177,150	
Upgrade furniture in floor social lounges. Allow $30,000 per lounge	Upgrade finishes and fixtures in floor social lounges. $52,000 per lounge	
Relocate games tables to basement lounge. No cost		
	Create community kitchen in existing KITB	

Student Success		
First Steps	**Moderate Improvements**	**Major Improvements**
	(then) Repurpose floor kitchens as study rooms Cost for community kitchen: $287,000 Cost for study rooms: $495,000	

Hart Hall Inspiration

Example photographs below are a combination of projects designed by the planning team and other architects.

Display Oswego art and heritage



Torchlight Palette

Campus picnic at Shady Shore (digitallibrary.oswego.edu)

Upgrade furniture

Consolidate games tables in B19. Potentially create a video gaming area on one end of B19.

Upgrade finishes and fixtures

Refresh finishes and fixtures. Potentially add partitions to define spaces.

Create community kitchen

Modernize and enclose the existing kitchen to improve exhaust and create a community social space.

Repurpose floor kitchenettes

Insert a study banquette into the former kitchenette.

Upgrade study furniture

New furnishings could better-define spaces for quiet study, project work, or conversational study.

Upgrade movie area

Lakeside Community
Johnson Hall

Assets

- Great setting and views to lake.
- Nice small-group study space at ground floor.
- Opportunity for a lakeside trail. Wood railing at shoreline in good repair.
- Interior connection to dining hall and Riggs Hall.
- Atmosphere is cozy and lodge-like, appropriate to the lakeside setting.

Challenges

- Finishes and fixtures are starting to appear dated.
- Floor kitchens are small and smoke alarms are frequently set off.
- No art or building identity.
- Exterior wood columns, metal rails at porches need repair and repainting.
- Large community kitchen in the basement open to the hallway. Does not feel like its own place.
- No ingress through lounge doors at ground level. Discourages student use of green spaces along lake.
- Stairs to lake are in poor repair. Lake access may not be appropriate in this location.

N **LOCATION PLAN**
NTS

Facilities Maintenance Needs

Continued regular maintenance will keep Johnson Hall in good condition into the 2030s. SUNY Oswego reported planned facilities maintenance projects totaling $1,408,000.

- Replace shower stalls.
- Replace pergola.
- Replace front stairs.
- Heating system and cooling system repairs and maintenance.
- Add digital code key boxes.
- Add interior window shades.
- Add bottle filling stations.

In addition, engineers recommend planning for the following systems upgrades:

- Upgrade lighting to LED.
- When systems are upgraded, implement recommendations of the Clean Energy Master Plan.
- Replace fire alarm in the 2030s, as the system will be past its useful life at that time.
- In the 2030s to 2040s:
  - Replace generator and panelboards
  - Replace panelboards
  - Replace telephone/data systems
  - Replace hot water tank and domestic water service

  - Replace unit ventilators and fan coil units
- In the next comprehensive renovation:
  - Replace air handling units and implement demand control ventilation
  - Replace fire protection system, major heating equipment, and major cooling equipment
  - Provide low-flow plumbing fixtures

Space Allocation

Johnson Hall has more office space in its inventory, per resident, than other residence halls at SUNY Oswego. Johnson Hall has three seminar rooms. These rooms are seldom used for instruction, but could be scheduled if the College requires swing space to enable academic building renovations.

Bed Count

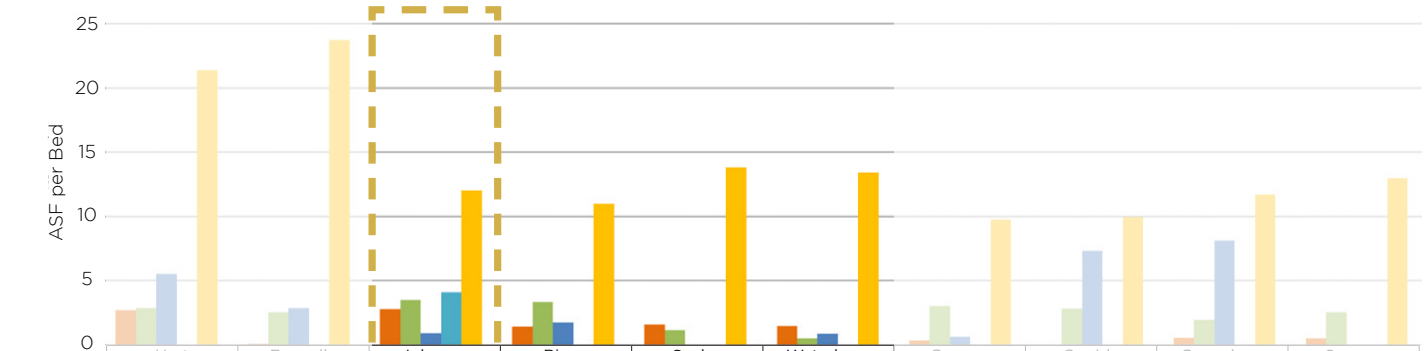
Bed counts in the Lakeside Community are relatively small, compared to other Oswego residential communities. It is the largest, by bed count, in the Lakeside Community with 252 beds.

Impact of Potential Upgrades

Johnson Hall is in good condition and was renovated relatively recently. However, some of its finishes and furnishings are starting to appear out-of-date. It makes a good first impression, but improvements could be made to keep its appearance fresh.

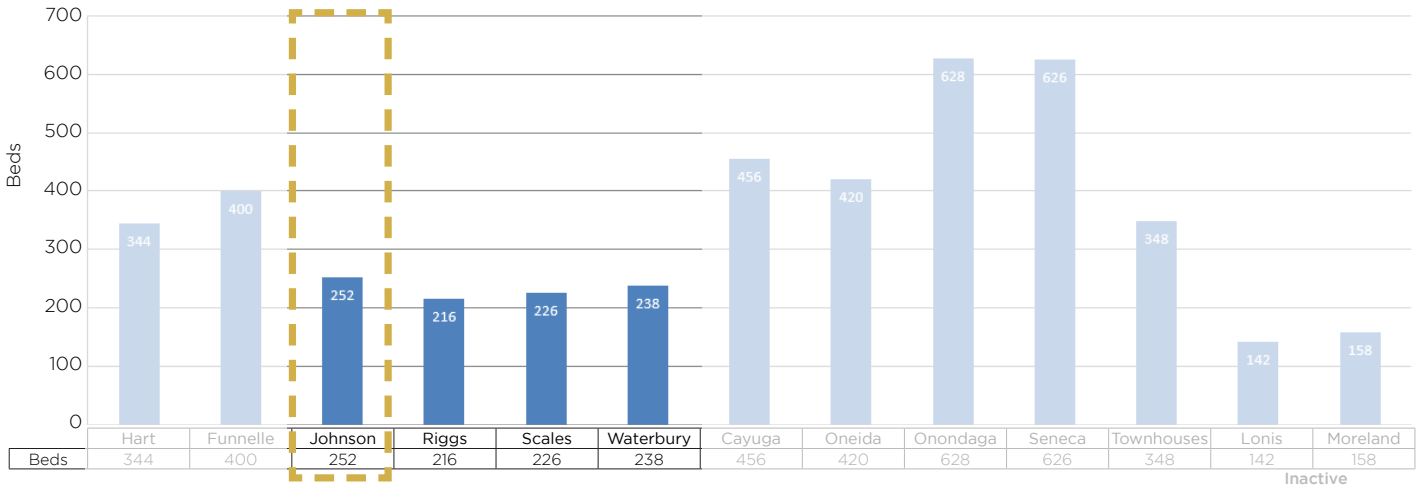
At 252 beds, Johnson is one of the smaller residence halls at SUNY Oswego. Johnson Hall is in good condition and its bed count is low. **No capital improvements are recommended at this time.** However, enhancement projects (elective projects that can be implemented at any time) are listed.

Johnson Hall Space Allocation



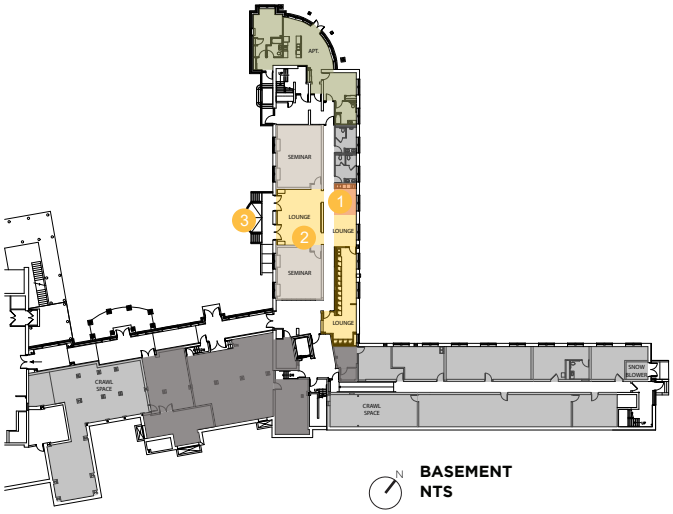
	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca
Civic	3	0	3	1	2	1	0	0	1	0
Office	3	3	3	3	1	0	3	3	2	3
Study	6	3	1	2	0	1	1	7	8	0
Classroom	0	0	4	0	0	0	0	0	0	0
Social	21	24	12	11	14	13	10	10	12	13

Johnson Hall Bed Count

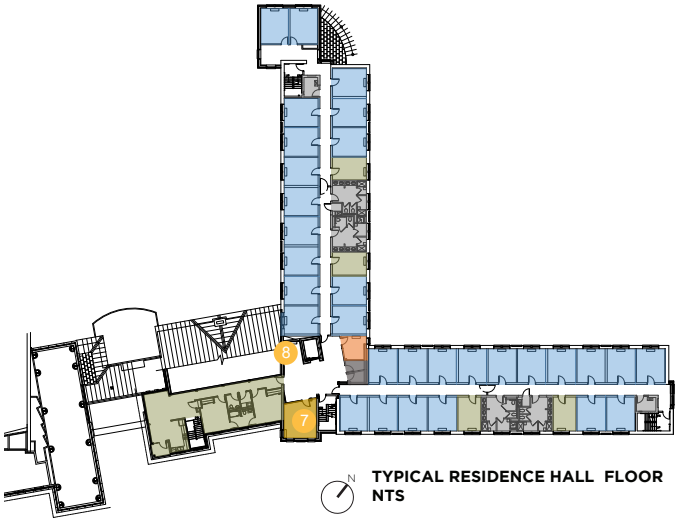


	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca	Townhouses	Lonis	Moreland
Beds	344	400	252	216	226	238	456	420	628	626	348	142	158

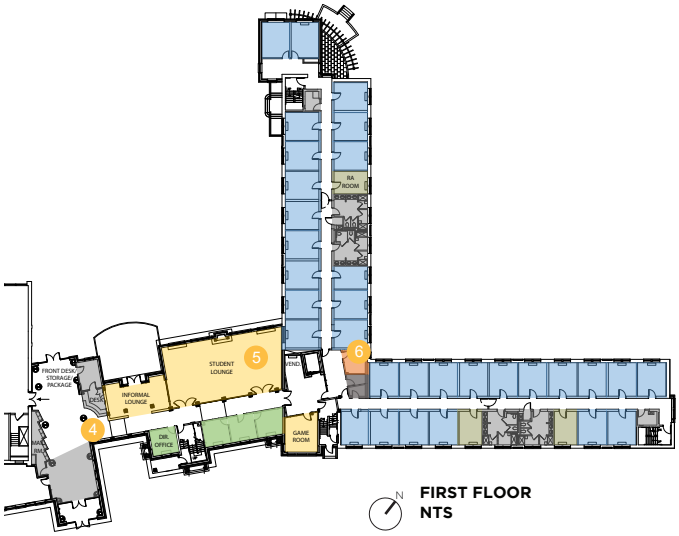
Johnson Hall Existing Floor Plans



N
BASEMENT
NTS



N
TYPICAL RESIDENCE HALL FLOOR
NTS



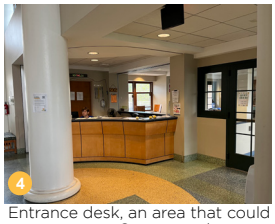
N
FIRST FLOOR
NTS

- STUDENT LIVING UNIT
- LOUNGE
- KITCHEN
- CLASSROOM / SEMINAR
- ADMIN OFFICE
- STAFF RESIDENCE
- GUEST RESIDENCE
- RECREATION ROOM
- STUDY
- SUPPORT SPACES
- MEP SYSTEMS
- FOOD SERVICE

Existing kitchen KITBN lacks separation from lounges. Cooking often sets-off fire alarms.

Lounge LOUBN has good views but needs definition between activity zones.

Porch outside LOUBN lacks furnishings and its door does not allow re-entry.



Entrance desk, an area that could express more Oswego culture.

Lounge LOU1B is inviting. Finishes and lighting require upgrades.

Kitchenettes on residence floors duplicate KITBN. Cooking often sets-off fire alarms.

Study lounges on residence floors, like LOU2 are used for multiple activities.

Study areas in residence floor lobbies could have more comfortable furnishings.

Johnson Hall Enhancement Projects

Enhancement projects are elective projects that can be implemented at any time.

First Impressions		
First Steps	**Moderate Improvements**	**Major Improvements**
Display Oswego art and heritage - LOBM, LOU1B, and throughout Allow $116,000		
Repair pergola $50,000 (SUNY Oswego facilities maintenance list)		

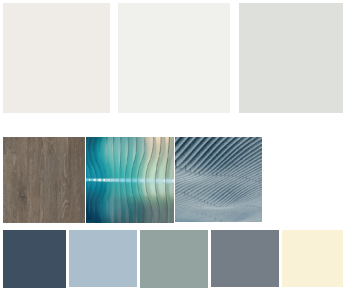
Student Experience		
First Steps	**Moderate Improvements**	**Major Improvements**
Upgrade furniture in main lounge LOU1B Allow $90,000	Upgrade finishes and fixtures in main lounge LOU1B $156,000	
Upgrade furniture in recreation lounge LOUBN Allow $38,000	Upgrade finishes and fixtures in recreation lounge LOUBN $65,300	
Upgrade furniture - Outfit floor study lounges LOU2, LOU3, LOU4 as social lounges. Allow $48,000	Upgrade finishes and fixtures in floor lounges LOU2, LOU3, LOU4 $76,000	
Relocate games - Repurpose Seminar Room B11 as a games room. No cost	Upgrade finishes and fixtures in Games Room (former Seminar Room B11) $51,000	
	Create community kitchen in existing KITBN and LOBBN	
Access control to/from the outdoors at LOUBN (one door) $8,500		

Student Success		
First Steps	**Moderate Improvements**	**Major Improvements**
	(then) Repurpose floor kitchens as study rooms: KIT1 KIT2 KIT3 KIT4 Cost for kitchen: $272,000 Cost for study rooms: $248,000	
	(then) Convert study lounges to student rooms: 318, 418 $40,000	
	Repurpose lounge LOU1A. Create enclosed study/meeting space within a larger social lounge. $116,000	
Upgrade furniture - Furnish study areas in LOB2C and LOB3C as conversational study nooks. Allow $20,000		

Johnson Hall Inspiration

Example photographs below are a combination of projects designed by the planning team and other architects.

Display Oswego art and heritage



Stormy Lake Palette

Oswego Normal School students enjoy a picnic (digitallibrary.oswego.edu)

Upgrade furniture

New furnishings could define zones in an existing space. (Steelcase Turnstone Campfire Collection)

Upgraded furniture in Seneca Hall

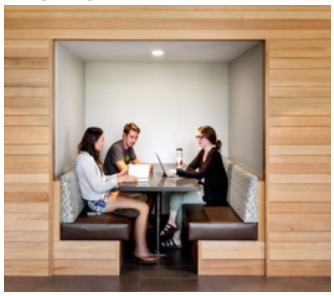
Upgrade finishes and fixtures

Refresh finishes and fixtures. Add partitions to define spaces.

Create community kitchen

Modernize and enclose the existing kitchen to improve exhaust and create a community social space.

Repurpose floor kitchenettes



Insert a study banquette into the former kitchenette.

Or, enclose the former kitchenette behind storefront glass and provide study furniture and technology.

Upgrade study furniture

New furnishings could better-define spaces for quiet study, project work, or conversational study.

Lakeside Community
Riggs Hall

Assets

- Spacious first floor multipurpose lounge with large lobby, suitable for events.
- Great setting and views to lake.
- Front desk is inviting. Lobby welcomes community.
- Atmosphere is cozy and lodge-like.
- Staff apartment with patio on the lake side.

Challenges

- Finishes and fixtures are starting to appear dated.
- Floor kitchens are small and smoke alarms are frequently set off.
- No art or building identity.
- Multipurpose lounge contains conflicting activity zones: television area, piano, and study/conversation
- No ingress through lounge doors at ground level. Discourages student use of green spaces along lake.
- Patios and stairs are in poor repair.
  - Storm drains are clogged
  - Trellises need paint
  - Concrete surfaces are chipped and uneven

N **LOCATION PLAN**
NTS

Facilities Maintenance Needs

Continued regular maintenance will keep Riggs Hall in good condition into the 2030s. SUNY Oswego reported planned facilities maintenance projects totaling $1,355,000.

- Replace shower stalls
- Replace front stairs
- Heating system and cooling system repairs and maintenance
- Add digital code key boxes
- Add interior window shades
- Add bottle filling stations

In addition, engineers recommend planning for the following systems upgrades:

- Upgrade lighting to LED.
- When systems are upgraded, implement recommendations of the Clean Energy Master Plan.
- In the 2030s:
  - Replace generator, electrical panelboards, and telephone/data systems
  - Replace hot water tank and domestic water service
  - Replace air handling units, valance units, and fan coil units. Implement demand control ventilation.
- In the next comprehensive renovation:
  - Replace fire alarm and fire protection system
  - Replace major heating and cooling systems

Space Allocation

Riggs Hall has slightly less social space than its newly-renovated neighbors in the Lakeside Community. Shared spaces in the Lakeside Community are easily accessed by Riggs Hall residents. Lakeside residence halls are close to one another, and Riggs is connected to Johnson through Lakeside Dining Hall.

Bed Count

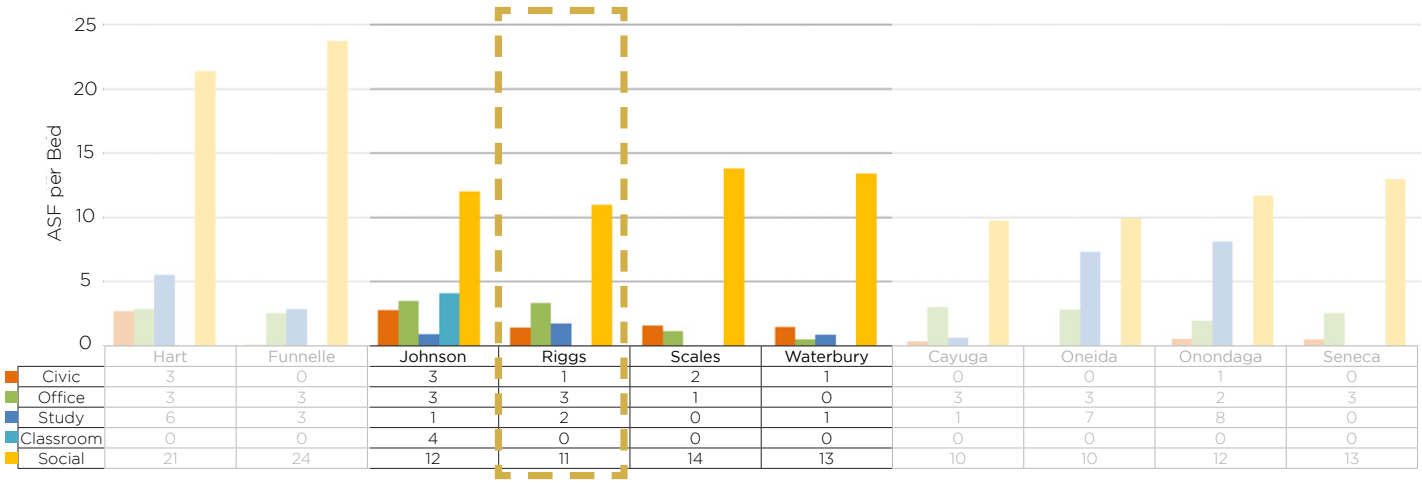
With 216 beds, Riggs Hall is the smallest residence hall, by bed count, of Oswego's active residence halls.

Impact of Potential Upgrades

Riggs Hall is in good condition and was renovated relatively recently. However, some of its finishes and furnishings are starting to appear out-of-date. It makes a good first impression, but improvements could be made to keep its appearance fresh.

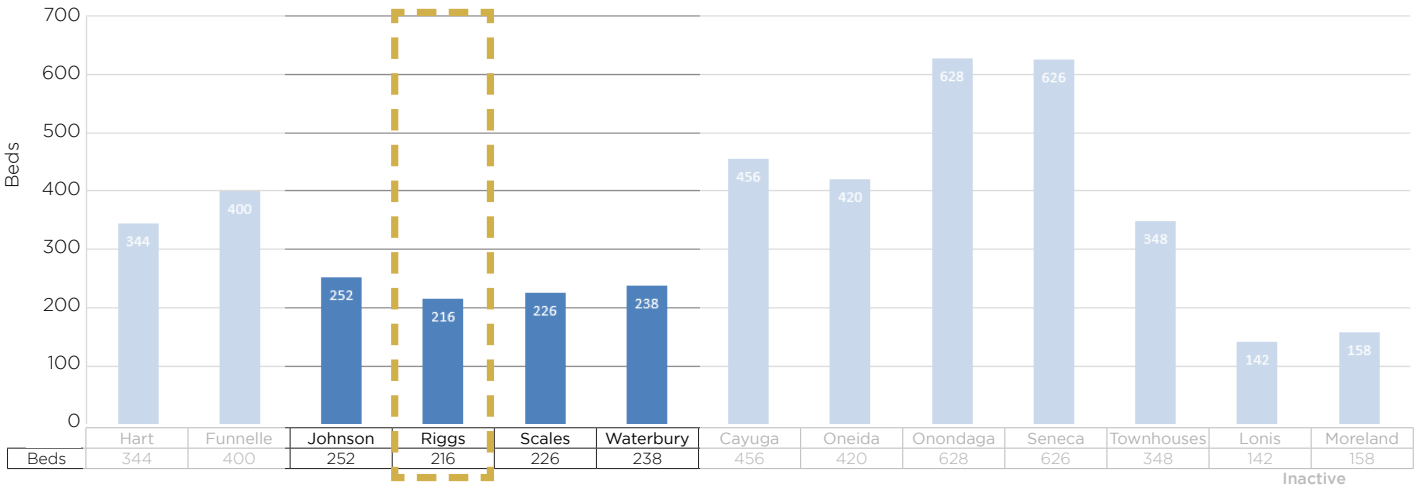
At 216 beds, Riggs is the smallest active residence hall at SUNY Oswego. Riggs Hall is in good condition and its bed count is low. **No capital improvements are recommended at this time.** However, enhancement projects (elective projects that can be implemented at any time) are listed.

Riggs Hall Space Allocation



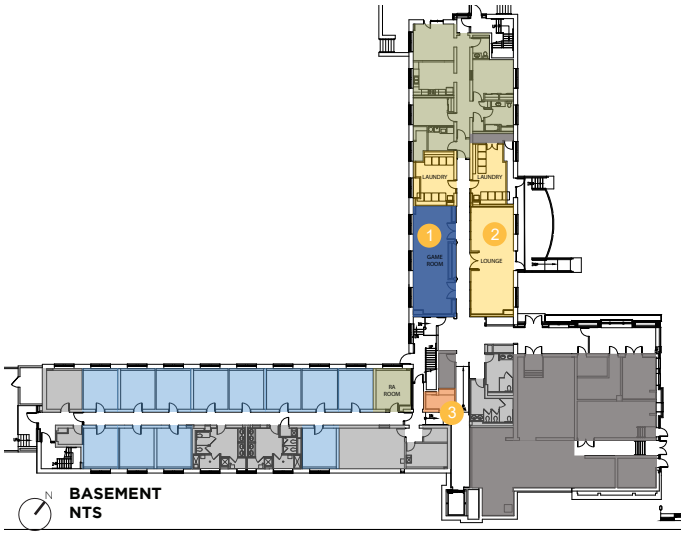
	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca
Civic	3	0	3	1	2	1	0	0	1	0
Office	3	3	3	3	1	0	3	3	2	3
Study	6	3	1	2	0	1	1	7	8	0
Classroom	0	0	4	0	0	0	0	0	0	0
Social	21	24	12	11	14	13	10	10	12	13

Riggs Hall Bed Count

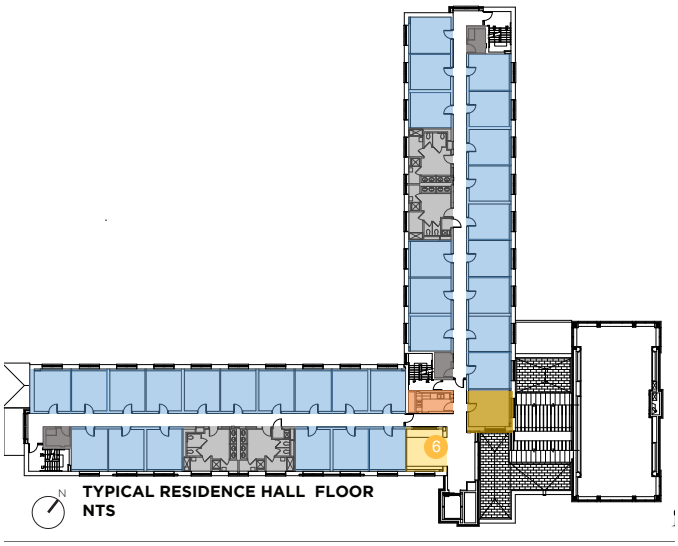


	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca	Townhouses	Lonis	Moreland
Beds	344	400	252	216	226	238	456	420	628	626	348	142	158
												Inactive	

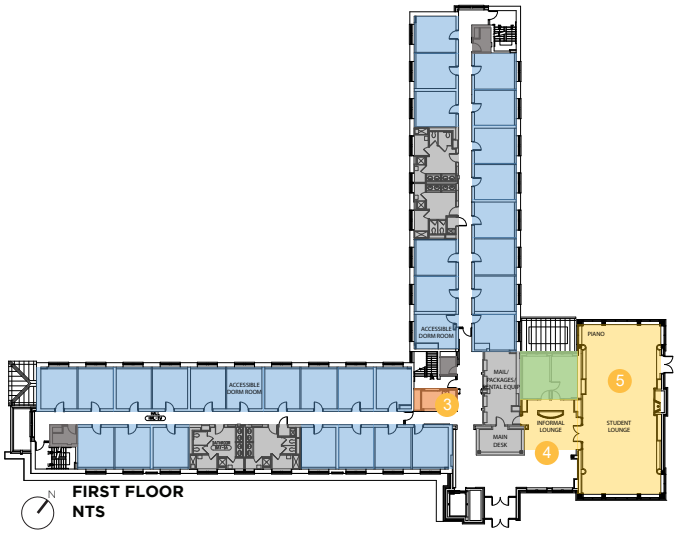
Riggs Hall Existing Floor Plans



BASEMENT
NTS



TYPICAL RESIDENCE HALL FLOOR
NTS



FIRST FLOOR
NTS

- STUDENT LIVING UNIT
- LOUNGE
- KITCHEN
- CLASSROOM / SEMINAR
- ADMIN OFFICE
- STAFF RESIDENCE
- GUEST RESIDENCE
- RECREATION ROOM
- STUDY
- SUPPORT SPACES
- MEP SYSTEMS
- FOOD SERVICE

Lounge B19 is functional but lacks inviting furnishings and elements of Oswego culture.

Lounge B20 has access to an outdoor patio, but re-entry is not possible.

Cooking in floor kitchenettes like KIT1 often sets-off fire alarms.

Lounge LOUM and Lobby LOBM are spacious. More elements of Oswego culture would make them more inviting.

Lounge LOU1B is large enough for multiple uses and many occupants, yet it needs more definition between use zones.

LOU2 and other residence floor lounges could be improved with updated furnishings.

Riggs Hall Enhancement Projects

Enhancement projects are elective projects that can be implemented at any time.

First Impressions		
First Steps	**Moderate Improvements**	**Major Improvements**
Display Oswego art and heritage - LOBM, LOUM, and throughout Allow $116,000		
Repair patios and stairs $250,000 (SUNY Oswego Facilities Maintenance List) Allow $50,000 (repair patios)		

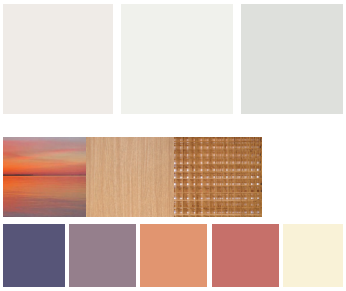
Student Experience		
First Steps	**Moderate Improvements**	**Major Improvements**
Upgrade furniture in large lounges B19, LOU1B Allow $150,000	Upgrade finishes and fixtures in large lounges B19, LOU1B $258,000	
Upgrade furniture - LOU2, LOU3 social lounges. Allow $26,000	Upgrade fixtures and finishes in lounges LOU2, LOU3 $45,000	
	Create community kitchen in half of existing B20	
Access control to/from the outdoors at B20 (one door) $8,500		

Student Success		
First Steps	**Moderate Improvements**	**Major Improvements**
	(then) Repurpose floor kitchens as study rooms: KIT1 KIT2 KIT3 Cost for kitchen: $272,000 Cost for study rooms: $248,000	

Riggs Hall Inspiration

Example photographs below are a combination of projects designed by the planning team and other architects.

Display Oswego art and heritage



Summer Sunset Palette

Dr. James Riggs dedicating a memorial tree in 1919 (digitallibrary.oswego.edu)

Upgrade furniture

Consolidate games tables in B19. Potentially create a video gaming area on one end of B19.

Upgrade finishes and fixtures

Create community kitchen

Modernize and enclose the existing kitchen to improve exhaust and create a community social space.

Repurpose floor kitchenettes

Insert a study banquette into the former kitchenette.

Upgrade study furniture

New furnishings could better-define spaces for quiet study, project work, or conversational study.

Lakeside Community
Scales Hall and Waterbury Hall

Assets

- Newly renovated and in like-new condition.
- Lakeside location with excellent views.
- Variety of social and study spaces.

Challenges

- Some original elements of electrical, plumbing, and sanitary/storm waste systems remain.

Facilities Maintenance Needs

Continued regular maintenance will keep these newly-renovated buildings in good condition into the 2030s. No substantial facilities maintenance projects were reported by SUNY Oswego.

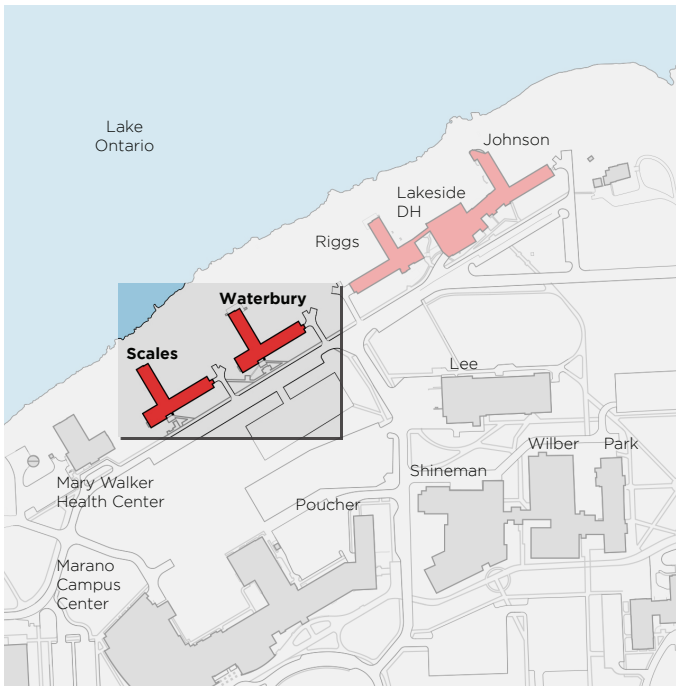
In the 2030s to 2040s, replace telephone/data system and electrical panelboards

In the 2040s or beyond:

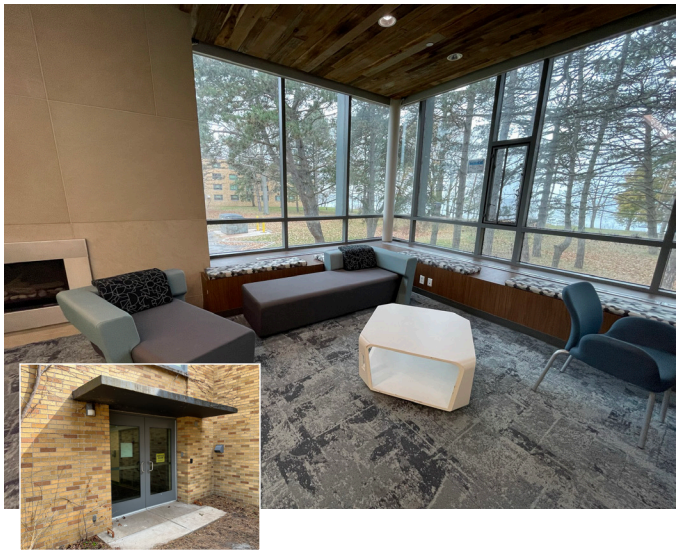
- Replace heating and ventilation units and variable refrigerant flow system.
- Replace generator, fire alarm, and fire protection system.
- Replace major heating equipment: pumps, hot water converter, pressure relief valve.
- Replace domestic water service and hot water tank.

Enhancement Project

Waterbury and Scales have excellent views to the woods and the lake, but little access to the outdoors. Provide access control at ground floor lounges to enable re-entry from outdoor leisure and recreation spaces. $8,500 per building.



N **LOCATION PLAN**
NTS



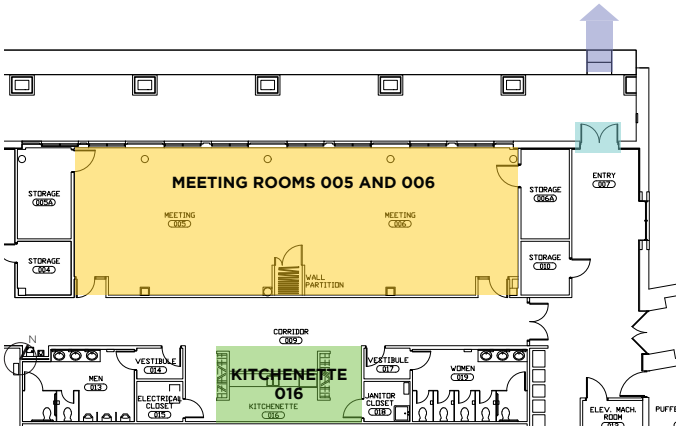
Increase access to the leisure and recreation areas.

Lakeside Community
Lakeside Dining Hall
Meeting Rooms 005 and 006
Kitchenette 016

Enhancement Project

- Remove Kitchenette 016 and create two music practice rooms. Rework door to Janitor Closet 018.
- Renovate Meeting Rooms 005 and 006 to create a multipurpose space for informal music performances and residence hall events. Provide flexible, movable furnishings so the room can function as a training room or meeting room for College use
- Provide access control at Entry 007 to allow re-entry from the porch and lawn.
- Provide ramp and accessible paths to the nearby recreation and leisure areas.

LOCATION PLAN
NTS



LAKESIDE DINING HALL BASEMENT PARTIAL PLAN
NTS

Provide two prefabricated music practice rooms at kitchenette area.

Student Experience Improvements
Create music practice rooms in Lakeside Dining Hall basement. $335,000
Renovate Meeting Rooms 005, 006 $351,500
Improve access to the outdoors Access control at lounge doors $8,500 Ramp and accessible paths Allow: $50,000

Provide a variety of flexible furnishings in Meeting Rooms 005 and 006.

West Campus Community
Cayuga Hall

Assets

- Abundance of public space
- Front door has view to the lake
- Basement lounge adjacent to large quad

Challenges

- Building entry doors do not have adequate clearance for meeting accessibility requirements.
- Desk staff do not have line of sight to the front doors.
- Building has no accessible student rooms or bathrooms.
- Lack of identity and sense of place both inside and outside. Lack of art, color on walls.
- Furniture in public spaces, lounges and studies need updating
- No ingress from quad space to basement.
- Landscaped courtyards lack interest and are not inviting
- Large lounge in the basement needs updating. Create a great community kitchen here.
- Consider replacing the two smaller lounges on the first floor with small group or private study rooms.
- Residence room doors are not ADA-compliant.
- Assume hazardous materials abatement will accompany any demolition.

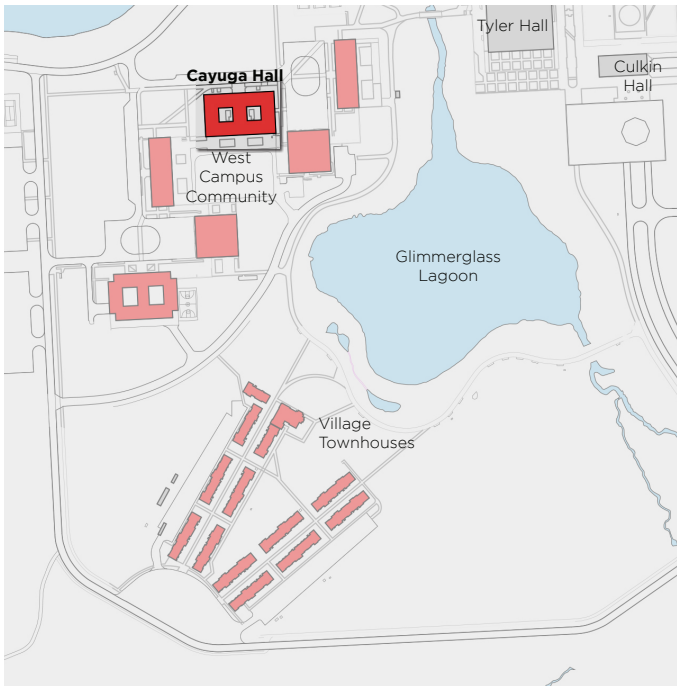
Facilities Maintenance Needs

SUNY Oswego reported planned facilities maintenance projects totaling $2,727,000.

- Repair heating system.
- Replace/upgrade lighting in some locations.
- Provide digital code key boxes.
- Repair interior stairs.
- Paint doors.
- Repair concrete in vestibule.
- Major elevator upgrade/replacement.
- Replace emergency generator.
- Perform fire alarm maintenance.

In addition, engineers recommend planning for the following systems upgrades:

- Replace major heating equipment.
- Replace heating and ventilating units. Implement demand control ventilation.
- When funds are available, extend standpipe fire protection to provide sprinkler coverage throughout the building.
- When systems are upgraded, implement recommendations of the Clean Energy Master Plan.



N
LOCATION PLAN
NTS

In the 2030s:

- Replace domestic water service and hot water tank.
- Install low flow plumbing fixtures.
- Replace lighting fixtures with LED fixtures.
- In the 2040s:
  - Replace cooling equipment for IT rooms.
  - Replace fire alarm.
  - Replace emergency generator.

Space Allocation

Cayuga Hall has slightly less social space than Seneca and Onondaga. Uninviting outdoor spaces and poor-condition ground-floor passages discourage sharing of social spaces in other West Campus residence halls.

Bed Count

At 456 beds, Cayuga Hall's double-occupancy rooms are workhorses of SUNY Oswego's residence hall capacity. Its residence floor lounges are sometimes utilized to accommodate residence hall surges and serve as swing space for renovations.

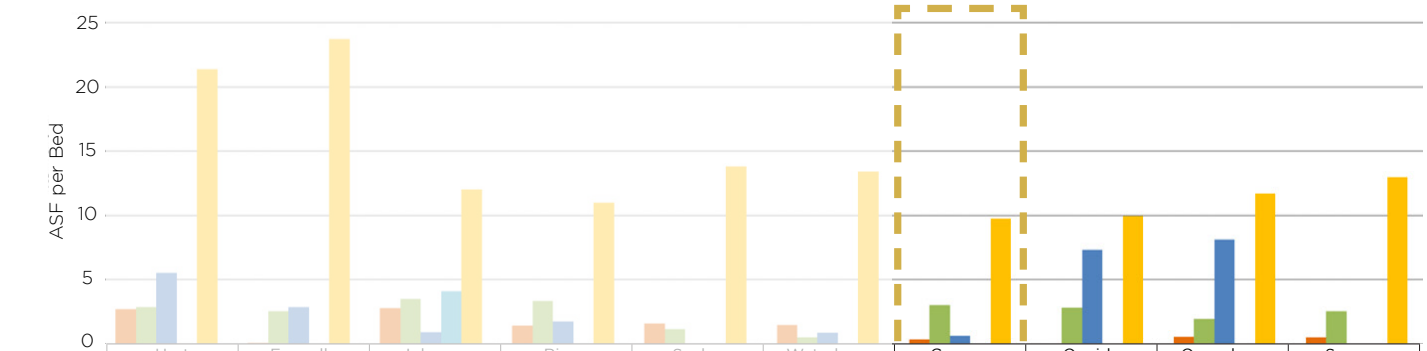
Impact of Potential Upgrades

Similar to other West Campus Community structures, Cayuga Hall is a durable building that - with comprehensive renovation - could serve SUNY Oswego for another fifty years.

Its 456 beds are essential to the College's residence hall capacity. However, at this current moment of low enrollment, Cayuga's capacity could be housed in other residence halls. This would enable the building to be closed for renovations.

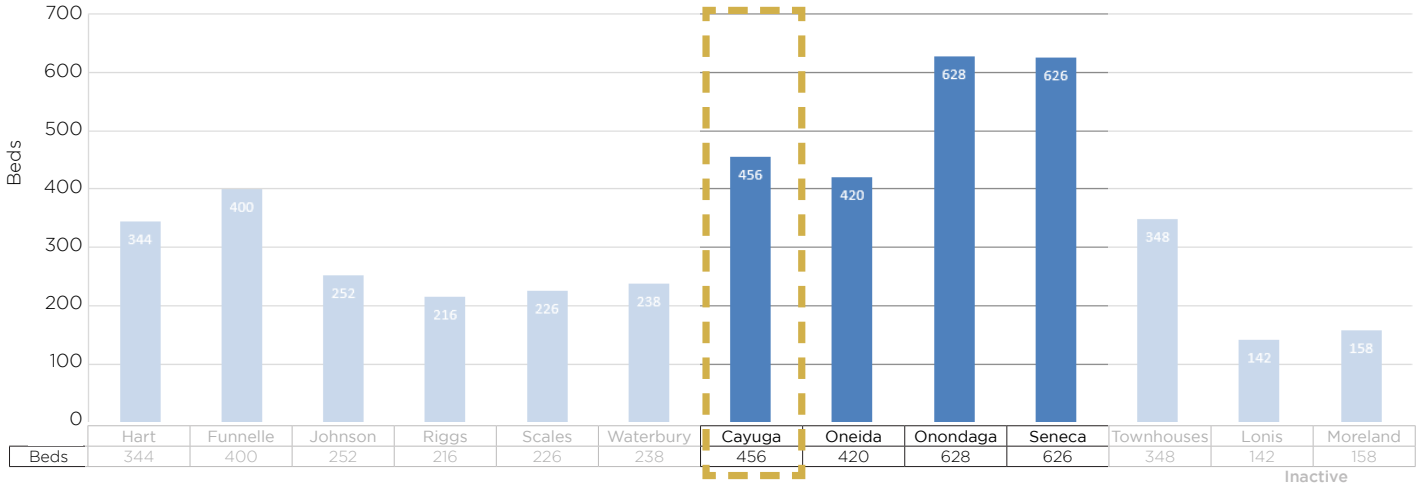
Upgrades to Cayuga Hall would benefit not only its residents, but also other West Campus Community members who require modern, inviting places to socialize and study. **Facilities maintenance, interim improvements, and ultimate comprehensive renovation are recommended.**

Cayuga Hall Space Allocation



	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca
Civic	3	0	3	1	2	1	0	0	1	0
Office	3	3	3	3	1	0	3	3	2	3
Study	6	3	1	2	0	1	1	7	8	0
Classroom	0	0	4	0	0	0	0	0	0	0
Social	21	24	12	11	14	13	10	10	12	13

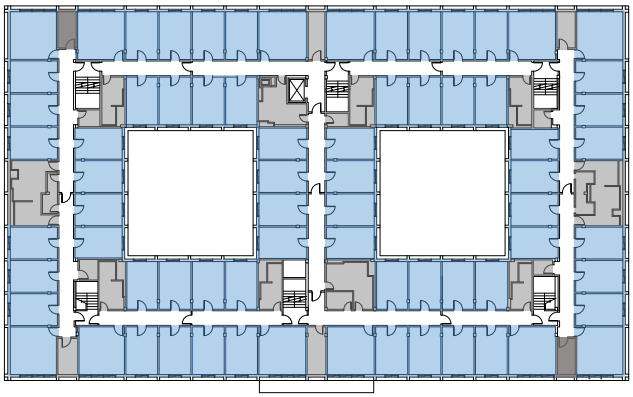
Cayuga Hall Bed Count



	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca	Townhouses	Lonis	Moreland
Beds	344	400	252	216	226	238	456	420	628	626	348	142	158
											Inactive		

Cayuga Hall Existing Floor Plans

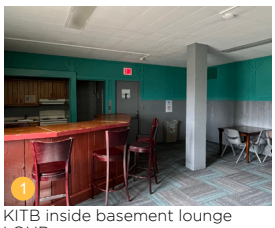
BASEMENT
NTS



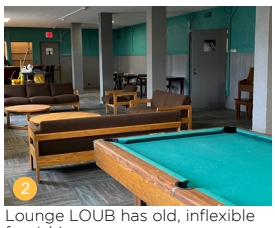
TYPICAL RESIDENCE HALL FLOOR
NTS

FIRST FLOOR
NTS

- STUDENT LIVING UNIT
- LOUNGE
- KITCHEN
- CLASSROOM / SEMINAR
- ADMIN OFFICE
- STAFF RESIDENCE
- GUEST RESIDENCE
- RECREATION ROOM
- STUDY
- SUPPORT SPACES
- MEP SYSTEMS
- FOOD SERVICE



KITB inside basement lounge LOUB.



Lounge LOUB has old, inflexible furnishings.

Tiny, dark TV nook outside LOUB.

View from lobby looking south past main lounge. The area has good natural light.

Main lounge is accessed only by stairs.

Two landscaped courtyards are underutilized assets.

Cayuga Hall Enhancement Projects

First Impressions		
First Steps	**Moderate Improvements**	**Major Improvements**
Display Oswego art and heritage - LOB1, MAIN LOU, and throughout Allow $116,000	Reconfigure and renovate main desk $147,000 Upgrade lobby; create an accessible vestibule. $591,000	Add a two-story lobby and renovate adjacent existing lobby. Upgrade landscape and exterior finishes. allow $3,284,000
	Upgrade exterior approach to the main entrance. $610,000	

Student Experience		
First Steps	**Moderate Improvements**	**Major Improvements**
Upgrade furniture in large lounges LOUB, MAINLOU Allow $176,000	Upgrade finishes and fixtures in large lounges LOUB, MAINLOU $304,000 to $586,000, depending on scope	Renovate and reconfigure lounge LOUB. Create a community kitchen in KITB. $580,000
Access control to/from the outdoors at basement level (one door) $8,500	Create a 2,000 sf brick patio outside LOUB to engage the green quad between West Campus residence halls. Include low walls for seating. allow $150,000 Add a covered area, allow $77,600	Widen residence room doors for accessibility and provide ADA clear floor area at all student rooms. $1,701,000 (one-phase) $450,000 per 50 doors (if phased)
Improve courtyards: Clean hardscape, upgrade landscaping, add outdoor furniture and accent lighting Furniture allowance: $200,000	Create floor lounges by combining student rooms 33S and the adjacent luggage room (on each floor). Furnish the second floor lounge for study and the third and fourth floor lounges for conversation and socializing. $320,000 Then, convert LOU1 and LOU2 to create eight double-occupancy student rooms. $365,000 Net gain of seven beds, plus creation of distributed lounges on each floor.	

Student Success		
First Steps	**Moderate Improvements**	**Major Improvements**
Upgrade furniture - LOU1, LOU2 study lounges. Allow $96,000	Upgrade fixtures and finishes in study lounges LOU1, LOU2 $166,000 to $320,000, depending on scope (Confirm this does not conflict with creating floor lounges, listed above.)	
	Create enclosed study rooms within a large lounge allow $117,000	

Cayuga Hall Inspiration

Example photographs below are a combination of projects designed by the planning team and other architects.

Wide-open lounges can be divided by furnishings and ceiling finish.

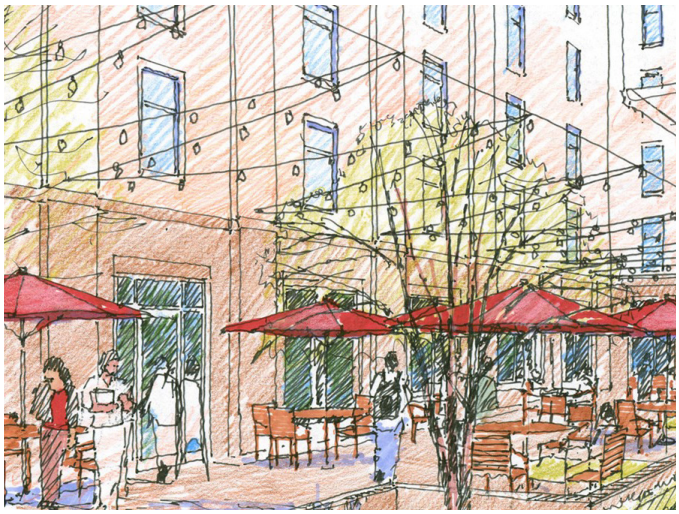
Potential courtyard improvements.

Lounge with heritage graphics.

Potential lounge on residential floors.

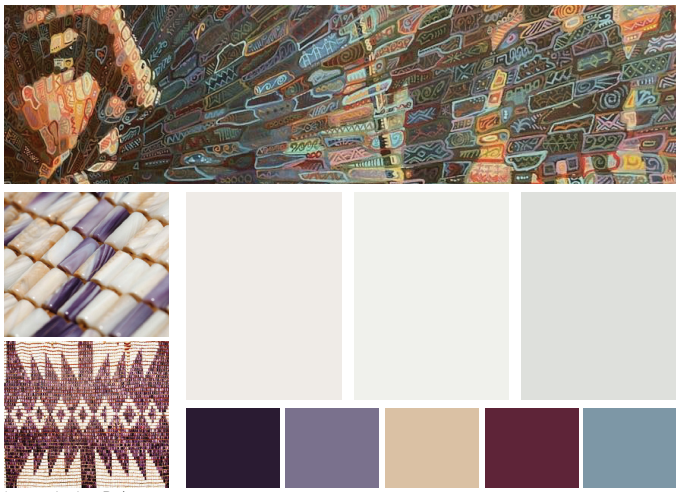
Cayuga Hall Inspiration

Example photographs below are a combination of projects designed by the planning team and other architects.



Potential courtyard upgrade or new patio outside LOUB.

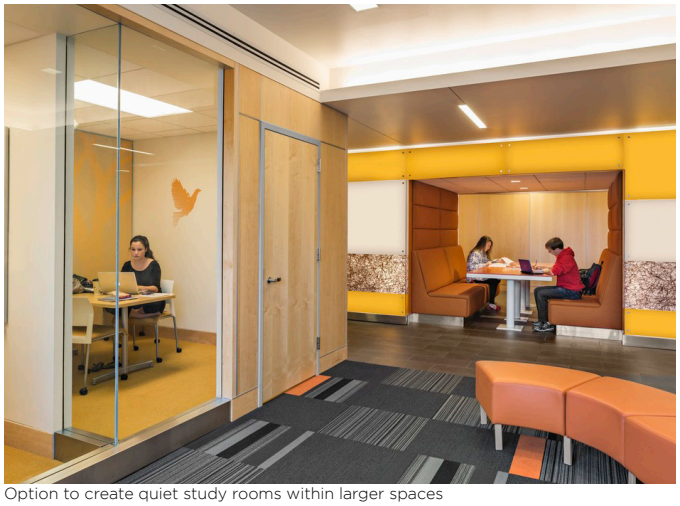
Entrance improvements: new canopy, signs/banners, plantings, seating



Iroquois Art Palette
Wampum Belts, David Kanietakeron Fadden's painting "At the Sing"

Community kitchen

New lounges on student residence floors.



Option to create quiet study rooms within larger spaces

Potential Cayuga Lounge LOUB Renovation

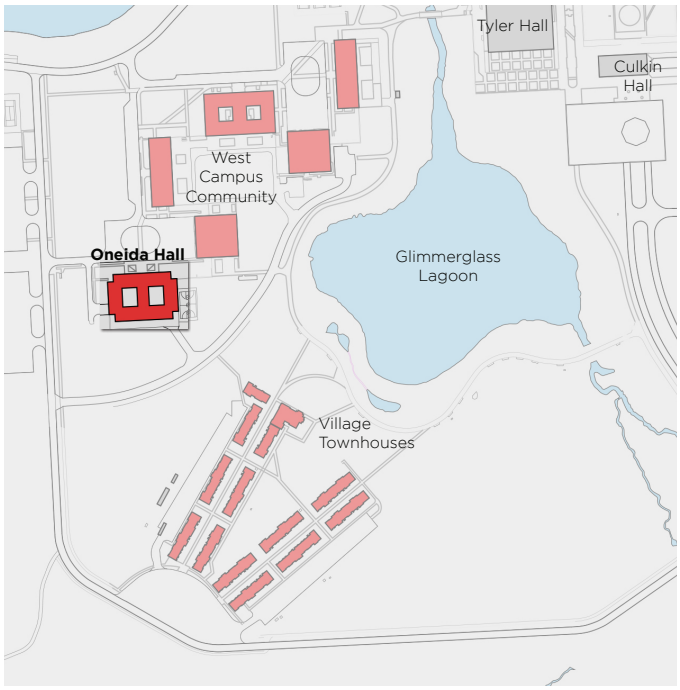
West Campus Community
Oneida Hall

Assets

- Abundance of public space. Large lounges on residence floors.
- Private landscaped courtyards.

Challenges

- Lack of identity and sense of place both inside and outside. Lack of art, color on walls.
- Flooring and furniture in public spaces, lounges and studies needs updating
- Landscape courtyards lack interest and are not inviting
- Large lounges on typical residential floors lack character.
- Assume hazardous materials abatement will accompany any demolition.
- Multiple accessibility challenges:
  - Residence room doors and furnishings do not have sufficient clear openings and floor area.
  - Residence room door width and door hardware are not ADA compliant.
  - Residence floor lounge between third and fourth floors can only be reached by stairs.



N **LOCATION PLAN**
NTS

Facilities Maintenance Needs

SUNY Oswego reported planned facilities maintenance projects totaling $2,801,000.

- Repair heating system.
- Provide digital code key boxes.
- Repaint the whole building interior.
- Repair interior stairs.
- Replace flooring in some areas (with abatement).
- Major elevator upgrade/replacement.
- Replace emergency generator.
- Perform fire alarm maintenance.
- Add bottle filling stations.

In addition, engineers recommend planning for the following systems upgrades:

- Replace major heating equipment.
- Replace convectors and heating and ventilating units. Implement demand control ventilation.
- When funds are available, extend standpipe fire protection to provide sprinkler coverage throughout the building. Install a backflow preventer on fire main.
- When systems are upgraded, implement recommendations of the Clean Energy Master Plan.
- In the 2030s:
  - Replace domestic water service and hot water tank.
  - Install low flow plumbing fixtures.
  - Replace lighting fixtures with LED fixtures.
- In the 2030s to 2040s:
  - Replace electrical panelboards, emergency generator, and fire alarm.
  - Replace fire protection system.
  - Replace cooling system for IT rooms.

Space Allocation

Oneida Hall has seven square feet of study space per resident bed, while other residence halls on West Campus do not have any study space recorded. This space could serve as a resource to other West Campus residents, yet uninviting outdoor spaces and poor-condition ground-floor passages discourage sharing of social spaces among West Campus residence halls.

Bed Count

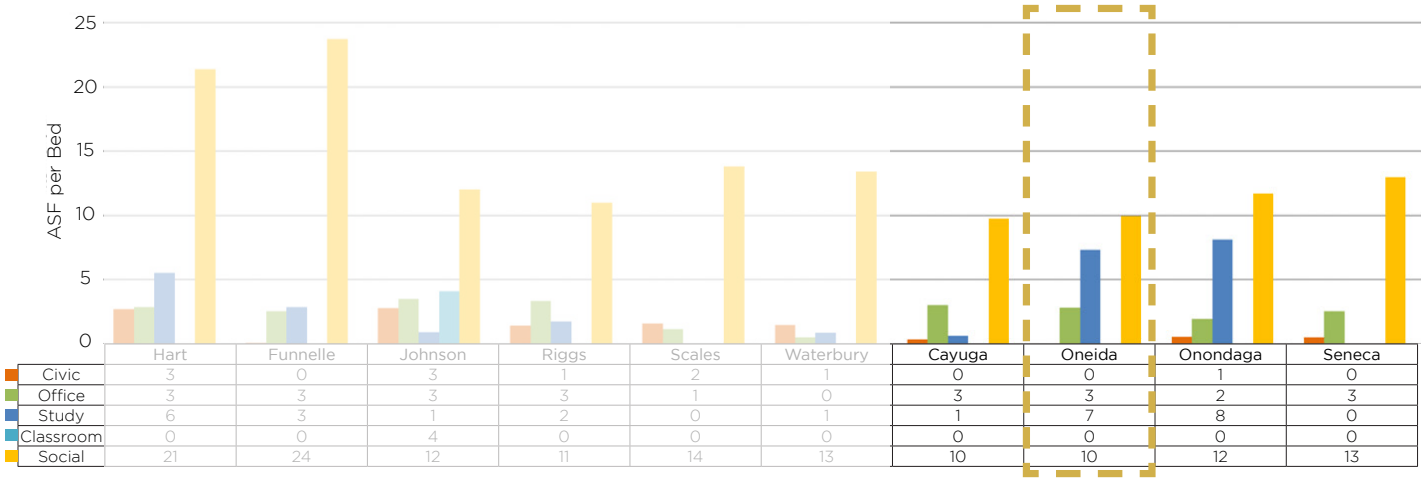
Oneida Hall has 420 beds in double-occupancy rooms. It is the smallest residence hall, by bed count, on the West Campus.

Impact of Potential Upgrades

Similar to other West Campus Community structures, Oneida Hall is a durable building that - with comprehensive renovation - could serve SUNY Oswego for another fifty years.

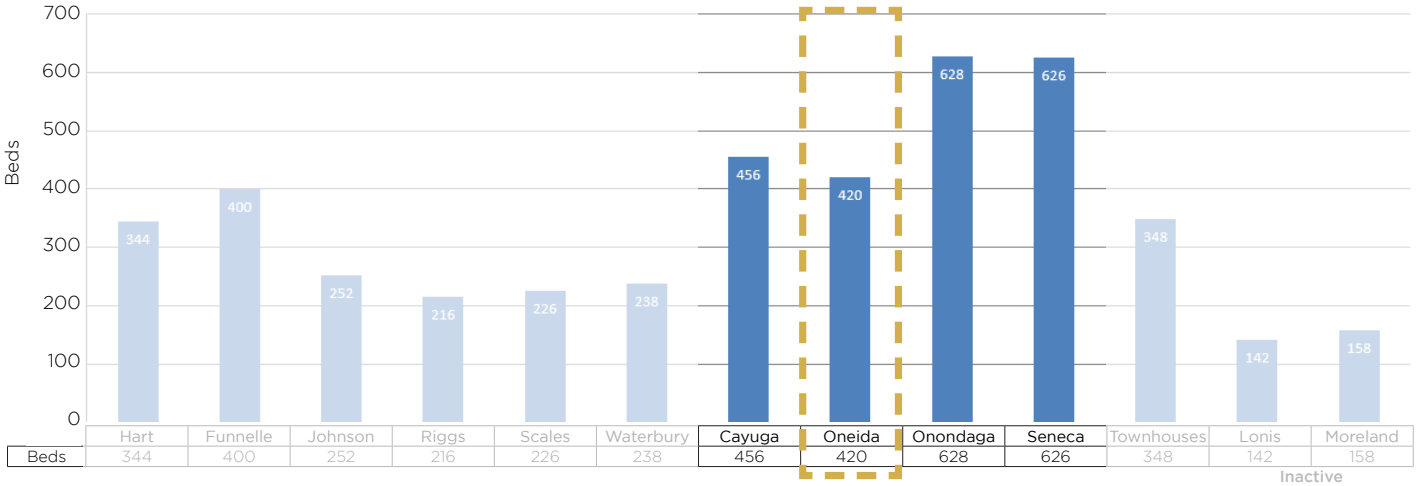
Oneida's 420 beds could be distributed into other residence halls to accommodate comprehensive renovation, yet funding limitations make such renovation of Oneida Hall infeasible at this time. However, moderate upgrades to Oneida Hall would benefit its residents and other West Campus residents who require modern, inviting places to socialize and study. **Facilities maintenance, moderate improvements, and long-term planning for comprehensive renovation are recommended.**

Oneida Hall Space Allocation



	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca
Civic	3	0	3	1	2	1	0	0	1	0
Office	3	3	3	3	1	0	3	3	2	3
Study	6	3	1	2	0	1	1	7	8	0
Classroom	0	0	4	0	0	0	0	0	0	0
Social	21	24	12	11	14	13	10	10	12	13

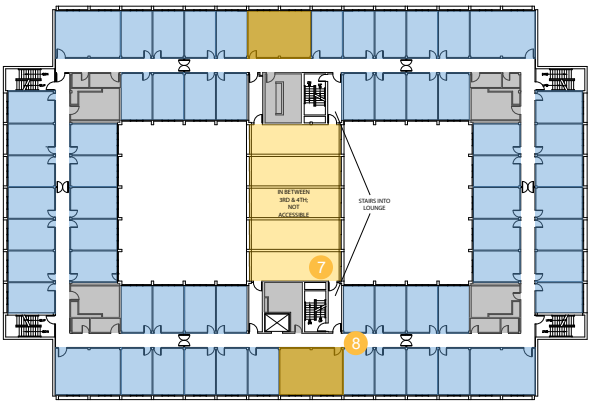
Oneida Hall Bed Count



	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca	Townhouses	Lonis	Moreland
Beds	344	400	252	216	226	238	456	420	628	626	348	142	158
											Inactive		

Oneida Hall Existing Floor Plans

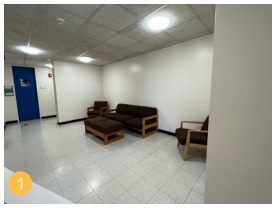
N **BASEMENT**
NTS



N **TYPICAL RESIDENCE HALL FLOOR**
NTS

N **FIRST FLOOR**
NTS

- STUDENT LIVING UNIT
- LOUNGE
- KITCHEN
- CLASSROOM / SEMINAR
- ADMIN OFFICE
- STAFF RESIDENCE
- GUEST RESIDENCE
- RECREATION ROOM
- STUDY
- SUPPORT SPACES
- MEP SYSTEMS
- FOOD SERVICE



Undefined area with outdated furniture in basement.

Laundry room has space to create study seating.

Unused computer lab in basement.

Building entry lacks identity.

Main Lounge with a combination of games, seating, and (out of view) at TV area.

Small kitchenette for student use.

One of two high-ceilinged lounges on residence floors.

Residence floor corridor.

Oneida Hall Enhancement Projects

Enhancement projects are elective projects that can be implemented at any time.

First Impressions		
First Steps	**Moderate Improvements**	**Major Improvements**
Display Oswego art and heritage - LOB1NC, REC1C, and throughout Allow $116,000	Upgrade exterior approach to the main entrance. $610,000	Add a two-story lobby and renovate adjacent existing lobby. Upgrade landscape and exterior finishes. . $3,284,000

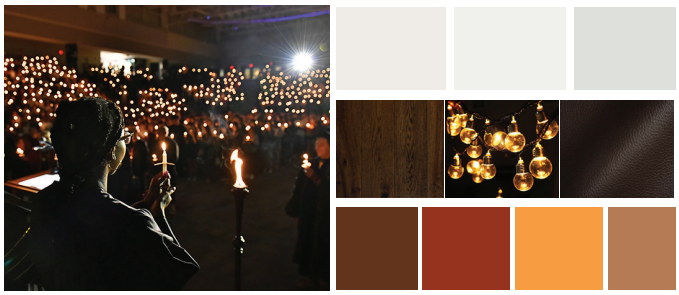
Student Experience		
First Steps	**Moderate Improvements**	**Major Improvements**
Upgrade furniture in main lounge REC1C. Focus on gaming and game tables. Allow $53,000		Remove bathrooms BAT3NC and BAT4NC and replace them elsewhere. Replace existing elevator with a two-door elevator to make LOU3C accessible. This project would address the facilities maintenance need of elevator upgrades. $1,525,000
Upgrade study furniture in laundry room LAUB and the undefined corridor space outside LAUB. Provide Oswego heritage graphics. Allow $53,000		Widen residence room doors for accessibility and provide ADA clear floor area at all student rooms. $2,097,000 (one-phase) $450,000 per 50 doors (if phased)
Upgrade furniture in floor social lounges. Make one focused on study and one focused on TV and socializing. LOU2C and LOU3C Allow $226,000	Upgrade finishes and fixtures in floor social lounges Make one focused on study and one focused on TV and socializing. LOU2C and LOU3C $390,000	
Improve courtyards: Clean hardscape, upgrade landscaping, add outdoor furniture and accent lighting Furniture allowance: $200,000	Create community kitchen in unused computer lab ICCBC	

Student Success		
First Steps	**Moderate Improvements**	**Major Improvements**
	(then) Repurpose floor kitchenette KIT1SCs as a study room Cost for kitchen: $287,000 Cost for study room: $50,000	

Oneida Hall Inspiration

Example photographs below are a combination of projects designed by the planning team and other architects.

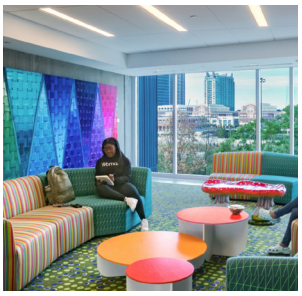
Display Oswego art and heritage



Torchlight Palette

Campus picnic at Shady Shore

Upgrade furniture



Upgrade finishes and fixtures

Refresh finishes and fixtures. Potentially add partitions to define spaces.

Create community kitchen

Modernize and enclose the existing kitchen to improve exhaust and create a community social space.

Repurpose floor kitchenette

Insert a study banquette into the former kitchenette.

Upgrade basement study areas

Create gaming area

West Campus Community
Onondaga Hall

Assets

- Lounges on typical residential floors have good views and natural light but feel like they “belong” to the few rooms at the end of the halls. Students from other rooms may not feel welcome there.
- Large lounge in basement with access to quad.

Challenges

- Building entry lobby is narrow. Sofas are too large for the space. Front desk does not have line of sight to the entry doors.
- Building has no accessible washrooms.
- Lack of identity and sense of place both inside and outside. Lack of art, color on walls.
- Flooring and furniture in public spaces, lounges and studies needs updating.
- Consider relocating community kitchen to the large multipurpose room. Enclose the space, provide adequate ventilation.
- Lounge in the basement needs clear use zones. Small glassed rooms at the stairs would be good study rooms. Consider converting one to a music practice room and relocate the piano there.
- Residence room doors are not ADA-compliant.
- Assume hazardous materials abatement will accompany any demolition.

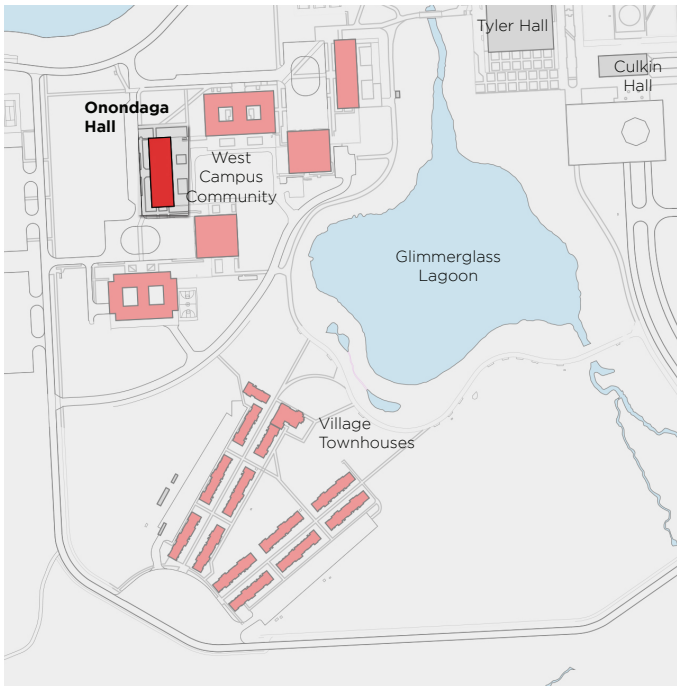
Facilities Maintenance Needs

SUNY Oswego reported planned facilities maintenance projects totaling $5,487,300

- Repair heating system.
- Provide digital code key boxes.
- Replace lighting in some areas.
- Major elevator upgrade/replacement.
- Replace emergency generator.
- Add shower bars.
- Perform fire alarm maintenance.
- Roof replacement study and design.
- Miscellaneous abatement.
- Add bottle filling stations.

In addition, engineers recommend planning for the following systems upgrades:

- Replace major heating equipment and implement demand control ventilation.
- When funds are available, extend standpipe fire protection to provide sprinkler coverage throughout the building. Install a backflow preventer on fire main.



N **LOCATION PLAN**
NTS

- When systems are upgraded, implement recommendations of the Clean Energy Master Plan.
- In the 2030s:
  - Replace domestic water service and hot water tank.
  - Install low flow plumbing fixtures.
- In the 2030s to 2040s:
  - Replace electrical panelboards, emergency generator, fire alarm, and telephone/data system..
  - Replace fire protection system.
  - Replace cooling system for IT rooms.

Space Allocation

Onondaga Hall has eight square feet of study space and 12 square feet of social space per resident bed. This space could serve as a resource to other West Campus residents, yet uninviting outdoor spaces and poor-condition ground-floor passages discourage sharing of social spaces among West Campus residence halls.

Bed Count

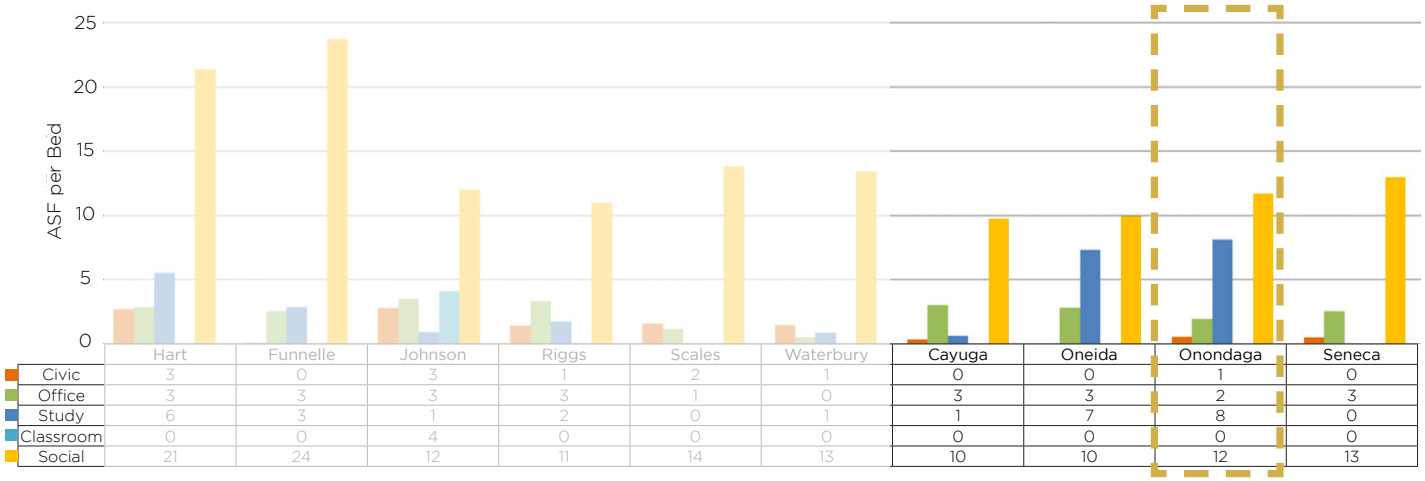
Onondaga Hall has 628 beds in suite-style rooms. It is the largest residence hall, by bed count, on the West Campus. It is the only suite-style building at SUNY Oswego.

Impact of Potential Upgrades

Similar to other West Campus Community structures, Onondaga Hall is a durable building that - with comprehensive renovation - could serve SUNY Oswego for another fifty years.

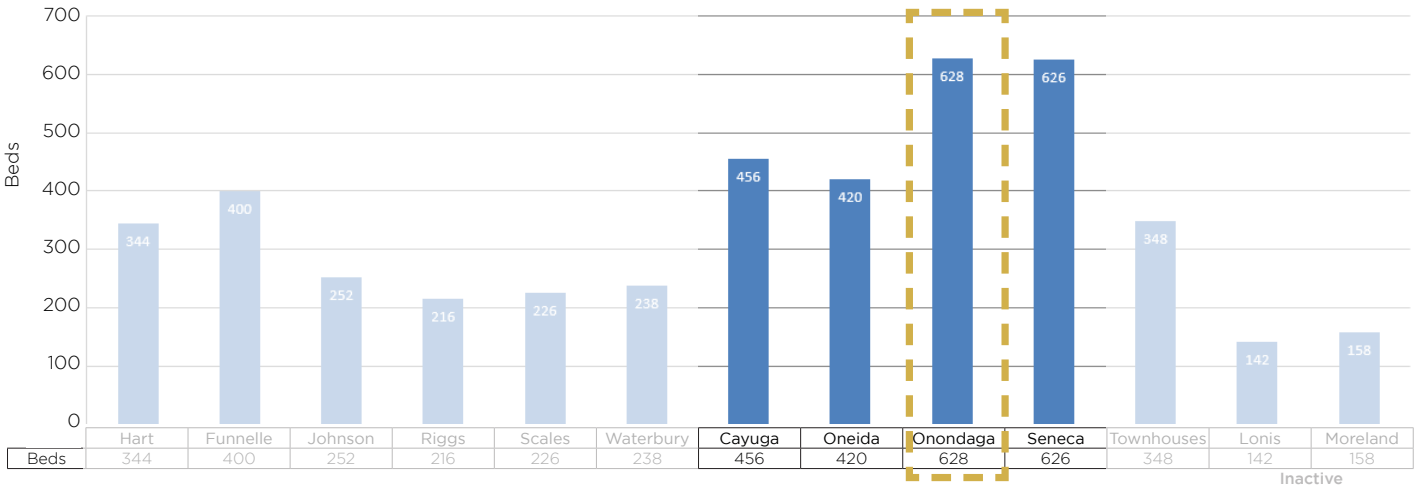
Onondaga's 628 beds would be difficult to replace if the residence hall were to close for renovations. Given funding limitations and the difficulty of finding swing space for 628 residents, comprehensive renovation of Onondaga Hall is not feasible at this time. However, moderate upgrades to Onondaga would benefit its residents and other West Campus residents who require modern, inviting places to socialize and study. **Facilities maintenance, moderate improvements, and long-term planning for comprehensive renovation are recommended.**

Onondaga Hall Space Allocation



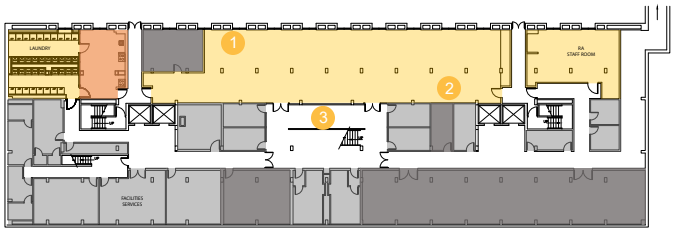
	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca
Civic	3	0	3	1	2	1	0	0	1	0
Office	3	3	3	3	1	0	3	3	2	3
Study	6	3	1	2	0	1	1	7	8	0
Classroom	0	0	4	0	0	0	0	0	0	0
Social	21	24	12	11	14	13	10	10	12	13

Onondaga Hall Bed Count

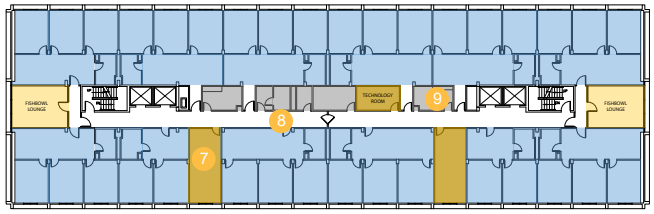


	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca	Townhouses	Lonis	Moreland
Beds	344	400	252	216	226	238	456	420	628	626	348	142	158

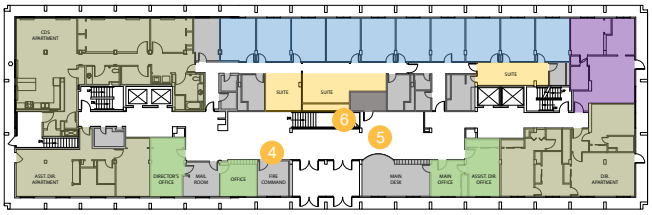
Onondaga Hall Existing Floor Plans



N **BASEMENT**
NTS



N **TYPICAL RESIDENCE HALL FLOOR**
NTS



N **FIRST FLOOR**
NTS

- STUDENT LIVING UNIT
- LOUNGE
- KITCHEN
- CLASSROOM / SEMINAR
- ADMIN OFFICE
- STAFF RESIDENCE
- GUEST RESIDENCE
- RECREATION ROOM
- STUDY
- SUPPORT SPACES
- MEP SYSTEMS
- FOOD SERVICE

Long, narrow lounge with heavy, inflexible furnishings.

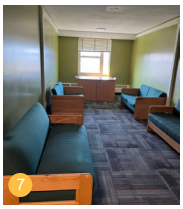
Lounge has no physical separation to allow multiple activities to happen at once.

Storage in basement hallway.

Building entry lacks identity.

Main desk lacks view of whole lobby.

Stair to basement student engagement areas is not inviting.



Study lounge with partially updated finishes.

Knob hardware on student room doors.

Floor lounges have some finishes upgraded.

Unused luggage storage room.

Onondaga Hall Enhancement Projects

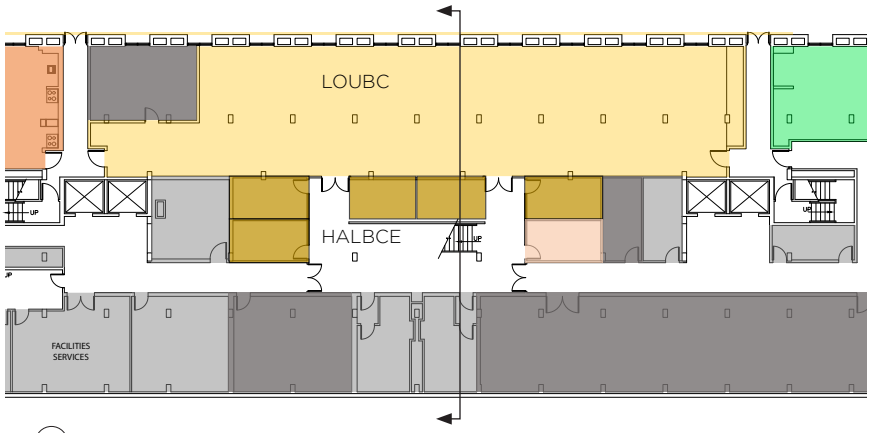
Enhancement projects are elective projects that can be implemented at any time.

First Impressions		
First Steps	**Moderate Improvements**	**Major Improvements**
Display Oswego art and heritage - LOB1C, LOUBC, and throughout Allow $116,000		Create a two-story lounge by removing first floor suites 106-108 and 109-111 and opening the floor to basement lounge LOUBC. $3,414,000
	Upgrade exterior approach to the main entrance. $610,000	Add a two-story lobby and renovate adjacent existing lobby. Upgrade landscape and exterior finishes. $3,284,000

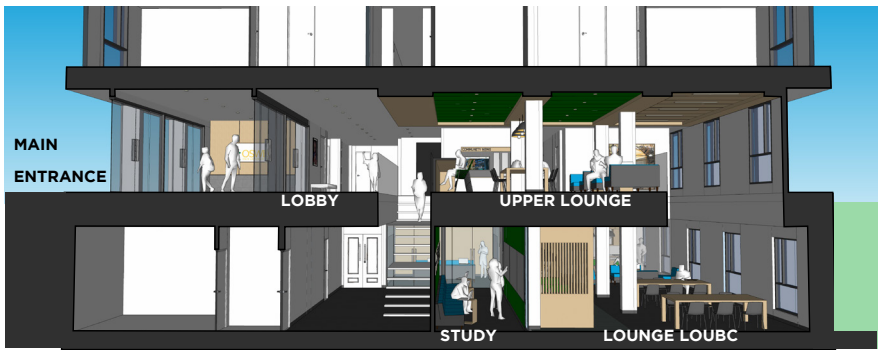
Student Experience		
First Steps	**Moderate Improvements**	**Major Improvements**
Alternate to creating a two-story lounge: Upgrade furniture in main lounge LOUBC. Allow $162,000	Alternate to creating a two-story lounge: Upgrade finishes and fixtures in main lounge LOUBC. $280,000	Alternate to creating a two-story lounge: Reconfigure and renovate LOUBC. Create a community kitchen on the north end of LOUBC. (Existing kitchen would be available for other uses.) Create some enclosed/partitioned spaces for study, meetings, and projects. $981,000
Remove stored furnishings from HALBCE. Remove curtains from study rooms near basement corridor HALBCE. No cost	Replace finishes and fixtures HALBCE and in study rooms near basement corridor HALBCE. $147,000	Reconfigure and renovate HALBCE and study rooms near basement corridor HALBCE. $283,000
Access control to/from the outdoors at basement level (one door) $8,500	Create a 2,000 sf brick patio outside LOUBC to engage the green quad between West Campus residence halls. Include low walls for seating. allow $150,000 Add a covered area, allow $77,600	Widen residence room doors for accessibility and provide ADA clear floor area at all student rooms. $2,889,000 (one-phase) $450,000 per 50 doors (if phased)

Student Success		
First Steps	**Moderate Improvements**	**Major Improvements**
	Convert unused luggage storage rooms to glassed-in study rooms. $45,000 per room	
Upgrade furniture in floor social lounges. Create one study lounge and one social lounge per floor. Allow $15,500 per lounge	Upgrade finishes and fixtures in floor social lounges. Create one study lounge and one social lounge per floor. $45,000 per lounge	

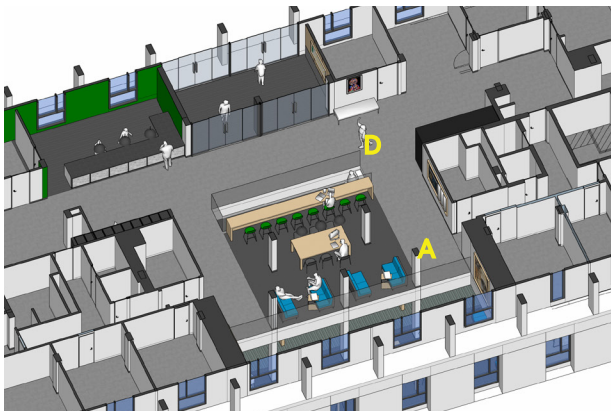
Potential Two-Story Lounge in Onondaga Hall



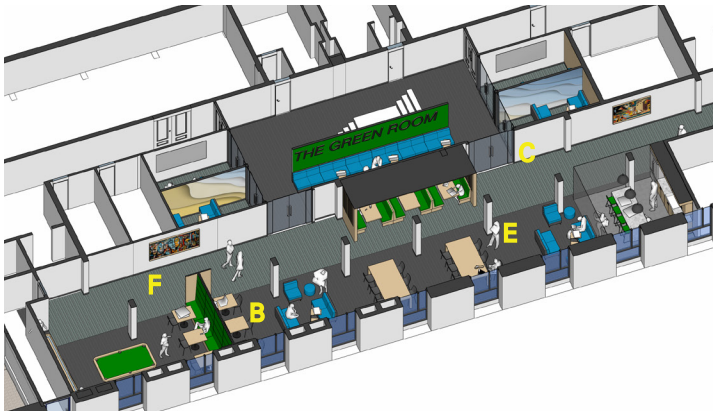
Example: Onondaga Basement Lounge Renovation (LOUBC)



Section through entrance, lobby, and LOUBC



Axonometric Key Plan, First Floor (renderings on next page)



Axonometric Key Plan, Basement (renderings on next page)

Potential Two-Story Lounge in Onondaga Hall

First Floor view looking east toward main entrance. Two-story area would be to the viewer's left

View from basement lounge up toward entrance lobby and upper lounge.

A new community kitchen could be created on the north side of LOUBC.

Potential Two-Story Lounge in Onondaga Hall

View looking south, with the first floor main entrance to the right and stairs to the basement straight ahead. Upper lounge is to the left.

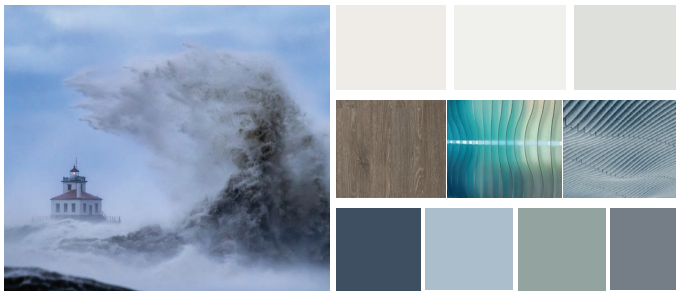
View from basement lounge up toward upper lounge. Viewer is standing just outside the community kitchen.

A games zone can be created by adding partitions within LOUBC.

Onondaga Hall Inspiration

Example photographs below are a combination of projects designed by the planning team and other architects.

Display Oswego art and heritage



Summer Sunset Palette

Three-masted schooner from the late 1800s.

Upgrade furniture

Upgrade finishes and fixtures

Refresh finishes and fixtures. Potentially add partitions to define spaces.

Create community kitchen

Create an enclosed kitchen to improve exhaust and create a community social space.

Upgrade study nooks

Insert study banquettes into existing basement nooks.

Create a patio adjacent to LOUB

Improve entrance

West Campus Community
Seneca Hall

Assets

- Lounges on typical residential floors have good views and natural light but feel like they “belong” to the few rooms at the end of the halls.
- Lounges and study rooms have new floor coverings and furniture.
- Lounge in the basement has a good layout.

Challenges

- Building entry lobby is narrow. Sofas are too large for the space. Front desk does not have line of sight to the entry doors.
- Building has no accessible washrooms.
- Lack of identity and sense of place both inside and outside. Lack of art, color on walls.
- Community kitchen needs updating.
- Corridor and study rooms at basement stair need updates.
- Residence room doors are not ADA-compliant.
- Assume hazardous materials abatement will accompany any demolition.

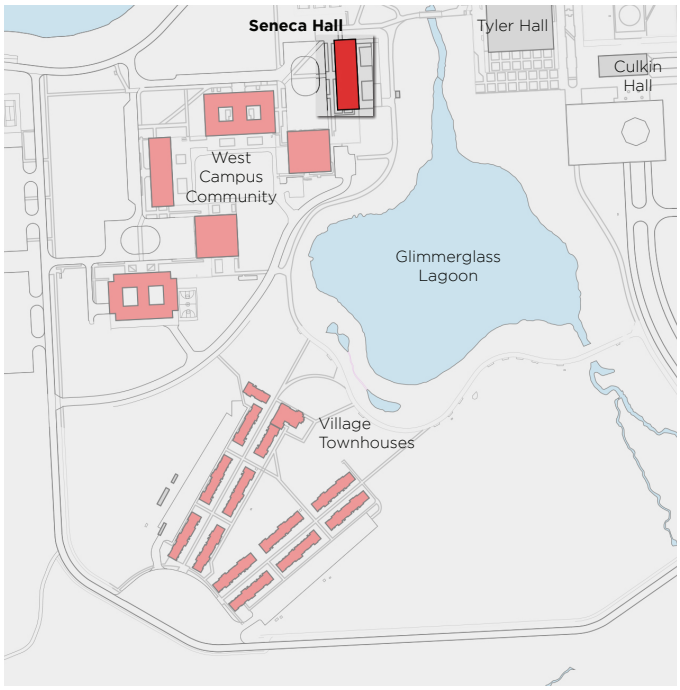
Facilities Maintenance Needs

SUNY Oswego reported planned facilities maintenance projects totaling $1,317,284

- Repair heating system.
- Provide digital code key boxes.
- Major elevator upgrade/replacement.
- Replace emergency generator.
- Add bottle filling stations.

In addition, engineers recommend planning for the following systems upgrades:

- Replace major heating equipment.
- Replace convectors and heating and ventilating units. Implement demand control ventilation.
- When funds are available, extend standpipe fire protection to provide sprinkler coverage throughout the building. Install a backflow preventer on fire main.
- When systems are upgraded, implement recommendations of the Clean Energy Master Plan.
- In the 2030s:
  - Replace domestic water service and hot water tank.
  - Install low flow plumbing fixtures..
- In the 2030s to 2040s:
  - Replace electrical panelboards, emergency generator, and fire alarm.
  - Replace fire protection system.
  - Replace telephone/data system.
  - Replace cooling system for IT rooms.



N
LOCATION PLAN
NTS

Move in day, 1967, with Seneca Hall in the background (digitallibrary.oswego.edu)

Space Allocation

Seneca Hall has 13 square feet of lounge space per resident bed, yet no study space was defined in the inventory. The lounge space could serve as a resource to other West Campus residents, and Seneca residents could visit other buildings to study. However, uninviting outdoor spaces and poor-condition ground-floor passages discourage sharing of social spaces among West Campus residence halls.

Bed Count

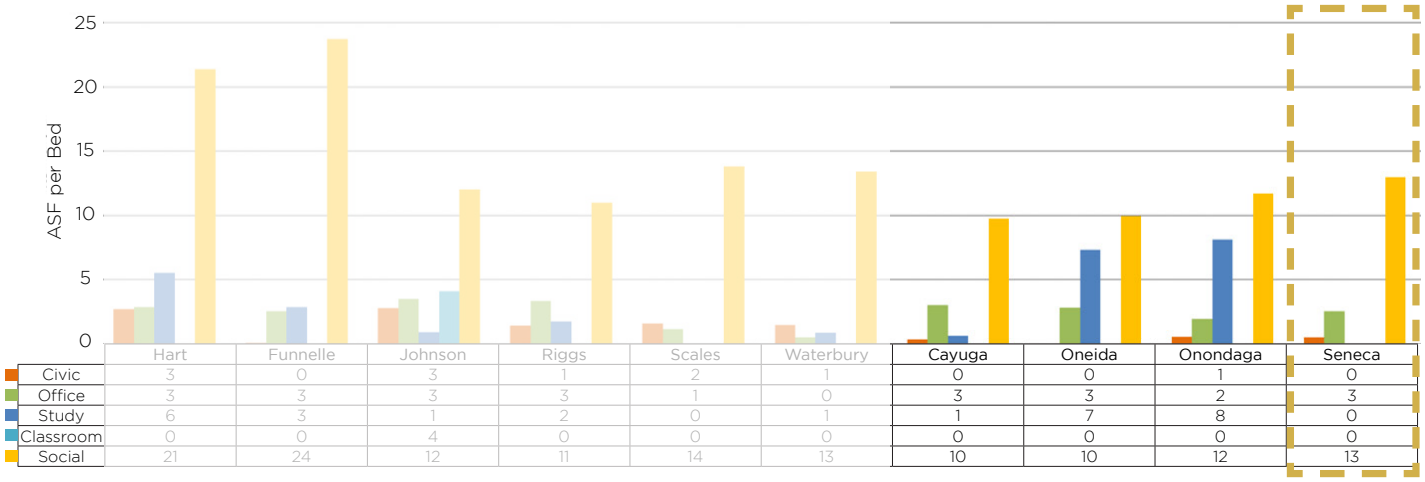
Seneca Hall has 626 beds in double-occupancy rooms. It is one of the largest residence halls, by bed count, on the West Campus.

Impact of Potential Upgrades

Similar to other West Campus Community structures, Seneca Hall is a durable building that - with comprehensive renovation - could serve SUNY Oswego for another fifty years.

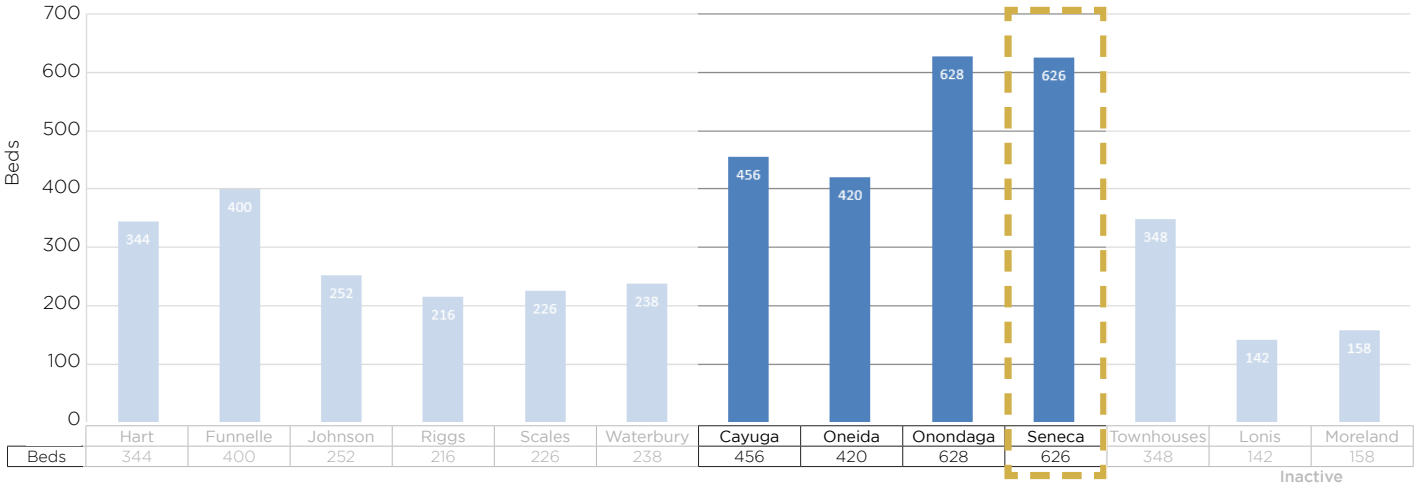
Seneca's 626 beds would be difficult to replace if the entire residence hall were to close for renovations. Given funding limitations and the difficulty of finding swing space for 626 residents, comprehensive renovation of Seneca Hall is not feasible at this time. However, moderate upgrades to Seneca would benefit its residents and other West Campus residents who require modern, inviting places to socialize and study. **Facilities maintenance, moderate improvements, and long-term planning for comprehensive renovation are recommended.**

Onondaga Hall Space Allocation



	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca
Civic	3	0	3	1	2	1	0	0	1	0
Office	3	3	3	3	1	0	3	3	2	3
Study	6	3	1	2	0	1	1	7	8	0
Classroom	0	0	4	0	0	0	0	0	0	0
Social	21	24	12	11	14	13	10	10	12	13

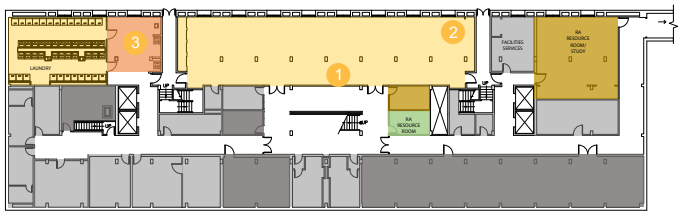
Onondaga Hall Bed Count



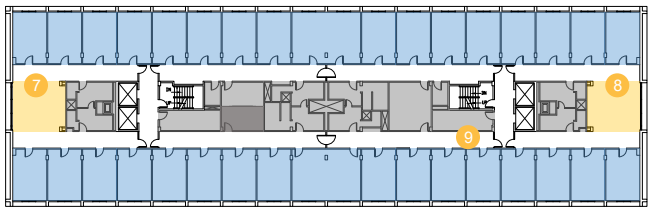
	Hart	Funnelle	Johnson	Riggs	Scales	Waterbury	Cayuga	Oneida	Onondaga	Seneca	Townhouses	Lonis	Moreland
Beds	344	400	252	216	226	238	456	420	628	626	348	142	158

Inactive

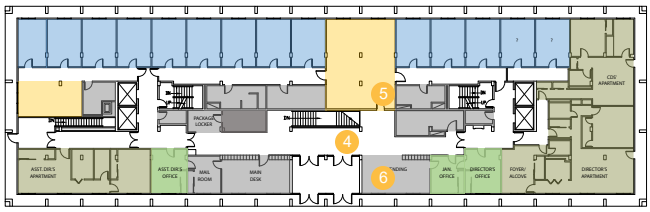
Seneca Hall Existing Floor Plans



BASEMENT
NTS



TYPICAL RESIDENCE HALL FLOOR
NTS



FIRST FLOOR
NTS

- STUDENT LIVING UNIT
- LOUNGE
- KITCHEN
- CLASSROOM / SEMINAR
- ADMIN OFFICE
- STAFF RESIDENCE
- GUEST RESIDENCE
- RECREATION ROOM
- STUDY
- SUPPORT SPACES
- MEP SYSTEMS
- FOOD SERVICE

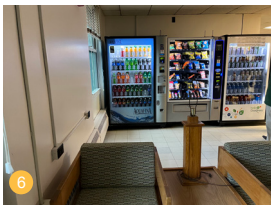
Basement lounge with updated finishes and furnishings.

Games tables, study furnishings, and TV areas share the same room.

Existing kitchen is not inviting.

Building entry lacks identity.

First floor lounge with updated finishes and furnishings.



First floor vending area with unused, broken furnishings.

Floor lounge with upgraded finishes and furnishings.

Floor lounge with upgraded finishes and furnishings.

Knob hardware on student room doors and non-accessible water fountain on residence floor.

Seneca Hall Enhancement Projects

Enhancement projects are elective projects that can be implemented at any time.

First Impressions		
First Steps	**Moderate Improvements**	**Major Improvements**
Display Oswego art and heritage - HAL1C, LOUBC, and throughout Allow $116,000	Upgrade exterior approach to the main entrance. $610,000	Add a two-story lobby and renovate adjacent existing lobby. Upgrade landscape and exterior finishes. $3,284,000

Student Experience		
First Steps	**Moderate Improvements**	**Major Improvements**
	Upgrade finishes and fixtures in main lounge LOUBC. $280,000	Reconfigure and renovate LOUBC. Create a community kitchen on the north end of LOUBC. (Existing kitchen would be available for other uses.) Create some enclosed/partitioned spaces for study, meetings, and projects. $981,000
Remove stored furnishings from HALBC. Remove curtains from study rooms near basement corridor HALBC. No cost	Replace finishes and fixtures HALBC and in study rooms near basement corridor HALBC. $147,000	Reconfigure and renovate HALBC and study rooms near basement corridor HALBC. $283,000
Access control to/from the outdoors at basement level (one door) $8,500	Create a 2,000 sf brick patio outside LOUBC to engage the green quad between West Campus residence halls. Include low walls for seating. allow $150,000 Add a covered area, allow $77,600	Widen residence room doors for accessibility and provide ADA clear floor area at all student rooms. $2,700,000 (one-phase) $450,000 per 50 doors (if phased)

Student Success		
First Steps	**Moderate Improvements**	**Major Improvements**
	Upgrade finishes and fixtures in floor social lounges. Create one study lounge and one social lounge per floor. $45,000 per lounge	
	Convert unused luggage storage rooms to glassed-in study rooms. $45,000 per room	

Seneca Hall Inspiration

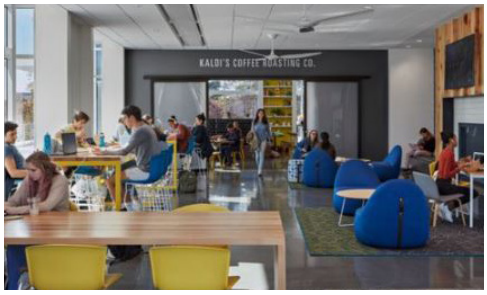
Example photographs below are a combination of projects designed by the planning team and other architects.

Display Oswego art and heritage

Natural History Palette

Fossils

Upgrade finishes and fixtures



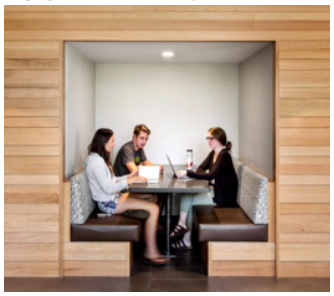
Reconfigure lounge

Add partitions and glass walls to create zones for different activities.

Create community kitchen

Create an enclosed kitchen to improve exhaust and create a community social space.

Upgrade study nooks



Insert study banquettes into existing basement nooks.

Create a patio adjacent to LOUB

Improve entrance

West Campus Community
Village Townhouses

Assets

- Small-scale residences surrounding a common green space.
- Views of Glimmerglass Lagoon.
- Near Campus recreation fields.
- Students have more independence, especially with the meal plan.

Challenges

More of this type of housing was requested in surveys. The townhouses are the only apartment-style housing on-campus.

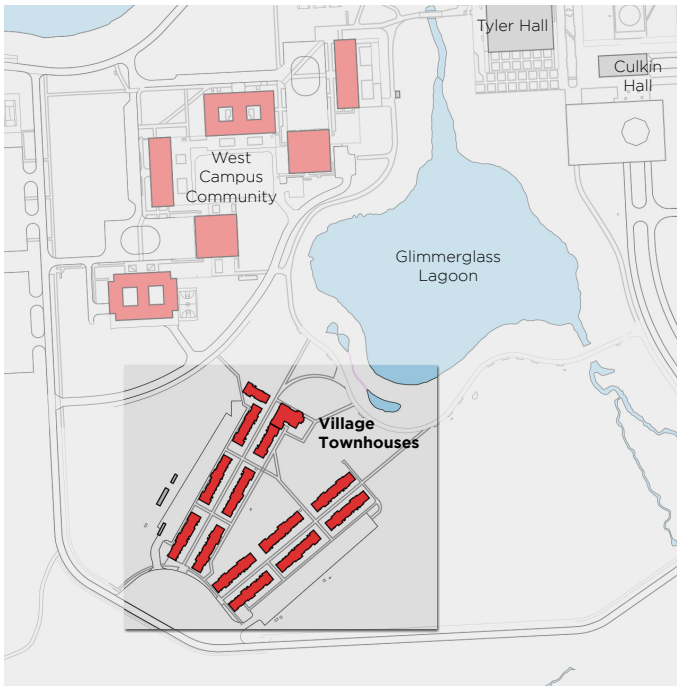
Facilities Maintenance Needs

Continued regular maintenance will keep these buildings in good condition into the 2030s. Planned facilities maintenance totaling $3,392,000 includes:

- Replacement of domestic hot water tanks in all units.
- Heating system routine maintenance.
- Replace kitchen countertops in all units.
- Replace asphalt shingles as needed.
- Provide digital code key boxes.
- Repaint units.
- Add bottle filling stations in common areas.

In addition, engineers recommend planning for the following systems upgrades:

- Implement Clean Energy Master Plan recommendations.
- In the 2030s:
  - Replace plate and frame heat exchanger
  - Replace boilers with high-efficiency condensing boilers
  - Install backflow preventer valve on fire main.
  - Replace telephone/data systems.
  - Replace outdoor air cooled chiller.
  - Replace dual-temperature pumps.
  - Replace generator.
- In the 2040s:
  - Replace panelboards.
  - Replace Fire Alarm.
  - Replace fire protection system.
  - Replace domestic water service, and HW tank.



N
LOCATION PLAN
NTS

Village Townhouses over the Glimmerglass Lagoon

East Campus Community
Lonis Hall, Moreland Hall and Mackin Dining Hall

Assets

These are some of the College's original residence halls. They have a distinctive 1950s style.

Challenges

The buildings have not been modernized. Hazardous materials are present throughout. With the exception of some electrical components, all building systems are well beyond their useful life. The buildings have been offline for many years, with the exception of a brief time of occupancy as quarantine housing during the COVID-19 pandemic.

Facilities Maintenance Needs

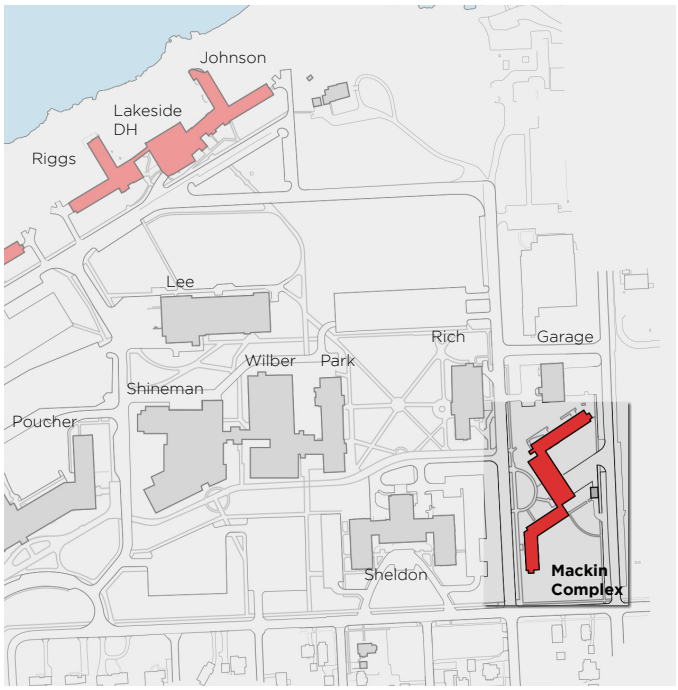
The College has identified nearly $2,000,000 of facilities maintenance projects required in Lonis, Moreland, and the attached Mackin Dining Hall. Gut renovation of these buildings would be required to create an accessible, efficient, welcoming residential community.

Recommendation

The existing residence hall layout is double occupancy rooms with shared bathrooms. Gut renovation would be required to reconfigure these spaces to create suite-style units with private bathrooms. Creating spaces like these could reduce the design capacity of these residences from 341 beds to 230 beds or fewer

Given their concrete construction and known presence of hazardous materials, it is likely that comprehensive renovation of the East Campus Community (residence halls and dining hall) could cost well over $60,000,000.

Due to the low potential bed count and the high probable cost of renovation, the planning team recommends Lonis Hall and Moreland Hall be permanently decommissioned. They should not be considered for future use as residence halls.



N **LOCATION PLAN**
NTS

Mackin Dining Hall

Appendix E
Academic Buildings Existing Conditions

The following summaries of existing conditions are from the 2021 Academic Building Master Plan Update, with facilities maintenance recommendations updated by Setty & Associates Consulting Engineers in 2023.

Refer to Appendix C of the 2021 Academic Building Master Plan Update for complete reports.

Building Condition Assessment

In the summer of 2019, JMZ conducted an existing conditions assessment of Lanigan Hall, Penfield Library, Mahar Hall, the Marano Campus Center, Poucher Hall, and Sheldon Hall. The analysis included a review of previous planning studies, existing drawings, and building surveys; walk-throughs of each building; and interviews with administrators, faculty, and Facilities Services staff.

The assessment focused on the physical condition of building facilities, suitability of existing space, and compliance with applicable codes. In brief:

- Penfield, Lanigan, and Mahar were constructed in the 1960s and have undergone limited modifications since that time. All have critical maintenance needs and will require comprehensive renovations to transform them into 21st century learning environments.
- Poucher and Marano have been renovated in recent years and are generally in good condition. Comprehensive renovation of these buildings is not required at this time, yet some building system components need to be updated and limited areas require interior reconfiguration to improve alignment with academic programs and administrative efficiency.
- Sheldon Hall has had recent repairs to exterior finishes, yet portions of the building require systems upgrades and finishes replacement.

A summary of the 80-page Building Condition Assessment follows. The full report is included in Appendix C. The following statements were correct at the time of analysis.

Lanigan Hall

Functionality

- Lanigan houses seven large lecture halls, including Lanigan 101 that seats approximately 400. Pedagogically, fixed-seat lecture halls for hundreds of students are not suitable for active learning. If pandemic-related social distancing and restricted group sizes are factors in the future, demand for large lecture rooms may be greatly diminished.
- Once Hewitt Hall is renovated, SCMA functions will move out of the ground level of Lanigan leaving space for other uses.
- While the College has done much to make the building accessible, not all of the toilet rooms are fully ADA-compliant. Additional accessible seating is needed in lecture halls and some door hardware and signage does not meet ADA requirements.

Exterior

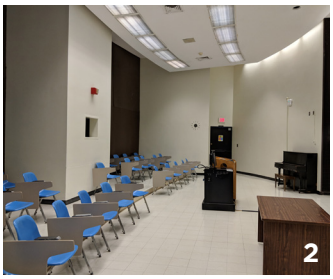
The building envelope is in need of repair, cleaning, and upgrades. New windows and exterior doors should be installed and the concrete facade should be cleaned and sealed.

Interior

- Generally, finishes and fixtures are in fair to poor condition and look tired and worn.
- The building's structure of reinforced concrete presents a challenge to significant renovation but the seven lecture halls could be transformed to create collaborative learning environments with modern technology. The renovation would result in reduced seating capacity.

Building Systems

- Most of Lanigan Hall's building systems are original and need to be replaced.
- Life safety systems, such as fire alarms and carbon monoxide alarms, have been upgraded and are in good condition.



1. The building exterior requires cleaning, repairs, and upgrades. The building entrances are not emphasized in the design.

2, 3. Classrooms and lecture halls do not offer an engaging learning environment. Finishes, furnishings, and instructional technology require updates.

4. There are multiple locations where original finishes have failed and can no longer be maintained.

Penfield Library

Functionality

- Since Penfield Library's opening in 1968, the function of college libraries has changed significantly. Academic libraries are no longer just repositories for print material and places for quiet study. The 21st century college library is the heart of academic life on a campus; a place where knowledge is created and collaboration occurs.
- Penfield Library has sufficient space to become a 21st century college library, yet it will require reconfiguration and renovation.
- Reducing the library's print collection would be a significant step toward a future renovation.

Exterior

- The building's exterior envelope should be refurbished.
- The concrete facade is spalling in locations and reinforcement steel is exposed and rusting. Windows and doors are in poor condition and should be replaced.

Interior

- Generally, finishes and fixtures in recently renovated areas of the building are in good condition. In contrast, unrenovated portions of the building have finishes that look old and worn.
- SUNY Oswego has made accessibility improvements, yet the interior configuration of the building prevents complete ADA compliance. Strategic renovations are required.

Building Systems

- Most of Penfield's building systems are original and need to be replaced.
- Life safety systems, such as fire alarms and carbon monoxide alarms, have been upgraded and are in good condition.

1. The building exterior requires cleaning, repairs, and upgrades. The building entrances are not emphasized in the design.

2. There is little sense of arrival once library users enter the building.

3, 4. Floor finishes, ceilings, and lighting have little variation. There are few indications of different zones for different activities. Many parts of the building have no views to the exterior.

5, 6. New, movable furnishings have been added to create flexible study areas. In some locations, aging furniture is still in use.

Mahar Hall

Functionality

- Mahar Hall functions as a traditional academic building housing instructional space, faculty offices, and research labs.
- Most faculty offices are laid out along long, double-loaded corridors, which impedes collaboration and collegiality.

Exterior

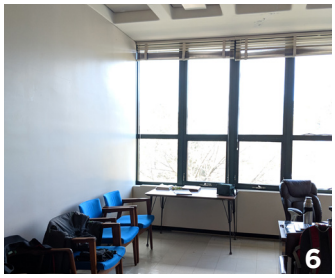
- While the building's exterior envelope is generally in good condition and well maintained, it is not energy efficient. The building's floor plates extend to the exterior of the envelope.
- Windows were replaced in 2010.

Interior

- Mahar Hall is in need of a major renovation to bring building finishes and amenities up to modern standards. The interior should be reconfigured to provide a more collaborative environment for faculty and students.
- Instructional spaces require resizing to support new pedagogies and to match projected section sizes.

Building Systems

- Most of the building systems are original and need to be replaced. A comprehensive renovation of mechanical, plumbing, and electrical systems is required.
- Only a portion of building is air conditioned, resulting in an uncomfortable environment for building occupants.
- Fire protection systems (present in basement storage areas), fire alarms, and carbon monoxide alarms are in good condition.



1. Mahar Hall's concrete and glass exterior is in good condition.

2. North and south exits lead to plazas that do not connect to the main paths of campus circulation. This funnels all day-to-day use through one entrance, causing congestion.

3. There is little sense of welcoming or arrival at the building entrance.

4. Corridors have no variation in finishes and no views to the exterior, which can be disorienting. There are no places to sit and wait for a class in the corridors.

5. Many classrooms have tablet armchairs, which are minimally functional for active learning.

6. Glare control is needed at perimeter rooms.

7. The basement houses the Archaeology Dig Lab.

8. Basement spaces, like the former Canine Lab, show evidence of dirty ductwork and dampness.

Marano Campus Center

Functionality

- The building functions well as home to its many user groups. Marano houses recreation, athletics, student life, student services, and dining.
- Office suites are functional, but student groups and student services staff report a need for additional offices, storage space, and meeting rooms.

Exterior

The building envelope well is in good condition.

Interior

Interior finishes are functional and in generally good condition. Areas of high traffic show signs of wear.

Building Systems

- HVAC systems and distribution are in good condition.
- Plumbing (including fixtures), sanitary waste and vent systems, and natural gas piping are in good condition.
- Electrical systems, distribution, and lighting are in good condition. Metal halide lamps in the high-bay areas could be replaced with LED equivalents.
- Fire protection systems and fire/CO alarms are in good condition. The dry-pipe fire protection system in the room 44 is in fair condition. The sprinkler system in Swetman Gym is in fair condition.

Poucher Hall

Functionality

- Poucher Hall functions well. Classrooms and offices are appropriately sized and receive natural light.
- Some departments have placed two full-time faculty in one office, which overcrowds the space.

Exterior

- New windows and a new roof were installed when the building was renovated in 2006.
- Masonry walls require repointing in some areas.

Interior

Interior finishes are in good condition.

Building Systems

- Mechanical, electrical, and plumbing systems are all in good condition.
- Fire protection systems, fire alarms, and carbon monoxide alarms are in good condition.

1. A distinguishing feature of Marano Campus Center and Poucher Hall is the enclosed walkway that connects them, providing shelter from the harsh Oswego winter weather.

2. Marano's lower level serves Athletics and is in good condition.

3. The interior walkway serves as pre-event space outside the arena.

4. Modular furnishings in the Point create a crowded appearance in student organization offices. Better storage and organization is needed.

5. Between Marano and Poucher, the interior walkway is wide enough for displays, study areas, and pedestrians.

6. Marano Campus Center houses a fixed-seat assembly space.

7. Poucher Hall was renovated in 2006, including a new roof and windows.

8. The Poucher Hall renovation included office suites that have collaboration areas, study space, and multiple opportunities for departments to express their identity. Office suites are reportedly crowded.

Sheldon Hall

Functionality

- Some portions of the building are well-suited to their use, such as the residential areas, classrooms, and the Admissions Suite, although Admissions could use additional space. The combination of departments and users of Sheldon Hall is eclectic.
- Rooms that formerly served as bedrooms with private baths are poorly suited to their current use as offices.
- Sheldon Hall is functionally accessible, yet improvements could be made to better meet the principles of universal design.

Exterior

- The exterior is generally in good condition after repairs were made to eliminate water infiltration problems that damaged masonry walls and terra cotta accents. Much of the terra cotta will be replaced because of premature spalling and cracking.
- The building has new windows, new entry doors, a new roof, and a refurbished cupola. Cracks in the six columns at the main entrance need repair to prevent moisture infiltration and further damage.

Interior

- Recently renovated areas of the interior are in good condition and make a good first impression. Unrenovated portions of the building appear dated with finishes in fair condition.
- Residence hall rooms and the Children's Center were not accessible to the consultants and, therefore, were not evaluated.

Building Systems

- Plumbing systems are in generally good condition with some upgrades needed for ADA compliance. The water heaters will be near the end of their useful lives in ten years.
- The building's east and west wings are served by different heating and cooling systems. The system components on the east side are in poor condition and require replacement. The west side systems are functional and suitable for continued use.
- Fire protection systems, fire alarms, and carbon monoxide alarms are in excellent condition.

TAKEAWAYS

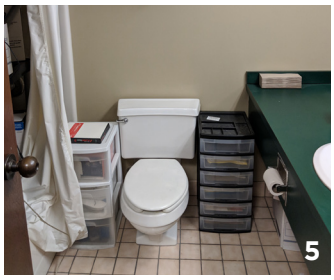
- Mahar Hall, Lanigan Hall, and Penfield Library all require comprehensive renovation.
- The COVID-19 pandemic has raised questions about the need for lecture halls that accommodate hundreds of students. This should be considered when developing renovation plans for Lanigan Hall.
- The 21st century academic library is a place for collaboration and student support services, as well as quiet study. Penfield Library should be modified to create such spaces.
- Changes in numbers of staff working remotely could decrease the need for private offices and increase the need for collaborative team rooms, touch-down offices, and teleconferencing spaces.


1


2


3


4


5


6

1. Sheldon Hall is a distinctive landmark that has been well maintained.
2. The lower level has underutilized space that could be repurposed.
3. Formal finishes make a good impression on visitors to the Admissions Office and Foundation Office.
4. Third floor classrooms are used as swing space.
5. Bedrooms are now used for offices and the attached bathrooms are used for storage.
6. A ballroom on the second floor is used for campus and community events.

2023 Update
Facilities Maintenance Recommendations

Sheldon Hall

Proposed work for 1-5 year:

Implement the proposed energy conservation measures proposed under the Controls strategies.

Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Implement the proposed plumbing water conserving measures and install low flow shower heads, new plumbing fixtures.

Implement the proposed controls measures.

Replace major heating equipment on the east side: pumps, hot water converter, PRV.

Replace HV units. Implement DCV with new HV units.

Proposed work for 5-10 year:

Install submeters for gas and steam.

Replace domestic water heaters with semi-instantaneous water heaters.

Proposed work for 10-20 year:

Replace existing heating and Cooling systems on the west side.

Proposed work for 20+ year:

Replace cooling equipment, glycol feeder, pumps, fluid cooler.

Replace Fire Alarm.

Replace sprinkler system.

2023 Update
Facilities Maintenance Recommendations

Poucher Hall

Proposed work for 1-5 year:

Implement the proposed energy conservation measures proposed under the Controls strategies.

Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Implement the proposed plumbing water conserving measures and install low flow water conserving faucets.

Implement the proposed controls measures.

Proposed work for 5-10 year:

Install submeters for gas and steam.

Proposed work for 10-20 year:

Replace existing heating and Cooling systems.

Proposed work for 20+ year:

Replace Fire Alarm.

Replace sprinkler system.

2023 Update
Facilities Maintenance Recommendations

Marano Campus Center

Proposed work for 1-5 year:

Implement the proposed energy conservation measures proposed under the Controls strategies.

Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Implement the proposed plumbing water conserving measures and install low flow water conserving faucets.

Implement the proposed controls measures.

Proposed work for 5-10 year:

Install submeters for gas and steam.

Proposed work for 10-20 year:

Maintain the HVAC systems

Proposed work for 20+ year:

Replace Fire Alarm system.

Replace sprinkler system.

Replace HVAC systems.

2023 Update
Facilities Maintenance Recommendations

Mahar Hall

A comprehensive renovation is in the design phase for Mahar Hall.

Proposed work for 1-5 year:

Implement the proposed energy conservation measures proposed under the Controls strategies.

Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Implement the proposed plumbing water conserving measures and install low flow water conserving faucets.

Implement the proposed controls measures.

Replace heating plant heat exchanger, steam piping, pressure reducing station, control valves, and pumps.

Replace cooling plant including the split air cooled Trane 120-ton chiller and pumps.

Replace two AC air handling units with new equipment, with economizer and energy recovery.

Replace five exhaust fans on the roof of the building.

Replace existing pneumatic controls system with DDC.

Replace electrical switchgears and main panels and feeders.

Replace all panelboards (Westinghouse and Cutler Hammer)

Replace the existing 12 kW generator.

Install building level submeter for gas.

Install building level submeter for steam.

Replace Noven 1230 gaseous fire protection system serving the library.

Proposed work for 5-10 year:

Replace 3 mini-split AC system.

Replace 120-gallon gas water heater with 200-gallon storage tank and all ancillary components.

Proposed work for 10-20 year:

Maintain the HVAC systems.

Proposed work for 20+ year:

Replace Fire Alarm system.

Replace sprinkler system.

2023 Update
Facilities Maintenance Recommendations

Lanigan Hall

Proposed work for 1-5 year:

Fully renovate the building and replace systems.

Provide sprinkler system.

Ongoing work:

Maintain systems

Proposed work for 20+ year:

Replace Fire Alarm system.

Replace sprinkler system.

2023 Update
Facilities Maintenance Recommendations

Penfield Library

Proposed work for 1-5 year:

Implement the proposed energy conservation measures proposed under the Controls strategies.

Implement the proposed electrical lighting energy conserving measures and replace fluorescent light fixtures with LED.

Implement the proposed plumbing water conserving measures and install low flow water conserving faucets.

Implement the proposed controls measures.

Heating plant heat exchanger, steam piping, pressure reducing station, control valves, and heating pumps.

Cooling plant including the 535 ton chiller, cooling tower, and chilled and condenser water pumps.

Air handling units, six in total. Replace with new equipment with economizer and energy recovery.

Archive Storage air conditioning, stand alone, split system.

Replace five exhaust fans on the roof of the building and one serving the mechanical room.

Replace existing pneumatic controls system with DDC.

Replace electrical switchgears and main panels and feeders.

Replace the existing 30 kW generator.

Install building level submeter for gas.

Install building level submeter for steam.

Proposed work for 5-10 year:

Replace electric water heaters (80 gallon and a 40 gallon)

Proposed work for 10-20 year:

Maintain the HVAC systems.

Proposed work for 20+ year:

Replace Fire Alarm system.

Replace sprinkler system.

Appendix F
Instructional Space Utilization

Instructional Space Utilization

Efficient scheduling of instructional space allows institutions to improve utilization of physical resources. At times when demand is low, such as the years following the recent pandemic, institutions can shift instruction to enable building renovations and upgrades. When instructional demand and enrollment are high, increasing hours and seat fill in strategic locations can allow institutions to absorb growth.

Utilization Targets

Hourly and seat fill utilization rates shown are based on SUNY targets. For this study, five percent below to ten percent above these targets was considered within the target range.

Available daytime hours of instruction are 45 hours per week (8:00 AM to 5:00 PM) Monday through Friday. Instructional spaces can be used during the remaining hours (outside the target range) to support other, non-instructional activities.

Instructional space utilization analysis was performed using Fall 2022 course schedule data provided by SUNY Oswego. Peak demand occurred in the first part of the semester. Courses occurring after October 24, 2022 were excluded. One-day duration courses were excluded. Eighty evening courses were offered. They were excluded from analysis of daytime demand.

Scheduled Instructional Spaces

Based on the physical space inventory provided by SUNY Oswego (including the Hewitt Hall renovation and the proposed space program for the Mahar Hall renovation), there will be 167 instructional spaces (classrooms, lecture halls, and class laboratories) on the campus when planned and ongoing renovations are complete. In fall 2022, Oswego scheduled 147 instructional spaces, or 88 percent of its inventory.

Utilization Targets

		Low Range	Target	High Range
Classrooms and Lecture Halls	**Daytime Instruction Hours**	**28**	**30**	**34**
	Remaining Hours	*17*	*15*	*11*
	Seat Fill	**75%**	**80%**	**90%**
Class Labs	**Daytime Instruction Hours**	**22**	**24**	**28**
	Remaining Hours	*23*	*21*	*17*
	Seat Fill	**75%**	**80%**	**90%**

Scheduled Instructional Spaces

		Scheduled Spaces		
Space Type	**Future Inventory**	**Fall 2017**	**Fall 2021**	**Fall 2022**
Classrooms	99	97	98	93
Lecture Halls	12	10	10	10
Class Labs	56	49	45	44
Total	**167**	**156**	**153**	**147**
Percent Scheduled		93%	92%	88%

Station Sizes

Many buildings on SUNY campuses were constructed in the 1960s and 1970s. Since then, pedagogy has shifted from traditional lectures to project-based learning. To support this style of learning, SUNY now recommends a range of 22 to 28 SF per student station. On average, classroom station sizes at SUNY Oswego are a good match to SUNY recommendations. If stations were right-sized in every classroom to SUNY targets, there would be 518 fewer lecture stations on campus.

Course Meetings by Day of Week

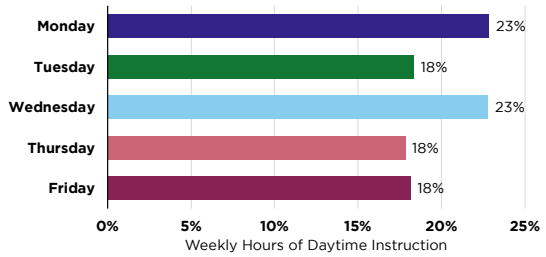
If instruction were distributed evenly throughout the week, 20 percent of instruction hours would take place every day. In fall 2022, Mondays and Wednesdays had more hours of instruction delivered than other days of the week.

Most courses met on a Monday-Wednesday-Friday or Tuesday-Thursday schedule. Thirty-one percent of courses followed other schedule patterns.

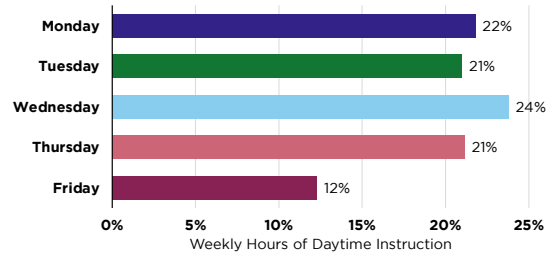
Station Sizes

Future Inventory Classroom Capacity Range	SUNY Station Size Target	SUNY Oswego Average Station Size	Room Count: Existing Stations	Room Count: Right-sized Stations
Up to 20	26	28	219	262
21 to 30	24	28	988	1,004
31 to 40	24	23	1,195	1,333
41 to 50	22	20	215	49
51 to 60	22	22	265	377
61 to 80	20	18	326	276
81 to 100	18	20	574	266
101 to 200	18	19	973	765
301+	18	14	442	349
Total			**5,197**	**4,681**
Difference				516
Percent Difference				10%

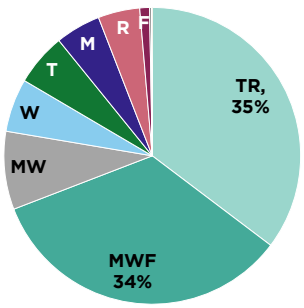
Classrooms and Lecture Halls (1,709 Meetings)



Class Labs (334 Meetings)



Day-of-week Patterns



Classroom and Lecture Hall Course Meetings

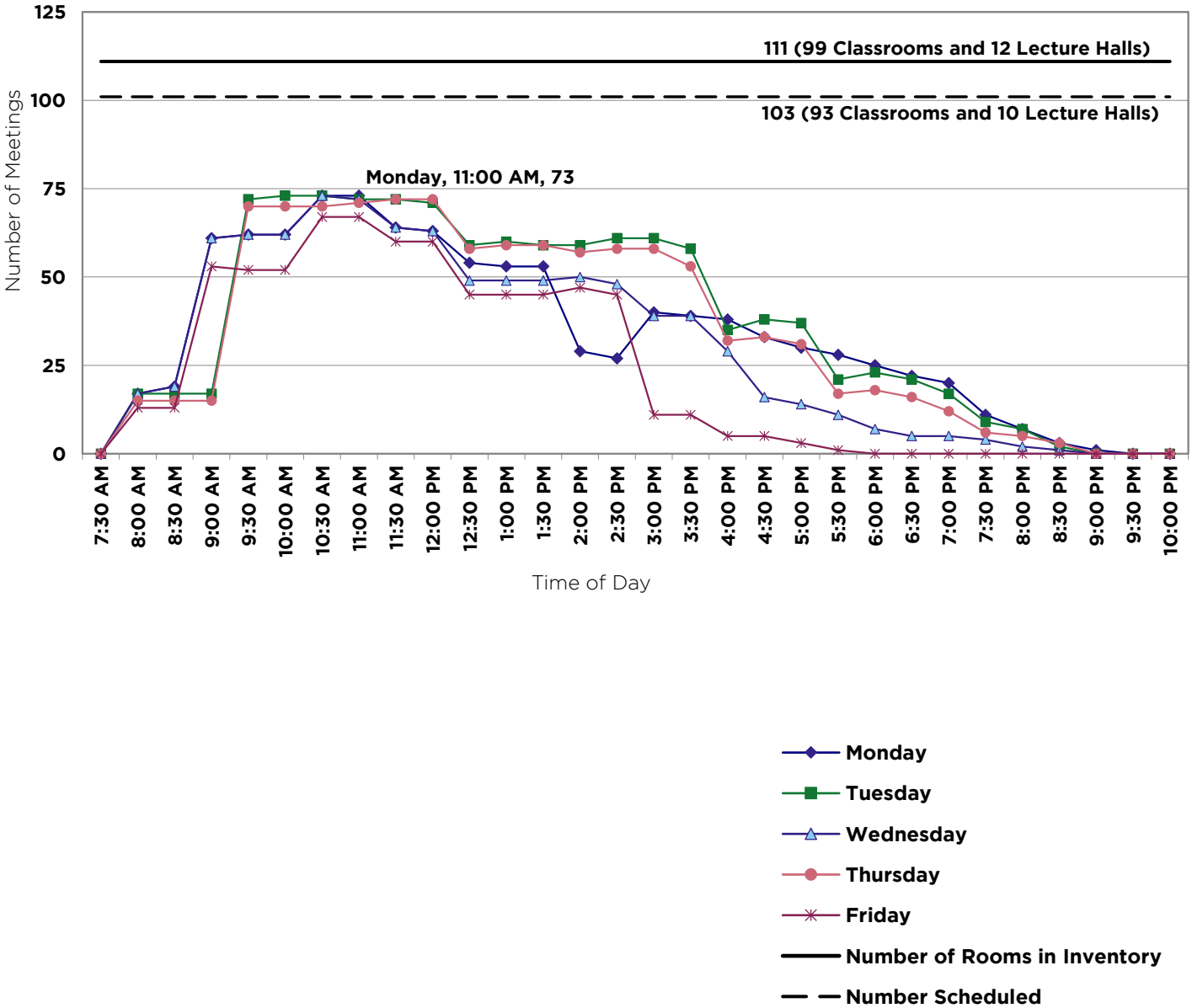
Charts below show the number of meetings taking place in classrooms and lecture halls in half-hour intervals throughout a typical week in the first part of fall 2022. The first meetings of the day took place at 8:00 AM. A plateau occurred around 9:00 AM and continued until noon.

After noon, the number of meetings decreased on every day of the week. The peak number of meetings occurred on Monday at 11:00 AM, when 73 meetings were in session.

The solid line at the top of the chart shows the future classroom and lecture hall inventory. If the fall 2022 schedule were implemented with the renovated Hewitt and Mahar buildings open, 38 classrooms would have been empty on Mondays at 11:00 AM.

Some lecture meetings were held in evening hours. There is sufficient evening capacity to add course meetings in classrooms and lecture halls.

Classroom and Lecture Hall Meetings by Day of Week and Time of Day



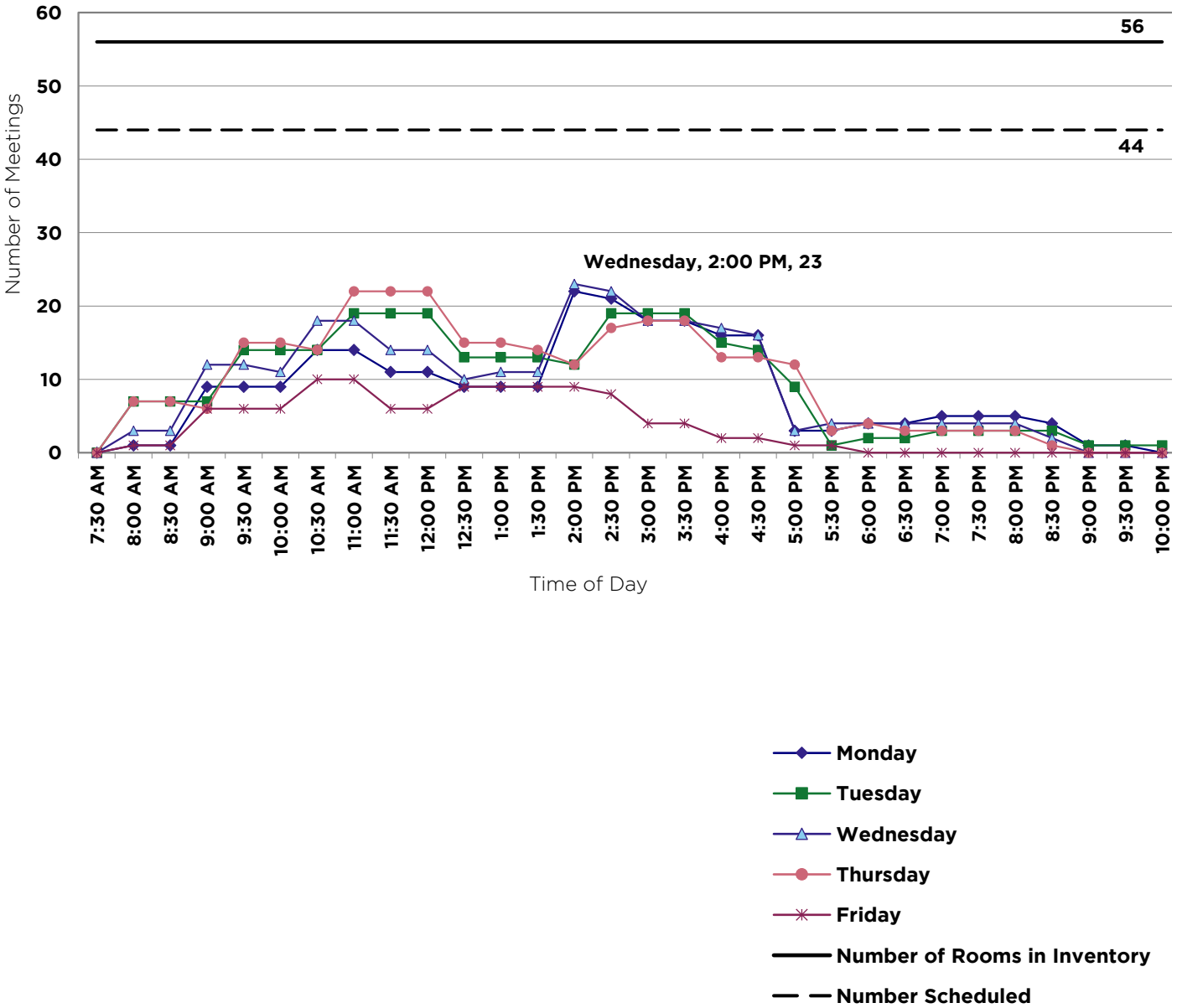
Class Lab Course Meetings

Charts below show the number of meetings taking place in class labs in half-hour intervals throughout a typical week in the first part of fall 2022. The first meetings of the day took place at 8:00 AM.

A morning peak occurred on Tuesdays and Thursdays with around 20 lab meetings in session. Lab meetings on Mondays and Wednesdays did not peak until after noon. On Wednesdays at 2:00 PM, lab meetings peaked when 23 courses were in session. At that time, 23 labs would be vacant, using the future inventory (Mahar and Hewitt renovations open).

Few meetings took place in the evening. Some labs could meet or exceed their daytime target utilization if face-to-face enrollment grows. Evening instruction is a potential way to accommodate demand.

Class Lab Meetings by Day of Week and Time of Day



Average Utilization Rates

SUNY suggests hourly use targets that allow for instruction, student projects, activities, and facilities maintenance. The charts at right illustrate average utilization rates for classrooms, lecture halls, and class labs during the Fall 2022 semester. Starting at the top of the seat fill charts, the dark gray arc that extends clockwise indicates average percentage of seats filled when rooms are in use. The dark gray arc in the hourly utilization charts represents the average hours per week rooms were scheduled.

The light gray arc represents unused capacity for both hourly utilization and seat fill. The target utilization range is shown as an additional arc to the left of each chart.

Seat Fill

SUNY recommends that all instructional spaces achieve 80 percent seat fill. Classrooms, lecture halls, and class labs all fell short of the SUNY target, indicating that more students could be accommodated before additional seating capacity is needed.

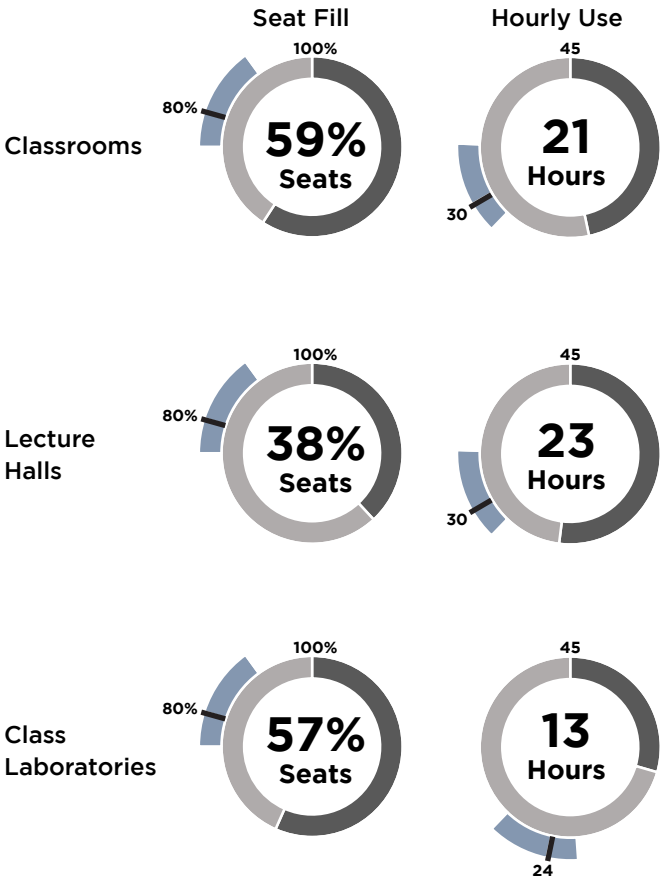
Hourly Utilization

Classrooms were scheduled for instruction an average of 21 hours per week. Classrooms, therefore, have an average capacity for nine hours of additional instruction before meeting the 30-hour per week SUNY target.

On average, lecture halls were scheduled for 23 daytime hours of instruction per week. There is capacity for seven additional hours of use in lecture halls per week, on average.

Academic courses were scheduled in class labs for an average of 13 hours per week. An additional 11 hours of instruction could have been held in class labs during fall 2022 before meeting the SUNY target.

Average Utilization Rates of Instructional Spaces
Fall 2022



Classroom and Lecture Hall Utilization By Room

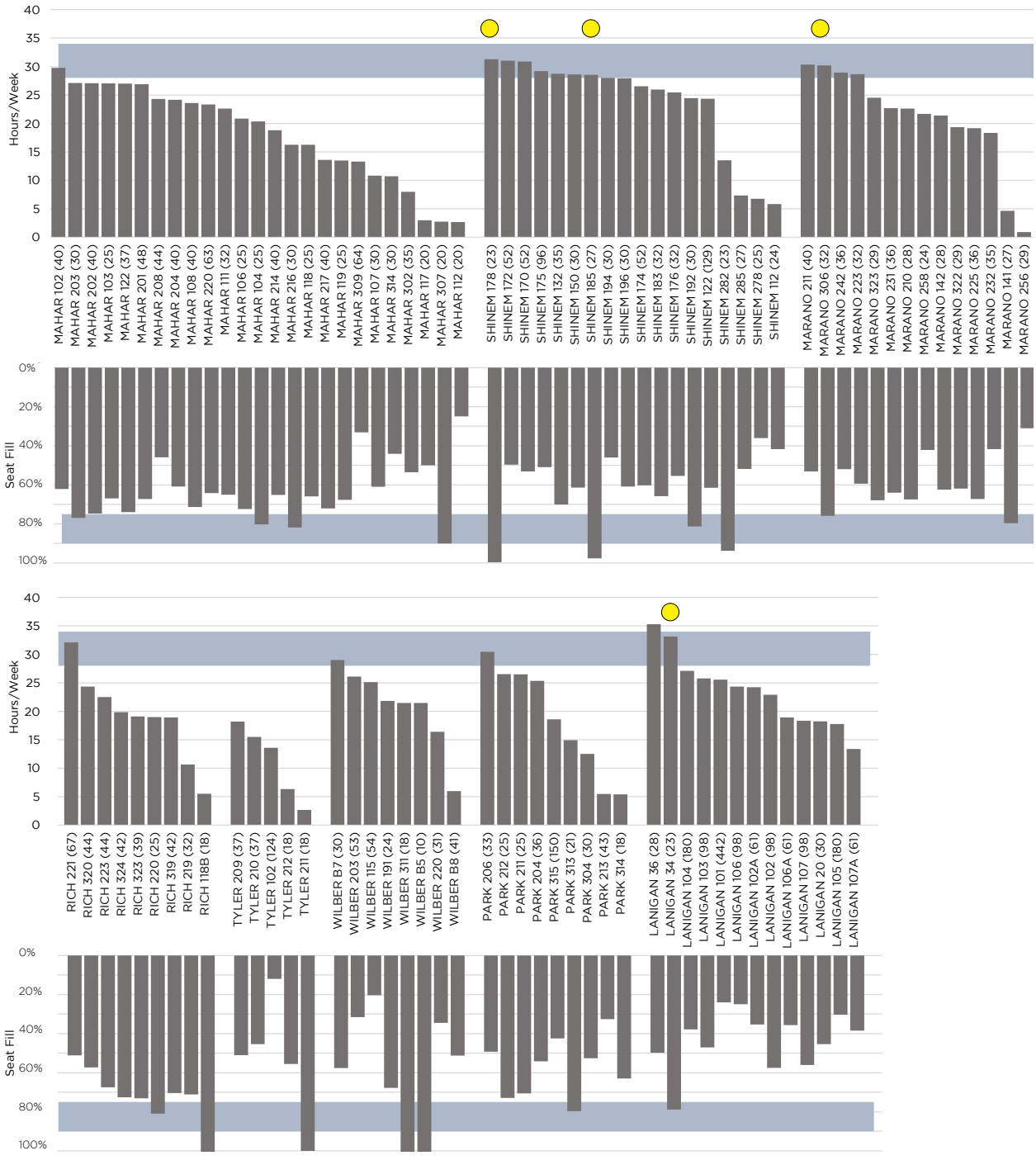
Daytime use of classrooms and lecture halls is shown on the next page. To assess the efficiency of a given room, find its building and number along the x-axis. View its scheduled hours per week on the upper y-axis and its seat fill on the lower y-axis. The gray tone behind the hourly and seat fill columns indicates the target utilization range. Rooms with values that reach this range are considered well-utilized. Yellow dots indicate rooms that met both seat fill and hourly use targets. Parentheses show the number of seats in each room.

Marano Campus Center 143 was scheduled in the evening only and therefore does not appear in these charts. Laker 216 was scheduled for six hours per week at 98 percent seat fill. It does not appear in these charts.

These charts can help identify classrooms and lecture halls that can absorb demand from buildings going offline. Mahar Hall, listed first below, will be unoccupied during renovation.

As an example, Mahar 102 was used for 30 hours per week. The room has 40 seats, but only 62 percent were occupied, on-average, when the room was in use. Rooms outside Mahar Hall with around 30 seats would be good candidates to absorb instructional demand from Mahar 102. Marano 141 (27 seats) and Marano 256 (29 seats) had sufficient hourly capacity to absorb Mahar 102 instruction in fall 2022.

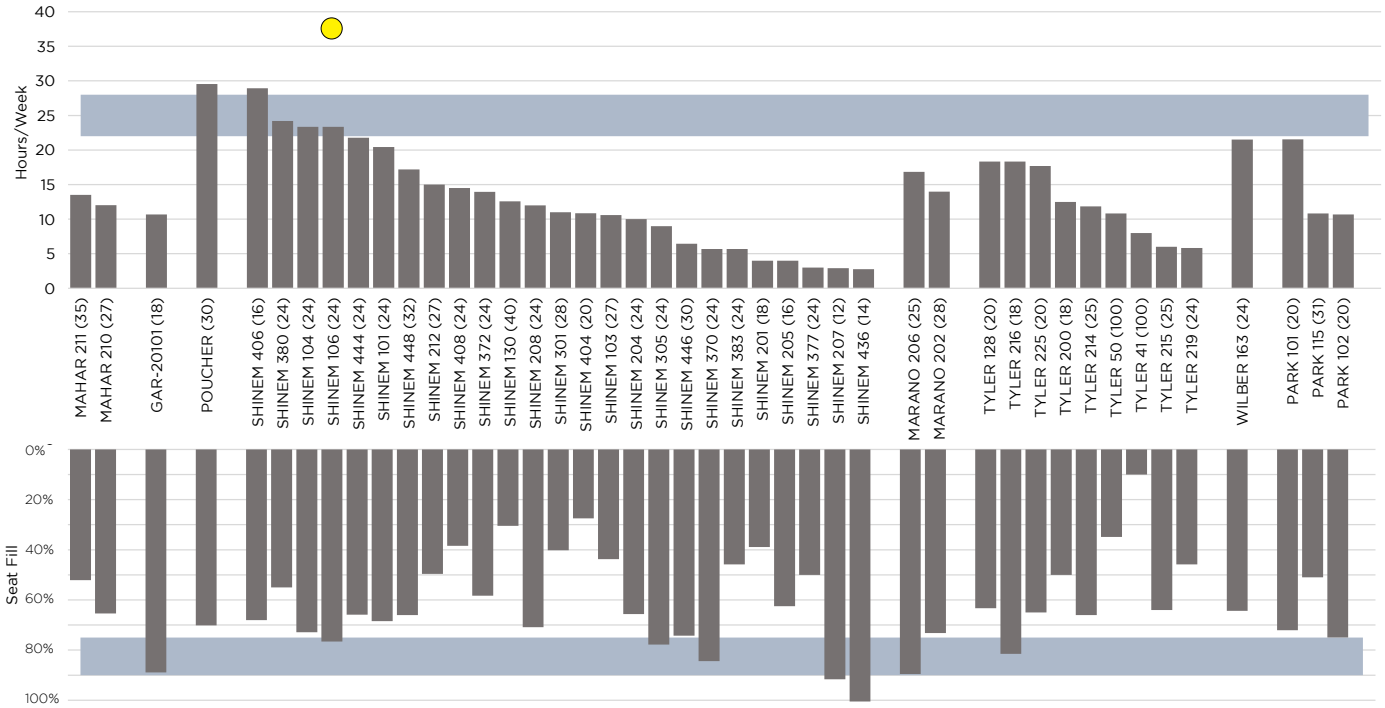
Classroom and Lecture Hall Utilization, by Room



Class Lab Utilization By Room

Daytime use of scheduled class labs is shown below. To assess the efficiency of a given room, find its building and number along the x-axis. View its scheduled hours per week on the upper y-axis and its seat fill on the lower y-axis. The gray tone behind the hourly and seat fill columns indicates the target utilization range. Rooms with values that reach this range are considered well-utilized. Yellow dots indicate rooms that met both seat fill and hourly use targets. Parentheses show the number of seats in each room..

Lab Utilization, by Room



Instructional Space Utilization Conclusions

While SUNY Oswego held meetings in a high percentage of its instructional spaces during the fall 2022 semester, most rooms did not meet SUNY utilization targets when in use. Increasing classroom efficiency by scheduling more hours per room would allow surplus classrooms to come offline.

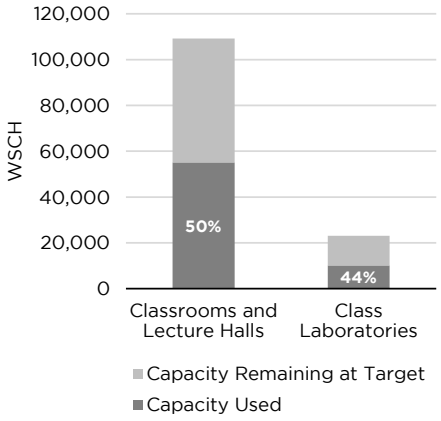
Laboratories for Anatomy & Physiology, Computer Aided Drafting and Design, and Writing were well-utilized in fall 2022. Disciplines using these labs may require additional space by 2032. Underutilized classrooms could be repurposed to meet laboratory future space needs.

A weekly student contact hour (WSCH) is a measure of aggregate instructional space capacity and demand. A WSCH is equal to one student occupying one seat for one hour. Fall 2022 instructional demand equaled 50 percent of the SUNY target utilization of scheduled classrooms and lecture halls. Class Lab demand was 44 percent of target utilization.

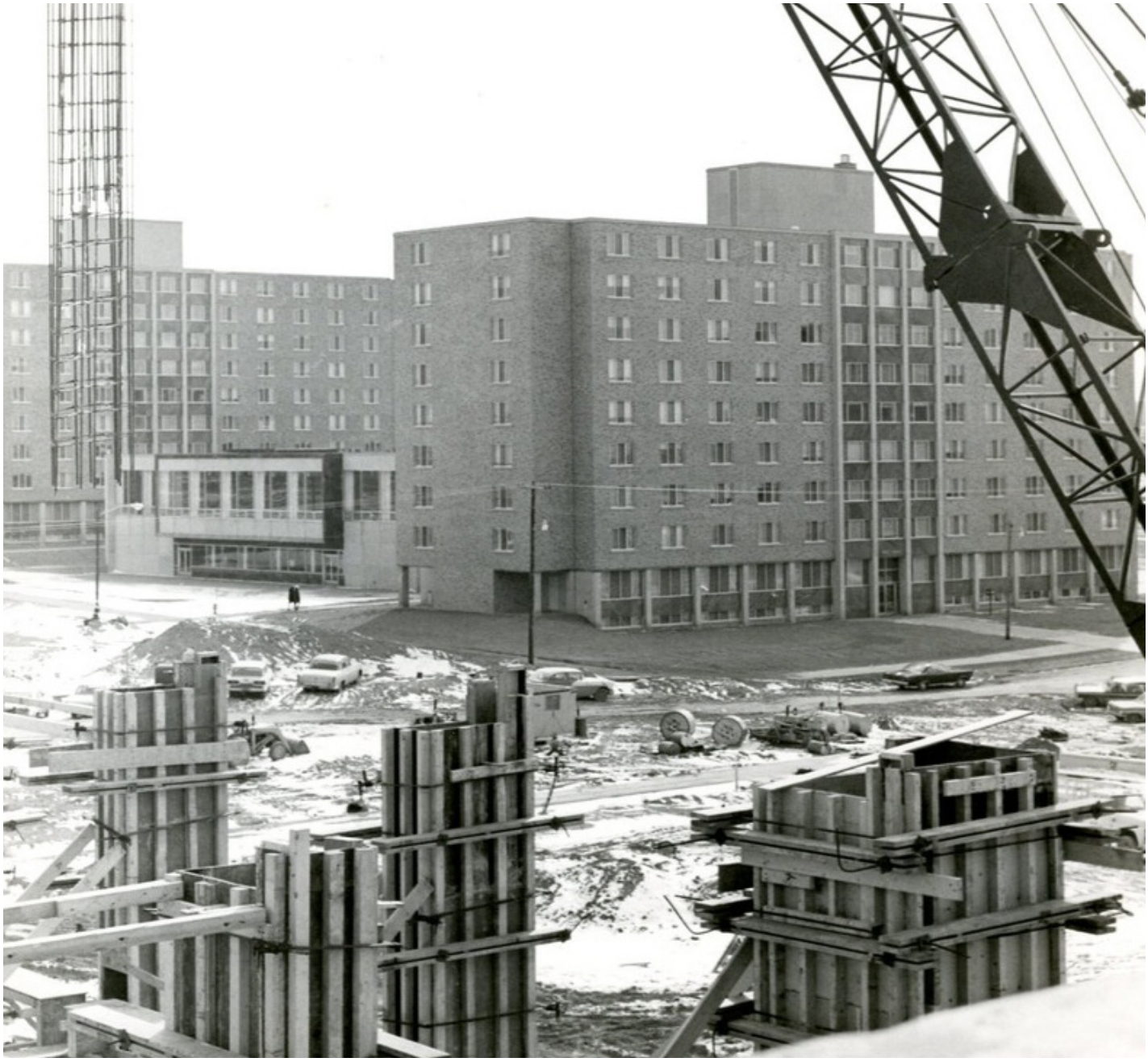
There is sufficient capacity campuswide to accommodate the planned renovation of Mahar Hall. When Mahar Hall is reoccupied after renovation, SUNY Oswego's fall 2022 demand would equal just under 50 percent of its available instructional capacity.

Most classrooms with seating capacity of 45 seats or more are on the east side of campus. Additional classrooms in this seating capacity range would be useful on the west side, though there are sufficient classrooms of this size campuswide to meet demand.

Weekly Student Contact Hour Utilization and Capacity
Fall 2022



Appendix G
Components of the Estimate of Probable Cost



Components of the Estimate of Probable Cost

Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates are in 2023 dollars. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests. Estimated project costs in this report include the probable construction cost plus additional costs, as listed below. Unit costs include contractor general conditions (10%) and overhead and profit (10%).

Estimates of Probable Construction Cost

Components of Recommended Projects

Complete Funnelle Hall sprinkler installation on residence floors, includes associated finishes repair and replacement	$61/SF (residence floors only)
Renovate lobby	$240/SF
Renovate main lounge	$135/SF
Comprehensive renovation with reconfiguration	$540/SF
Comprehensive renovation without reconfiguration	$375/SF

Campuswide Enhancement Projects

Oswego heritage projects	allow $77,300 per installation
Improve existing student engagement spaces:	
Upgrade furniture	allow $40/SF of furnishing area
Replace finishes and fixtures	$70/SF
Renovate a large room to create activity zones	$135/SF
Create a glass-enclosed study room in an existing space	allow $75,000
Create a new community kitchen	allow $180,000
Improve building approaches, lobbies, and access to the outdoors:	
Improve building entrance (exterior)	allow $393,000 per entrance
New entrance addition	allow $2,115,000 per entrance
Lobby renovation, including replacement of entry systems	$240/SF
Add access control at lounges for re-entry from the outdoors	$5,500/door
Create accessible doors and clear floor space at student residence rooms (groups of 50 rooms)	$290,000/group

Building-Specific Enhancement Projects

Create two-story lounge in Onondaga	$2,200,000
Repurpose Cayuga lounge or student room to another use	$135/SF
Renovate an area of Lakeside Dining Hall basement for music practice rooms	$216,000
Insert one music practice room into an existing space	allow $60,000

Landscape Enhancement Projects

Renovate/reconfigure West Campus academic plaza	$2,061,000
Create new West Campus residential quad	$1,915,000
Reconstruct and add amenities to West Campus Bridge	$1,562,000
Extend sculpture garden eastward, add terraced lawns and seat walls	$1,160,000
Landscape renovation at Hart/Funnelle	$680,000
Crushed gravel lakeside trail/crushed gravel sitting area	$6/SF
800 SF Lakeside pavilion	allow $260,000
800 SF brick patio	$34,000
160 SF timber shade structure, patio, seat walls, landscaping	$50,000

Additional Costs

Design contingency	add 15%
Construction contingency design fees, permits, legal costs, other costs	add 35%

Appendix H
Facilities Maintenance, Clean Energy Master Plan, and Recommended Project Table

Guide to the Project Table

Three plans converge to comprise SUNY Oswego's project list through the next decade:

- Facilities maintenance projects, provided by SUNY Oswego
- Clean Energy Master Plan projects, including Energy Efficiency Measures and upgrades to enable conversion to Low Temperature Hot Water district heating
- Projects recommended in this plan

An editable Excel file was delivered to the University with this report. The file allows the Oswego facilities team to adjust project start years, costs, and the annual escalation rate. A sample table of the file is shown below.

Annual Escalation Rate (cell G2)

At the time this report was issued, escalation of 4.5 percent per year was entered in this cell. Update as needed, and future costs will recalculate in the table.

Blank Line (row 8)

Copy this row to enter a new project. Verify column J remains a formula when the row is pasted.

Source (column A)

DM/RLH - Deferred Maintenance List from SUNY Oswego and Residence Life & Housing

CEMP/EEM - Energy Efficiency Measures from the Clean Energy Master Plan

CEMP/LTHW - Projects related to the conversion to Low Temperature Hot Water

FMP Update - Projects listed in this report

Project (column B)

One-line project description

Include-Exclude (column C)

"Include" denotes a project Oswego wishes to schedule. "Exclude" indicates a project not considered active or planned work. To start, all enhancement projects, long-range residence hall projects, and long-range landscape proejcts are marked "exclude" in this column, awaiting SUNY Oswego's decision to proceed. When a project moves forward, change this to "include" and enter start range and start year in columns H and I.

Example: Headings from the Implementation Spreadsheet

DM/RLH	Deferred Maintenance (Oswego/RLH list)
CEMP/EEM	Energy Efficiency Measure (Ramboll)
CEMP/LTHW	Updates to prepare for Low Temperature Hot Water (Ramboll)
FMP Update	Residential and Academic Facilities Master Plan Update recommendation

Update as needed. Column "Potential Cost at Start Year" will update automatically.

Annual escalation rate**:	4.5%

SOURCE	PROJECT	Include-Exclude	Building	2023 Reported or Estimated Project Cost*	Project Type
AA-Blank line t	New Project	Exclude	Name	$10,000	Type
CEMP/EEM	Convert constant volume single zone system to single zone VAV system	Include	Lee	$12,746	Absorbed into capital project
CEMP/EEM	Convert constant volume single zone system to single zone VAV system	Include	Marano Campus Center	$21,485	Maintenance
CEMP/EEM	Convert constant volume single zone system to single zone VAV system	Include	Lanigan	$13,103	Absorbed into capital project
CEMP/EEM	Convert constant volume single zone system to single zone VAV system	Include	Laker	$46,418	Absorbed into capital project
CEMP/EEM	Convert constant volume single zone system to single zone VAV system	Include	Romney	$21,153	Maintenance

Building (column D)

Building Name

2023 Reported or Estimated Project Cost (column E)

2023 costs were either reported by SUNY Oswego in their deferred maintenance list, reported by Ramboll in the CEMP, or reported by JMZ in this December 2023 report. Ramboll LTHW costs in CEMP appendix D were reduced to 2023 dollars under this heading.

Project Type (column F)

Capital - Projects indicated as capital projects by SUNY Oswego in their facilities maintenance list; substantial replacement of building systems equipment; comprehensive renovations; landscape or renovation projects of sufficient scope to require closure of all or part of a building or area.

Maintenance - Projects indicated as minor critical, operating, or in-house by SUNY Oswego in their facilities maintenance list; projects recommended by Ramboll that are very low-cost or involve labor only.

Enhancement - Minor, non-invasive projects

Absorbed into a capital project - A recommended project that can be completed along with a capital project. Projects in this category are not given a potential cost at start year (column J) because their costs are covered in the capital project cost.

Start Range (column G)

Indicates whether the project is planned for 2023 to 2027, 2028 to 2033, or long range completion.

Basis Year (column H)

The year of the initial cost estimate. All projects in this table assume a basis year of 2023. Changing entries in this column will update column J (potential cost at start year).

Target Start Year (column I)

When the start year changes, column J (potential cost at start year) will update. Projects that will be absorbed into a capital project are marked with a zero here, which stops their cost from being duplicated.

Potential Cost at Start Year (column J)

Formulas in this column calculate an estimate of future cost, based on the annual escalation rate in cell G2 and the number of years between the basis year and start year.

Campus Zone, Building Use, Building Number, Date Constructed, and GSF

Historical building data for reference.

* 2023 costs were either reported by SUNY Oswego, reported by Ramboll in the CEMP, or reported by JMZ in this December 2023 report. Ramboll LTHW costs in CEMP appendix D were reduced to 2023 dollars in column E.

** Escalation can be adjusted in this cell. It will update the potential cost at start year.

*** Target start year can be adjusted. Changes to these cells will udpate the potential cost at start year.

Start Range	Basis Year	Target Start Year***	Potential Cost at Start Year	Campus Zone	Building Use	Building Number	Date Constructed	GSF
Start Range	2023	2040	$21,200	Zone	Use	Number	Construction	GSF
2028-2033	2023	0	$0	Central	Athletics/Recreation	4	1958	65,000
2028-2033	2023	2030	$29,300	Central	Student Life	3	1963	185,524
2023-2033	2023	0	$0	West	Academic	6	1967	88,200
Long range	2023	0	$0	South	Athletics/Recreation	19	1968	196,608
Long range	2023	2035	$35,900	South	Athletics/Recreation	21	1962	55,000

Use this line to insert additional projects as they arise

Input desired start year. Column "Potential Cost at Start Year" will update automatically.

Cost Estimates

Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates originate from 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Example: Estimates over Time

Example pivot tables are included in the Excel file. "Working pivot table" is a place where users can test ideas. "Example - estimates over time" is excerpted below. It demonstrates a way to determine costs by start year, building use, and the source of the recommendation.

Start Range	Building Use	FMP Update	DM/RLH	CEMP/EEM	CEMP/LTHW	Grand Total
2023-2027	Academic	$48,931,500	$52,300		$17,400,100	$66,383,900
	Residence Hall	$8,956,900	$13,699,600			$22,656,500
	Dining Hall		$13,154,500		$4,300,100	$17,454,600
	Campus general			$2,092,900		$2,092,900
2023-2027 Total		**$57,888,400**	**$26,906,400**	**$2,092,900**	**$21,700,200**	**$108,587,900**
2028-2033	Academic	$187,458,300		$189,400	$4,700,200	$192,347,900
	Residence Hall		$11,043,300	$86,900	$26,300,300	$37,430,500
	Administration	$116,500				$116,500
	Athletics/Recreation			$570,700	$3,900,200	$4,470,900
	Student Life	$2,081,200		$976,100	$8,000,100	$11,057,400
2028-2033 Total		**$189,656,000**	**$11,043,300**	**$1,823,100**	**$42,900,800**	**$245,423,200**
Long range	Academic			$2,127,700	$8,500,500	$10,628,200
	Residence Hall		$17,717,100	$277,100	$34,201,700	$52,195,900
	Dining Hall		$4,857,100	$299,200	$1,100,300	$6,256,600
	Administration			$702,600	$6,200,200	$6,902,800
	Athletics/Recreation		$2,119,900	$307,200	$2,600,200	$5,027,300
	Health Center			$169,100	$100,200	$269,300
Long range Total			**$24,694,100**	**$3,882,900**	**$52,703,100**	**$81,280,100**
Grand Total		**$247,544,400**	**$62,643,800**	**$7,798,900**	**$117,304,100**	**$435,291,200**

DM/RLH	Deferred Maintenance (Oswego/RLH list)
CEMP/EEM	Energy Efficiency Measure (Ramboll)
CEMP/LTHW	Updates to prepare for Low Temperature Hot Water (Ramboll)
FMP Update	Residential and Academic Facilities Master Plan Update recommendation

Cost Estimates
Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates originate from 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Example: Enhancement Projects

SUNY Oswego can use the table to select enhancement projects as funds become available. A windfall of less than $1,000,000, for example, could be put to use swiftly before escalation diminishes its spending power. Select enhancement projects are listed below, with examples of how they could be implemented over time.

Building Use	Building	PROJECT	Target Start Year***	Total
Academic	Rich	Renovate Student Engagement Space (per approx. 400 SF)	2027	$72,800
Residence Hall	Cayuga	Renovate/reconfigure main lounge, create activity zones	2032	$431,000
		Oswego heritage projects	2025	$126,700
		Improve building entrance (exterior)	2032	$906,600
		Upgrade finishes and fixtures in main lounge	2026	$171,200
		Create a community kitchen and renovate adjacent lounge	2032	$651,000
		Create student patio with covered area. Add access control.	2028	$274,800
		Convert first floor study lounges to student rooms	2032	$631,600
	Funnelle	Resident retreat patio	2030	$102,100
		Update finishes and fixtures in study lounges	2025	$210,800
		Create community kitchen and upgrade adjacent social lounge	2025	$628,000
	Hart	Oswego heritage projects	2025	$126,700
		Create community kitchen and upgrade adjacent social lounge	2027	$551,000
		Upgrade finishes and fixtures in study lounges	2025	$145,300
		Convert floor kitchenettes to glassed-in study rooms	2027	$591,500
		Create student patio on the main lawn and add access control.	2030	$188,500
	Johnson	Oswego heritage projects	2026	$132,400
		Upgrade finishes and fixtures in main lounge	2028	$194,500
		Upgrade finishes and fixtures in study lounges	2028	$138,400
		Repurpose floor study lounges as glass-enclosed study rooms	2032	$368,600
		Provide access control at outdoor leisure/recreation	2025	$9,300
		Create/upgrade community kitchen	2032	$404,300
	Oneida	Oswego heritage projects	2025	$126,700
		Create a community kitchen in existing vacant computer lab	2028	$357,700
	Onondaga	Oswego heritage projects	2025	$126,700
		Create community kitchen and upgrade adjacent social lounge	2030	$715,900
		Create student patio with covered area. Add access control.	2029	$287,200
	Seneca	Oswego heritage projects	2025	$126,700
		Create community kitchen and upgrade adjacent social lounge	2028	$655,500
		Create student patio with covered area. Add access control.	2027	$263,000
Dining Hall	Lakeside DH	Renovate/reconfigure main lounge, create activity zones	2027	$419,200
		Oswego heritage projects	2027	$138,400
		Provide access control at outdoor leisure/recreation	2027	$10,200
		Convert kitchenette to music practice rooms	2027	$399,500
Landscape	Lakeside Area	Lakeside Pavilion	2026	$442,800
		Lakeside Path	2025	$195,500
	West Residences	West Residential Activity Pavilion	2032	$576,700
Student Life	Marano Campus	Renovate Student Engagement Space (per approx. 800 SF)	2026	$141,600
Grand Total				**$12,040,400**

*** Target start year can be adjusted. Changes to these cells will udpate the potential cost at start year.

Cost Estimates

Estimates of probable cost are based on historic square foot construction values in the Oswego region for each space type and building system. Estimates originate from 2023 dollars and include a 15 percent design contingency and a 35 percent allowance for additional costs. Prior to implementing any of the recommended capital projects, estimates of probable cost should be updated to prepare accurate project funding requests.

Appendix I
Meeting Reports

25 October 2022
SUNY Oswego
Housing FMP & AMP Update
DASNY Project Number 358140
JMZ 2225

Meeting Report

Report Author	Sarah Mojzer
Meeting Date	21 October 2022
Meeting Location	Online
Distribution	DASNY, SUCF and SUNY Oswego representatives (for distribution to their teams) A-E Team

Attendees

Attending	**From**
Mary Toale	SUNY Oswego
Allen Bradbury	SUNY Oswego
Mitch Fields	SUNY Oswego
Scott Furlong	SUNY Oswego
Victoria Furlong	SUNY Oswego
Kathleen Kerr	SUNY Oswego
Chyenne Tiller	SUNY Oswego
Becky Waters	SUNY Oswego
Harry Ellsworth	DASNY
Neil Warner	DASNY
John Inman	SUCF
Buddy Hall	Hanbury
Matthew Lee	Hanbury
Greg Wachalski	Wachalski Advisory
Shari Sharafi	Setty & Associates
Sarah Mojzer	JMZ Architects & Planners, P.C.
Jean Stark	JMZ Architects & Planners, P.C.

Summary

Jean Stark opened the meeting with introductions. The meeting agenda listed establishing key contacts and an initial project schedule, reviewing the data request list, and sharing preliminary project goals.

Key Contacts (alphabetical by organization then last name)

Please copy these individuals with all correspondence:

Name	**Role**	**Organization**	**Email**
Harry Ellsworth	Architect, Upstate Planning, Design and Quality Assurance	DASNY	hellswor@dasny.org
Buddy Hall	Principal Planner	Hanbury	bhall@hewv.com
Matt Lee	Senior Planner	Hanbury	mlee@hewv.com
Sarah Mojzer	Project Manager	JMZ	smojzer@jmzarchitects.com

Jean Stark	Senior Planner	JMZ	jstark@jmzarchitects.com
Ben Montalbano	Project Engineer	Setty & Associates	benjamin.montalbano@setty.com
Shari Sharafi	Principal Engineer	Setty & Associates	shari.sharagi@setty.com
John Inman	Capital Program Manager	SUCF	john.inman@suny.edu
Mitch Fields	Associate Vice President for Facilities Services	SUNY Oswego	mitch.fields@oswego.edu
Victoria Furlong	Vice President for Administration & Finance	SUNY Oswego	victoria.furlong@oswego.edu
Dr. Mary Toale	President/Officer in Charge	SUNY Oswego	mary.toale@oswego.edu
Greg Wachalski	Financial Analyst	Wachalski Advisory	gregw@wachalski.com

Initial Project Schedule

Fall-Winter 2022

October, November	Receive data from SUNY Oswego, begin initial analysis
Week of November 28	Potential on-campus meetings and walk-throughs
December	Continue work in-office

Winter-Spring 2023

January, February	On-campus facilities walk-throughs, interviews, focus groups, and meetings
Week of January 16	JMZ assembles A-E Team work to-date
Week of January 23	Online Presentation to Steering Committee
February, March	Online Surveys (Housing MP)
Week of February 27	JMZ assembles A-E Team work to-date
Week of March 6	Online Presentation to Steering Committee
Week of March 27	JMZ assembles A-E Team work to-date
Week of April 24	In-person Presentation and Design Workshop

Long-range

Week of June 5	Online Presentation
Week of July 31	Online Presentation
Week of August 28	Draft Report
September	Final Report and Presentation

Data Request List

JMZ sent a data request list to SUNY Oswego in advance of this meeting (linked at end of this document). The following **priority items** should be sent as soon as possible.

- PDF floor plans of all residence halls and any academic buildings that have been modified since 2018 (when JMZ last received floor plans) – CAD drawings can follow later
- PDF Mechanical, Electrical, and Plumbing plans for residence halls

- List of completed and planned capital projects, major equipment replacement projects, and infrastructure improvements since 2018
- Residence Hall data sorted by building:
    - Marketable capacity (number of revenue-generating beds/apts excluding RA beds)
    - Current and historical (last 5 years) occupancy (by class/year in school in each building number of beds/apts)
    - Mix of units (traditional, suites, apartments by building)
    - Room rates and other fees (including 5-year history)
    - Number of resident advisors in each community / building
- Fall 2021 and Fall 2022 course schedules
- Up-to-date AssetWorks data (both the space inventory and the asset data portions)
- Clean Energy Master Plan

The remaining items on the Preparatory Info list can follow during the month of November.

Preliminary Project Goals

- Make residence halls the best places to live. Provide greater value than off-campus housing combined with the educational and social benefits of living on-campus.
- Establish thriving living/learning communities.
- Determine what qualities of residence halls can improve recruitment and retention and help bridge student achievement gaps.
- This will be the SUNY's first integrated residential and facilities master plan. Aligning this Plan with the Clean Energy Master Plan will set a benchmark for all future SUNY Oswego capital projects.

General Project Links

Anyone receiving these links can view and download documents. Please take care when sharing them.
Kick-Off Meeting Presentation
Interim FMP Report (2021)
Preparatory Info (data request)
Project Contact List (emails)

Next Steps

SUNY Oswego, DASNY, and SUCF – send requested data. Please send prioritized items by November 4.
JMZ – Initiate conversations to align schedules for in-person meetings.
JMZ – Initiate conversations to determine if a late-November trip to Campus will work with College's personnel.

JMZ will proceed assuming this report to be accurate. Discrepancies should be reported to our office within seven (7) days.

7 December 2022
Updated: 13 December 2022
SUNY Oswego
Housing FMP & AMP Update
DASNY Project Number 358140
JMZ 2225

Meeting and Field Work Report

Report Author	Sarah Mojzer
Event Date	Week of 28 November 2022
Event Location	On-Campus at SUNY Oswego
Distribution	DASNY, SUCF and SUNY Oswego representatives (for distribution to their teams) A-E Team

29 November Introductory Meeting

Attendees	**From**
Harry Ellsworth	DASNY
John Inman	SUCF
Kathleen Kerr	Vice President for Student Affairs, SUNY Oswego
Sara Rebeor	Interim Director of Residence Life and Housing, SUNY Oswego
Allen Bradbury	Director of Major Projects, SUNY Oswego
Mitch Fields	Associate Vice President for Facilities Services, SUNY Oswego
Chyenne Tiller	Major Projects Staff, SUNY Oswego
Buddy Hall	Hanbury
Matthew Lee	Hanbury
Greg Wachalski	Wachalski Advisory
Shari Sharafi	Setty & Associates
Benjamin Montalbano	Setty & Associates
Kevin Miller	Setty & Associates
Sarah Mojzer	JMZ Architects & Planners, P.C.
Jean Stark	JMZ Architects & Planners, P.C.

1 December Additional Meetings

Attendees	**From**
Greg Wachalski	Wachalski Advisory
Met individually with:	
Dr. Mary Toale	SUNY Oswego
Victoria Furlong	SUNY Oswego
Met as a group with:	
Renee Landers	SUNY Oswego
Megan Marks	SUNY Oswego
Leigh Viscomi	SUNY Oswego
Patrick Woodward	SUNY Oswego
Carmela Barbagallo	SUNY Oswego
Meghan Henley	SUNY Oswego
Sara Rebeor	SUNY Oswego

Walk Through Teams

- Harry Ellsworth, Buddy Hall, Matthew Lee, Greg Wachalski, Sarah Mojzer, and Jean Stark – Residence Hall tours guided by Sara Rebeor and members of Housing staff
- Matthew Lee, Greg Wachalski, and Jean Stark – Dining Hall tours guided by Stephen McAfee
- John Inman, Shari Sharafi, Benjamin Montalbano, Kevin Miller – Building Systems tours guided by Allen Bradberry and Chyenne Tiller

Introductory Meeting

Marano Campus Center Room 214
29 November 2022 8:00 AM to 9:30 AM

Agenda

Review field work tasks
Introduce the team and scope of work
Learn about SUNY Oswego goals for Residence Life

Summary

Sarah Mojzer began the meeting with a review of project schedule and the initial goals established during the October 21, 2022 kickoff meeting. Attendees introduced themselves. Buddy Hall and Greg Wachalski led the remainder of the meeting, presenting their scopes of work on the project and describing processes and upcoming steps.
Discussion followed, establishing initial five- and ten-year goals.

Five-Year Goals

- Create welcoming, fresh lobbies and common spaces to improve first impressions.
- Create spaces for seven to ten living learning communities.
- Identify swing space for renovations.

Ten-Term Goals

- All residence halls should be considered great places to live. Students should be proud to live in their residences.
- Achieve full occupancy and sustainable operation (finances, energy use, maintenance).
- Make spaces that are flexible and upgradable; make way for future trends.
- Upgrade mechanical systems for comfort, control, and to meet Clean Energy Master Plan goals.

Qualities of Residence Hall Common Spaces

- Places for social and academic engagement, inspire and encourage debate and conversation
- Combination of spaces: open lounges, small group rooms, variety of seating arrangements, loud/quiet spaces
- Designs should encourage students to convene in common spaces. For example, kitchens should be adjacent to large common lounges, not distributed on every floor.
- Waterbury and Scales halls were recently renovated. Their scale, amenities, and first impressions meet SUNY Oswego's residence hall goals.

Walk Throughs

The architects and engineers split into groups to tour buildings and mechanical spaces.
Jean and Sarah toured non-residential spaces on Monday, 11/28 before the team arrived on campus.

Residence hall tours started at Hart Hall. After touring Hart, a group visited the dining halls then rejoined the main group to tour the lakeside residence halls and west side residence halls. Buddy, Matt, and Greg visited the Village Townhomes and the Mackin Complex on Wednesday morning while Jean and Sarah finished touring non-residential spaces.

Focus Groups

Greg Wachalski met with student representatives in six hour-long focus groups conducted on Tuesday and Wednesday afternoons.

- first year on campus residents
- second year on campus residents
- upper division on campus
- upper division off campus
- graduate students
- resident assistants

Additional Meetings

On December 1, Greg Wachalski met individually with Dr. Mary Toale and Victoria Furlong, then conducted a group meeting with senior members of housing staff.

Field Work Observations

The observations below will be expanded upon, in detail, in the report. They do not represent comprehensive summaries of all field work during the week of November 28, 2022.

JMZ Architects

JMZ toured buildings to assess the quality and quantity of student engagement areas. Jean and Sarah found the quantity of student engagement space to be sufficient, yet the quality varies from poor to excellent. There is little variety in types of furnishings and scale of spaces. Some lounges in residence halls require accessibility upgrades. Dining halls, except for Lakeside, are outdated.

Sheldon, Rich, Lanigan, and Penfield Library are academic buildings that stand out as being most in need of student engagement space upgrades. In residence halls, there is a difference in quality of student engagement space between the renovated buildings and unrenovated buildings. Hart, Funnelle, and the west side residence halls are most in need.

Hanbury

In addition to JMZ's comments on residence hall common spaces, Hanbury adds the following points:

- Residence hall strengths: well cared for, safe, close to academics
- Residence hall challenges: aging buildings, differences in quality of residence halls lead to impressions of haves and have-nots
- West side residence hall tunnels are heavily used. Their appearance is dull and utilitarian; they could be improved since so many students experience them every day.
- The Mackin Complex will be used in the near term as surge space for Seneca Hall renovations. Beyond that, Oswego is looking to the planning team for suggestions.

Setty

Lakeside Residence Halls & Lakeside Dining Hall

- Scales and Waterbury were renovated in 2017. Mechanical, electrical, and fire alarm systems are new. Buildings do not have sprinklers.

- Riggs and Johnson were renovated in 2001 and their systems have been well maintained. The buildings do not have sprinklers.
- Lakeside Dining Hall connects Riggs and Johnson. It is home to two water cooled chillers that provide cooling.

Seneca, Cayuga, and Pathfinder Dining Hall
- These buildings contain original equipment from their 1960s construction.
- Student residence rooms do not have cooling. Heating is provided by a central steam plant.
- The buildings do not have sprinklers.
- The electrical panels and fire alarm equipment in Pathfinder specifically is very old. The lighting inside the dining hall is very inadequate.

Oneida, Onondaga, and Littlepage Dining Hall
- These buildings are in much the same condition as Seneca, Cayuga, and Pathfinder.
- Oneida Hall's fluorescent lighting fixtures are dim and require upgrades.
- The buildings do not have sprinklers.

Hart, Funnelle, and Cooper Dining Hall
- These buildings are in much the same condition as Seneca, Cayuga, and Pathfinder.
- Hart and Funnelle, the residence halls, had their rooftop units upgraded in 2005. The equipment is well maintained and in good condition.
- Electrical systems in all three buildings are notably old and in need of replacement.

Lonis, Moreland, and Mackin Dining Hall
- These buildings were constructed in the late 1940s and contain original equipment.
- There is no cooling for student rooms. Heat is provided by the central steam plant.
- There are no sprinklers in these buildings.

Wachalski Advisory
- Focus group participants find Oswego attractive due to affordability, location, and academics. Housing did not influence their decision to attend.
- Participants found housing to be "as expected."
- Hart, Johnson, and west side residences reportedly have a stronger sense of community than the lakeside residences.
- Upper division students request more privacy and less supervision.
- Focus group participants expressed preferences and requests, which will be summarized with other market research findings when that portion of the study is complete.

JMZ will proceed assuming this report to be accurate. Discrepancies should be reported to our office within seven (7) days.

10 February 2023
SUNY Oswego
Housing FMP & AMP Update
DASNY Project Number 358140
JMZ 2225

Meeting Report

Report Author	Sarah Mojzer
Event Date	3 February 2023
Event Location	Online, hosted by JMZ's Zoom
Distribution	Attendees

Attendees	**From**
Harry Ellsworth	DASNY
John Inman	SUCF
Kathleen Kerr	Vice President for Student Affairs, SUNY Oswego
Victoria Furlong	Vice President for Administration and Finance, SUNY Oswego
Scott Furlong	Vice President for Academic Affairs, Provost, SUNY Oswego
Allen Bradberry	Director of Major Projects, SUNY Oswego
Mitch Fields	Associate Vice President for Facilities Services, SUNY Oswego
Chyenne Tiller	Major Projects Staff, SUNY Oswego
Sean Moriarty	Campus Technology Services, SUNY Oswego
Buddy Hall	Hanbury
Matthew Lee	Hanbury
Greg Wachalski	Wachalski Advisory
Shari Sharafi	Setty & Associates
Benjamin Montalbano	Setty & Associates
Sarah Mojzer	JMZ Architects & Planners, P.C.
Beth Devine	JMZ Architects & Planners, P.C.

Upcoming Meetings

March Steering Committee Progress Report (Online)
- Wednesday, March 8 at 3:00 PM

April Steering Committee Progress Report (Online)
- Friday, April 7 at 3:00 PM

May Presentation of Prototype (Probably Online)
- Wednesday, May 3 at 3:00 PM

Look-ahead: First week of June – Presentation of Concepts - On-campus
Second week of July – Presentation of Final Concept - Online

JMZ received feedback about the February 3 meeting being too dense with material. In response, we formed a subcommittee to focus on the Residence Hall material. Briefer summaries will be delivered at steering committee meetings.

An annotated PDF of the 2/3/2023 presentation is attached with this meeting report.

Meeting Summary

Sarah Mojzer (JMZ) began the slideshow and reviewed team roles.

Buddy Hall (Hanbury) presented the resident hall and student life spaces. Many of the residence halls had lounges and common spaces that are due for modernization. Student survey results and an upcoming workshop will establish real goals for these spaces.

When on-campus for upcoming workshops, the Hanbury team will observe how the students use the residence hall lounges at different times of day. Potential student life space was identified in Sheldon Hall's lower level. Walkthroughs of Moreland and Mackin were not completed but they were identified as potential room for expansion and/or surge space.

Shari Sharafi (Setty) went over building systems. Cayuga, Onondaga, Oneida, and Seneca all had aging mechanical systems that were well-maintained but had old controls. None of the west residence halls had ventilation. Littlepage Dining Hall was not surveyed because it was offline. West side residence halls had standpipes. They did not have sprinklers. The west residence halls had electrical service upgrades but the electrical distribution within the buildings was original. The Village townhomes were in good condition. There was some evidence of leakage but that can be expected with certain types of antifreeze (glycol). The Lakeside Dining Hall has old electrical panels, but the mechanical systems all appeared good. The rest of the buildings in the North had systems in good condition. The Center building systems (Hart and Cooper) had ventilation that was in poor shape. It is difficult to measure performance in buildings with systems as old as these because the controls are not digital. The Mackin Complex buildings have had electrical service upgrades but the buildings are unoccupied.

Greg Wachalski reviewed preliminary results of the focus groups and surveys. Some of the focus group participants stated that Lakeside Residence Halls have a better sense of community. The community bathrooms (campuswide) are not appealing due to privacy issues. Greg will compare the gender identity data from the survey with the student body demographic. The survey results highlighted that quality on-campus housing was very important, but the focus group was neutral on the topic. In future presentations, Greg will report on the full results of the student survey and share his analysis of off-campus data.

Sarah presented the instructional space utilization. Utilization was less efficient in fall 2022 than it was in fall 2017. There is capacity on campus to absorb the classroom demand from Mahar Hall when the building goes offline.

Sarah reviewed next steps. Buddy described the process for the Vision Session and Student Workshops.

No questions were asked. Hanbury, Setty, and JMZ plan to visit campus in March or April.

JMZ will proceed assuming this report to be accurate. Discrepancies should be reported to our office within seven (7) days.

08 March 2023
SUNY Oswego
Housing FMP & AMP Update
DASNY Project Number 358140
JMZ 2225

Meeting Report

Report Author	Sarah Mojzer
Event Date	8 March 2023
Event Location	Online, hosted by JMZ's Zoom
Distribution	Attendees

Attendees	**From**
Harry Ellsworth	DASNY
Jim Shaughnessy	SUCF
Dr. Mary Toale	Officer-in-Charge, SUNY Oswego
Mitch Fields	Associate Vice President for Facilities Services, SUNY Oswego
Kathleen Kerr	Vice President for Student Affairs, SUNY Oswego
Scott Furlong	Vice President for Academic Affairs, Provost, SUNY Oswego
Victoria Furlong	Vice President for Administration and Finance
Becky Waters	Assistant VP for Financial Operation
Allen Bradberry	Director of Major Projects, SUNY Oswego
Buddy Hall	Hanbury
Matthew Lee	Hanbury
Greg Wachalski	Wachalski Advisory
Sarah Mojzer	JMZ Architects & Planners, P.C.

Meeting Agenda
Student Survey Results
Market Analysis & Peer Comparison
Visioning Session & Student Focus Group Highlights
Schedule Review & Next Steps

Student Survey Results
Greg Wachalski presented results of the online residence hall survey.

- West campus residence halls had higher percentage of respondents who were dissatisfied.
- Students living off-campus were generally satisfied with their housing.

Greg reviewed unit preferences by class year.
Cost and privacy concerns were leading reasons that students moved off campus.

Market Analysis and Peer Comparison
Five peer institutions were examined for cost comparison. SUNY Oswego costs were comparable to the peer average in most resident room types, yet Oswego's total cost of attendance was the highest of the four SUNY institutions in the peer set.

Visioning Session and Student Group Highlights
Buddy Hall reviewed the process for the on-campus workshops he and Matt Lee conducted in February.

Administration participated in a workshop to identify strengths, weaknesses, opportunities, and threats related to residence halls at Oswego. The group listed priorities: refresh/rebrand/renovate.
Students participated in multiple activities. Feedback included a need for more privacy in bathrooms, improvements to study areas on the West Side (reportedly “gross”), students request more fitness centers, green spaces lack purpose and amenities (“just grass”).

Schedule Review & Next Steps
The project is on schedule.
On-campus working days March 28-29
April Steering Committee Meeting April 7

JMZ will proceed assuming this report to be accurate. Discrepancies should be reported to our office within seven (7) days.

07 April 2023
SUNY Oswego
Housing FMP & AMP Update
DASNY Project Number 358140
JMZ 2225

Meeting Report

Report Author	Sarah Mojzer
Event Date	07 April 2023
Event Location	Online, hosted by JMZ's Zoom
Distribution	Attendees

Attendees	**From**
Harry Ellsworth	DASNY
Jim Shaughnessy	SUCF
Dr. Mary Toale	Officer-in-Charge, SUNY Oswego
Mitch Fields	Associate Vice President for Facilities Services, SUNY Oswego
Kathleen Kerr	Vice President for Student Affairs, SUNY Oswego
Scott Furlong	Vice President for Academic Affairs, Provost, SUNY Oswego
Becky Waters	Assistant VP for Financial Operation
Allen Bradberry	Director of Major Projects, SUNY Oswego
Buddy Hall	Hanbury
Matthew Lee	Hanbury
Greg Wachalski	Wachalski Advisory
Sarah Mojzer	JMZ Architects & Planners, P.C.

Meeting Agenda

Updates:
- •Materials received
- •Campus visit (March 28-29)

Goal setting and priorities
Pulling the data together
Schedule review and next steps

Materials Received and Campus Visit Report

Most of the data requested has been received. Please send hazardous materials reports and residence hall ADA reports to JMZ.
While on campus in March, Hanbury and JMZ visited student life spaces at night to see where the activity is. Hanbury finished their assessments of existing conditions at the residence halls.

Goal Setting and Priorities

Buddy reviewed the qualities of the spaces we visited. Main goal for residence halls: refresh, renovate, and rebrand. Ensure a consistent array of features and amenities in all residence halls.

Pulling the Data Together

Part of the mission of this plan is to unite residence hall facilities needs with academic facilities needs. Multiple existing reports need to be combined into one volume. Sarah presented an organization tool that will help organize these multiple sources.

Schedule Review, Next Steps

The project is on schedule.

4/24 Consultants and Residence Life will discuss the bed mix
5/3 Steering Committee

JMZ will proceed assuming this report to be accurate. Discrepancies should be reported to our office within seven (7) days.

11 May 2023
SUNY Oswego
Housing FMP & AMP Update
DASNY Project Number 358140
JMZ 2225

Meeting Report

Report Author	Sarah Mojzer
Event Date	18 May 2023
Event Location	Online, hosted by JMZ's Zoom
Distribution	Attendees

Attendees	**From**
Harry Ellsworth	DASNY
Jim Shaughnessy	SUCF
Dr. Mary Toale	Officer-in-Charge, SUNY Oswego
Mitch Fields	Associate Vice President for Facilities Services, SUNY Oswego
Kathleen Kerr	Vice President for Student Affairs, SUNY Oswego
Victoria Furlong	Vice President for Administration and Finance, SUNY Oswego
Scott Furlong	Vice President for Academic Affairs, Provost, SUNY Oswego
Becky Waters	Assistant VP for Financial Operation
Allen Bradberry	Director of Major Projects, SUNY Oswego
Buddy Hall	Hanbury
Greg Wachalski	Wachalski Advisory
Sarah Mojzer	JMZ Architects & Planners, P.C.

Meeting Agenda
Residence Hall Capacity Compared to Enrollment Outlook
Quick Start, Moderate, and Major Interventions
Schedule review and next steps

Residence Hall Capacity Compared to Enrollment Outlook
Greg Wachalski presented residence hall occupancy projections based on enrollment projections and past class-year occupancy data. The subcommittee (Kathleen Kerr, Victoria Furlong, and Sara Rebeor) reviewed this data on April 28. The data presented in this meeting includes their suggested changes. Dr. Toale believes the goal of 8,070 headcount by 2032 is too high. She suggested that Sarah Mojzer speak with Cory Bezek, the College's new VP of Enrollment Management. (Sarah has a meeting scheduled with Mr. Bezek on Tuesday, May 23.)

Sarah Mojzer described the potential occupancy results by zone of campus if enrollment projections were fulfilled. Lakeside residence halls and the Village would be filled 100%. Central and West residence halls would have capacity remaining. If occupancy is balanced across all buildings equally, each would be 91 percent full in 2032.
The subcommittee completed a worksheet to convey which features are essential in each building/group of buildings/campus zone. Sarah reviewed this data with the group and described how recommendations will be presented as "quick start" projects that can be started anytime, moderate projects that would interrupt building operations and require more investment, and major projects like comprehensive renovations.

Quick Start, Moderate, and Major Interventions

Buddy presented concepts focused on West Campus that could be applied campuswide.

- Improve the bridge between Tyler and Seneca. Potentially include a trellis to recall the historic motif at Sheldon and elsewhere on campus.
- Redesign the green space between Cayuga, Onondaga, Littlepage, and Pathfinder. Photo examples were given, and a sketch delineates zones for open recreation, hammocks, porches, and a multipurpose building.
- Create a zone for art and Oswego pride in the corridors that connect residence halls to dining halls.
- Incremental improvements to building entrances:
    - Quick Start: add paint, a small shade canopy, banners, site amenities
    - Moderate: in addition, add banners, improve landscape and hardscape, improve lighting
    - Major: extend the entries to create modern, welcoming entries that have soft seating and elements of Oswego pride
- Lounge and interior common space improvements
    - Divide large lounges to create distinct areas for kitchens, games, study, living rooms, and hobbies
    - Potentially create some residence hall rooms from lounges where there is a surplus of common space (example Cayuga Hall first floor)
    - Redesign front desks so they are visible and welcoming in every residence hall
- Resident room and restroom improvements
    - Upgrade restrooms to have more privacy.
    - Upgrade furnishings, finishes, and lighting in existing resident rooms.

Next Steps

Finalize enrollment projections (phone call scheduled for May 23.)

A June presentation/workshop will include concept options.

Potential residence hall improvements could include:

- Maintain existing resident room configurations, focus on improvements to common spaces.
- New construction to create additional beds, enabling a greater variety of resident room types in existing residence halls. Improve common spaces.
- Major renovation of Lonis and Moreland, enabling a greater variety of resident room types in existing residence halls. Improve common spaces.

Potential improvements to site and academic buildings could include:

- Quick-start, moderate, and major concepts to improve common spaces in academic buildings.
- Concepts for instructional space adjustments campuswide.

JMZ will proceed assuming this report to be accurate. Discrepancies should be reported to our office within seven (7) days.

23 October 2023
Revised: 24 October 2023
SUNY Oswego
Housing FMP & AMP Update
DASNY Project Number 358140
JMZ 2225

Meeting Report

Report Author	Sarah Mojzer
Event Date	20 October 2023
Event Location	Online, hosted by JMZ's Zoom
Distribution	Attendees

Attendees	**From**
Harry Ellsworth	DASNY
Jim Shaughnessy	SUCF
Mitch Fields	Associate Vice President for Facilities Services, SUNY Oswego
Kathleen Kerr	Vice President for Student Affairs, SUNY Oswego
Victoria Furlong	Vice President for Administration and Finance, SUNY Oswego
Scott Furlong	Vice President for Academic Affairs, Provost, SUNY Oswego
Becky Waters	Assistant VP for Financial Operation
Allen Bradberry	Director of Major Projects, SUNY Oswego
Buddy Hall	Hanbury
Greg Wachalski	Wachalski Advisory
Sarah Mojzer	JMZ Architects & Planners, P.C.

Meeting Agenda
Project Schedule
Key Findings (Enrollment, Building Condition, Instructional Space Utilization)
Residence Hall Financial Analysis
Recommendations
Report Excerpts
Conclusion and Discussion

Project Schedule
The project is nearly 100 percent complete. The draft report will be issued 10/24/2023. Three weeks will be allotted for review. Comments will be due back to JMZ Architects on 11/14/2023.

Key Findings
On-campus enrollment is unlikely to exceed the 1990 peak.
Residence hall and instructional space capacity is adequate.
Building condition requires attention:
• West Campus residence halls and dining halls
• Central Campus residence halls
• Lanigan Hall, Penfield Library
• Lee Hall
• Long-term - Rich Hall, Sheldon Hall, Laker Hall
First impressions, student engagement, and student success are priorities.

Residence Hall Financial Analysis

The team tested three scenarios. There are two criteria for a successful scenario:

- The cash reserve cannot go below $5,000,000.
- The debt coverage ratio must remain greater than 1.20.

The $10,000,000 scenario takes all its funding from cash reserves. The debt coverage criterion is satisfied, yet the cash balance dips below $5,000,000.
The $15,000,000 scenario pulls $7,500,000 from cash reserves and utilizes $7,500,000 of SUNY bonds administered by DASNY. This scenario maintains debt coverage and the cash balance.
The $30,000,000 scenario satisfies the debt coverage criterion but results in the cash balance dipping below $5,000,000.
Financial Recommendation: Employ the $15,000,000 scenario.

Adjustments are required to Residence Life revenue and spending.
Actions:

- 2026 to 2029 - Modify the Oswego Guarantee. Returning students' rates escalate at 1% less than new student rates.
- 2026 - Increase entering student rates 5%.
- 2027 - Increase entering student rates 4%.
- 2025 onward - Reduce scholarship contribution to $3.4 million per year.
- 2026 - Reduce the Dormitory Income Fund Reimbursable (DIFR) contribution to personnel costs by 10 percent (approximately $660,000 and corresponding fringe benefits) in FY26, no reductions thereafter (typical escalation of 3%).

Recommendations

All costs shown below are in 2023 dollars
Costs include: Contractor's general conditions, overhead and profit 20%
Design contingency 15%
Allowance for additional costs 35%

Residence Halls

Capital Project, $8,202,000:

- Complete the Funnelle Hall sprinkler installation, including a fire pump and new emergency generator. Cost includes finishes replacement related to the work. $7,100,000
- Renovate Funnelle Hall lobby and main lounge. $1,100,000

Enhancement Projects, $3,300,000. These elective projects could be done at any time. Concentrate them on one building (Cayuga Hall recommended) or distribute projects throughout the residence halls.
Reserve $3,500,000 for facilities maintenance in residence halls.

Academic Buildings

Prioritize Lanigan Hall and Penfield Library renovation.

- Prepare a combined program study for Lanigan Hall and Penfield Library. Include detailed engineering recommendations to incorporate the Clean Energy Master Plan. $240,000
- Renovate Lanigan Hall. $66,340,000
- Renovate Penfield Library. $112,000,000

Meanwhile, utilize Lanigan first floor as Mahar Hall swing space. Allow $944,000 to improve the instructional space, as it could be in use for two to three years. If additional office space is needed

(beyond the existing offices on Lanigan first floor) allow up to $592,000 for upgrades to existing storage and support spaces for use as offices.

The College and SUCF will advise the planning team on prioritizing remaining non-residence hall projects:
Lee Hall renovation and addition, Laker Hall renovation, Rich Hall renovation, Sheldon Hall renovation, distributed enhancement projects, Wilber Hall renovation.

Report Excerpts

The planning team shared examples from the report, including a sample residence hall report that includes costs for Enhancement Projects.

Conclusion

Residence halls:

- Make progress on life safety, accessibility, and facilities maintenance. The planning team recommends completing and activating the Funnelle Hall sprinkler system.
- Make multiple low-cost, high-impact improvements to first impressions and student experience.
- Adjust spending and revenue.
- Plan to renovate one West Campus residence hall in the early 2030s.

Academic buildings:

- Prioritize Lanigan Hall. ($$$$)
- Make student experience improvements in Rich Hall. ($)
- SUNY Oswego and SUCF to discuss and advise the planners: What's next?
    - Lee Hall ($$)
    - Laker Hall ($$)
    - Penfield Library ($$$$$)
    - Site Projects
    - Student Engagement Projects
    - Rich Hall
    - Sheldon Hall

Discussion

SUNY Oswego is exploring starting a Nursing program, which could prompt a need for additional space. JMZ suggested the program studies recommended for Lanigan/Penfield and Rich/Sheldon could demonstrate sufficient surplus space to house a nascent Nursing program. Consider prioritizing the Lee Hall renovation, as its contribution to Wellness Management and pre-Physical Therapy instruction could potentially align with health sciences programs.

JMZ will proceed assuming this report to be accurate. Discrepancies should be reported to our office within seven (7) days.


JMZ
architects | planners


HANBURY