NHTI

Concord's Community College

Master Plan

November 7th, 2016

Cowan | Goudreau Architects PLLC
Nobis Engineering, Inc.
Yeaton Associates Inc.

NHTI Master Facility Plan

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PROJECT TEAM

Design Team

Cowan Goudreau Architects	PLLC	Architects	Yeaton Associates		Mechanical, Electrical & Plumbing Engineers
Nobis Engineering		Civil Engineering & Site	Milestone Engineering & Construction		Construction Managers

Vice President's Council

Susan Dunton	President	Denis Normandin	Associate Vice President of Academic Affairs
Pam Langley	Vice President of Academic Affairs	Alan Blake	Public Information Officer/Assistant to the President
Steve Caccia	Vice President of Student Affairs	Melanie Kirby	Chief Financial Officer
Chuck Lloyd	Associate Vice President of Student Affairs		

Institute Leadership Team

All of the above plus:

Deb Smith	Staff representative	Dan Minnich	Student Representative
Lee Ann Lewis	Director of Institution and Alumni Development	Ken Gitlitz	Faculty Representative
Tom Towle	Director of Technical Services		

Community College System of NH

Matt Moore	Director of Capital Planning and Development

Executive Summary

Introduction to Master Plan

In late 2015 NHTI "Concords Community College" retained Cowan Goudreau Architects as part of a team to develop a 10 year Master Plan for the NHTI campus. The team consisted of four entities: Cowan Goudreau Architects, Nobis Civil Engineers, Yeaton Associates MEP and Milestone Engineering and construction.

Beginning in January of 2016 the design team began holding meetings with identified stakeholder groups. The purpose of these meetings was to document the current condition of the departments and to ascertain current needs & deficiencies, growth looking forward 10 years and possible future needs. Concurrent with these meeting the design team has been documenting leaning spaces in all academic buildings and analyzing the building envelopes for current conditions and code compliance. To date we have had nine meetings with departments and stakeholders. These groups include:

Department heads
Athletics recreation, grounds,
One-stop gateway
Strategic direction mission vision values
Safety / Security
Dir. of the Discovery Center

Master Plan Scope

Document existing conditions of the site and buildings.
Compile and catalog academic and support spaces on campus to be used for benchmarking against similar facilities.
Document existing design issues both site & building.
Document existing programmatic needs.
Identify future growth needs.
Provide Master Plan recommendations based on the findings that reinforce the CCSNH **65 by 25** goals and the NHTI Mission/Vision/Values Statement.

The Master Plan scope was divided into two phases.

Phase 1 Document and collect data on existing conditions, including site, buildings, parking and utilities. To do graphic analysis of the "Front Door", vehicular and pedestrian circulation. Analysis exiting buildings and document the condition of the exterior envelope and well as the MEP systems.

Phase 2 Based on data from phase 1, develop a prioritized project list, design concept plans for major work, phasing plan and an opinion of probable cost. (developed by Milestone Construction)

Master Plan Organization

The Master Plan is organized into three sections:

Part 1: Executive Summary
Part 2: Master Plan Recommendations
Part 3: Appendix

History of NHTI

NHTI, Concords Community College, is a two-year residential community college located in Concord New Hampshire. The college is one of seven in the community college system of New Hampshire. Was founded in 1965 and was known as New Hampshire technical Institute until 2007 when it became known as NHTI Concord's community college.
The legislative group that investigated and finally passed legislation in 1961 that led to the creation of NHTI looked to the two-year college system operating in North Carolina as a guide in the creation of NHTI. Of the six original two-year colleges five or vocational schools and NHTI was the only technical College.
The campus has both residential dormitories capable of housing up to 350 students and a wellness center with a gymnasium, weight room and locker rooms.
The college is now beginning his 50th academic year in office programs of study to students throughout the state and the New England region. NHTI offers more than 70 academic programs and has more than 5000 students making it the sixth largest college in New Hampshire.

The campus sits on approximately 225 acres bounded by I 93 to the West I 393 to the South in the Merrimack River to the East and North. The primary entrance is from the East of the campus has through access that connects across I 93 to the horseshoe pond area. While separated from the city by highways there is a pedestrian tunnel to the south of campus that provides a connection to fan road by going underneath I 393. These boundaries create a unique and secure campus site.

There are currently 13 buildings on campus proper. In 1983 Sweeney Hall was constructed, 1995 The Wellness Center was built and added onto Sweeney Hall, and in 2005 the student center was added. In 2001 the library/bookstore as built, 2008 Grappone Hall was constructed in 2009 MacRury Hall was completely renovated.

Driving north on I 93 the NHTI campus can be seen briefly including the new Grappone Hall building, the original Little Hall and two of the resident halls.

Master Plan Goals

Site – roads parking outdoor spaces and circulation

1. Improve a confusing arrival sequence i.e. create a "front door".
2. Document the number of parking spaces available, reallocate them as necessary and increase parking in front of the dental building for outpatient service.
3. Improve the functionality and usability of the quad.
4. Through the use of improved pedestrian circulation pathways create a start stronger connection between the North and South campus.

Create curb appeal

1. Create a functional, visually appealing and identifiable front door to the campus.
2. Relocate as many above ground utility lines as possible to underground.
3. Improve the visual image of the campus and its identification as presented to I 93

Infrastructure

1. Identify and document the existing condition of utilities and buildings on campus.
2. Renovate and update existing buildings to state-of-the-art educational standards to increase the quality of education offered, staff retention and facilitate enrollment increases.

Athletics and wellness

1. Upgrade the athletic fields with new lighting press boxes concession stands and a ropes course. Design and construct a new addition to the wellness center of approximately 25,000 ft.^{2}
2. Improve the dirt /gravel parking area to the east of the campus and adjacent to the boat launch.

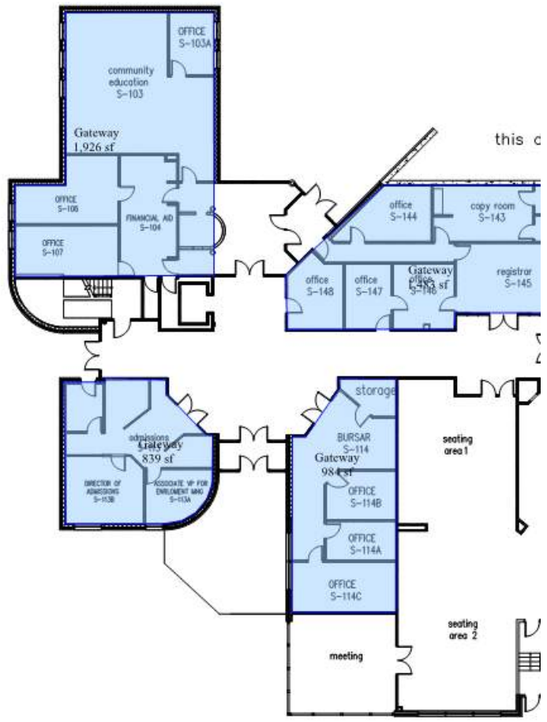
Narrative - Architectural

Department Overview

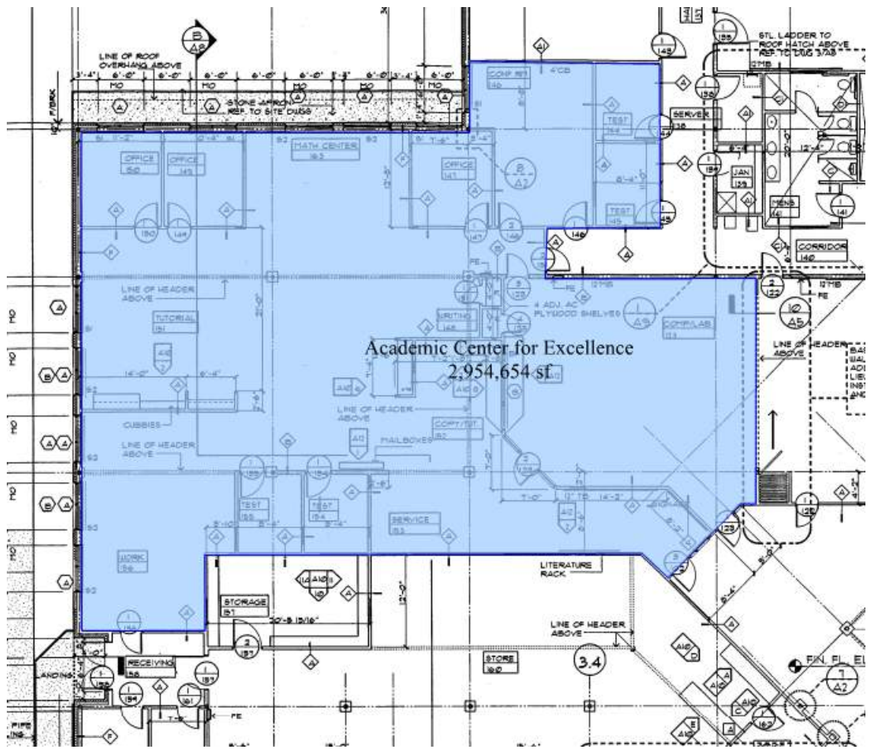
Past enrollment trends show a 50% enrollment increase over 10 year periods. Most departments reported a relatively stable enrollment. Review of the NHTI enrollment Treads 2006-2015 show healthy increases in General Studies- AAEN, AET-CVET/AS & CERT,MET, AGGP, Child & Fam. STD-ECEZ,CERTS Education, Imaging –SONOG,RTH/AS, Natural Sciences & Mathematics. Visual Arts showed a 133% gain from 2006 and believes that moving the dept. onto campus will greatly increase enrollments. Possibly up to 300% over 10 years.
The same report shows declining enrollment in General STD-AGS, Hospitality-AS, Paralegal & Nursing.

Gateway

Meetings with the Gateway group confirmed the desire to realize a "One Stop "solution to servicing the students administratively. Currently many of the Gateway /One stop services are centered on the 1st floor West end of Sweeny with some services scattered over campus. The feeling was that centralizing these services and cross training employees would optimize administrative efficiency and student satisfaction. It was felt that the "Gateway" location should be close to or part of the perceived front door to the campus. The programmed space for the Gateway adds up to approximately 11,000 ft.² based on program in studies done for the 2010 new academic building. The existing space on the first floor of Sweeney Hall is approximately 5232 ft.² and the existing space in the academic Center for excellence is about 2955 ft.² totaling 8187 ft.² for the existing Gateway program functions.



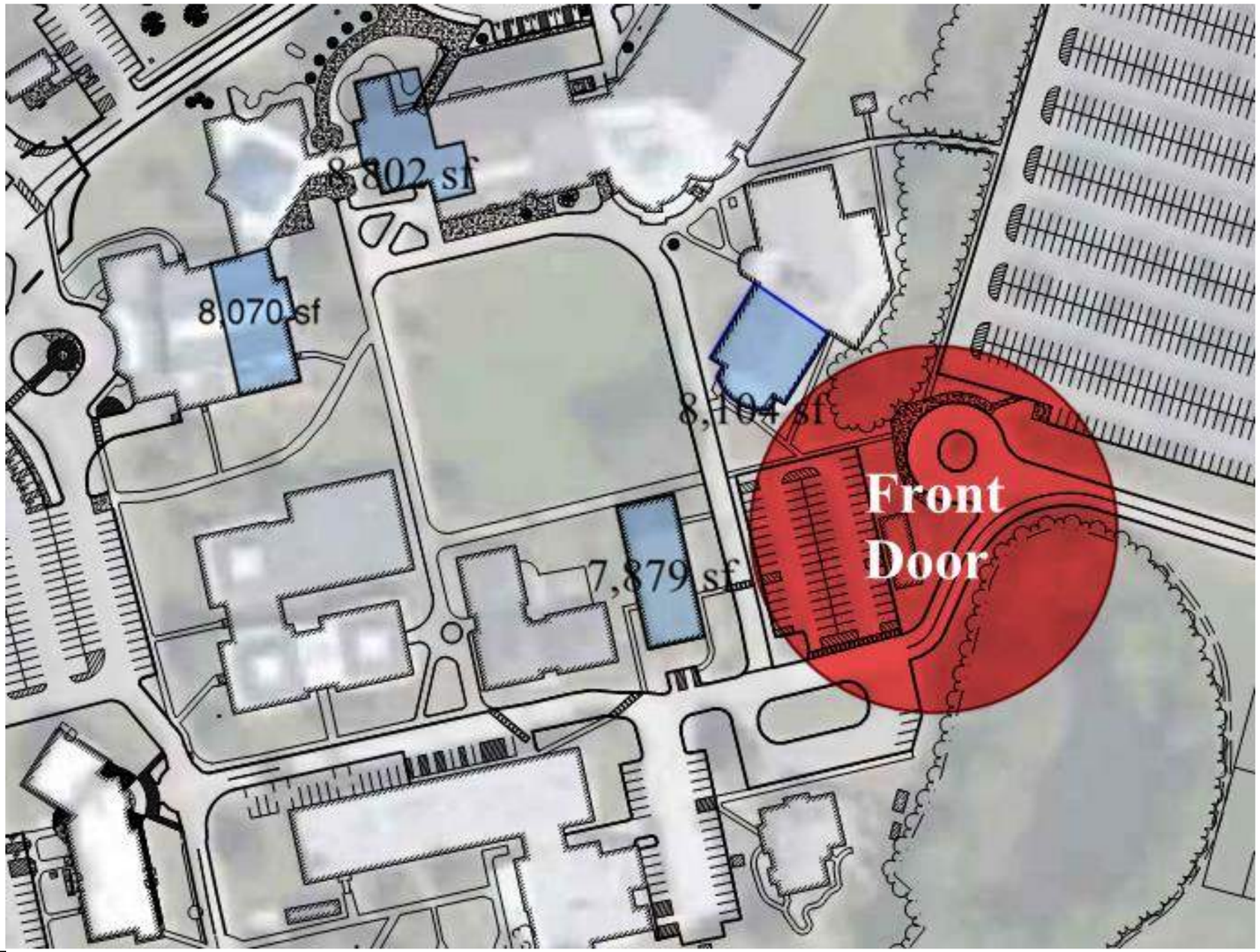
Sweeney Hall



Library

Executive Summary

The different offices associated with Gateway are currently housed on campus so theoretically no new space would be required to relocate them. Two spaces on campus currently are about the right size and in the right location. They are the library space the CCSNH Systems office part of Discovery Center and the existing location in Sweeney with a small addition off the North side.



Site

Executive Summary

Front Door:
Most opinions were that the campus lacks a defined easily recognized front door. It was also the majority's opinion that the front door should be on the Easterly edge of campus proper. Roughly the space between the South end of the library and the Systems office.

Image:
The view from rte. 93 into campus is a very important one and should be enhanced. Many felt that the entry experience from the East /393 side could also be enhanced with landscaping, monument signs and possibly upgrading the athletic field structures.

Parking:
The parking study was done by Nobis Engineering and is included in this Master Plan. A 24-hour traffic count was scheduled for May 3rd to document vehicular circulation at both the East and West entries to campus but was postponed due it being finals week and would not represent a true traffic count. Generally, it is felt that the number of parking spaces is fine at this point and that some redesignating (visitor, H.C. long term) of spaces would help the parking situation.

Facilities reports that many of the sidewalks adjacent to parking lots are to narrow and the front of vehicles are overlapping into the walk area causing issues with accessibility and snow clearing. Student parking for the two South most Residence Halls (Strout & South Hall) require a long and circuitous route around the perimeter of campus and the backs of several buildings. A more direct route from behind and to the South of the softball field East to West behind the cafeteria should be explored.

Pedestrian Circulation: While a new wayfinding design has been implemented on campus some felt that visitors were having a difficult time finding their way around campus. Some of the connections that would promote a better pedestrian experience on campus are not realized and others are difficult to travel. Some examples would be the North Hall Residence Halls. They are remote from the rest of the campus and do not promote a living learning environment with the two Southern Residence Halls. Ideally North Hall would be located close to South and Strout Halls. The Quad is a great opportunity for a outdoor space that would act as an organizing element to the entire campus. As it is now the grass area is uneven and not conducive to casual game playing or larger seated events. There is no diagonal sidewalk to allow a direct path from the Student Center to the Southwest corner of the quad which leads to Little Hall.

Another area that splits the campus in half and acts to disorganize the campus is College drive as it passes thru campus between MacRury Hall and Little Hall. Currently a student or parent traveling along this route would need to watch out for cars passing by and cars backing out of parking spaces. The view while on college drive feels more like an alley and the backs of buildings then a pedestrian way highlighting campus buildings and the Little Halls entrance. This is a great opportunity to pull the campus together and promote pedestrian circulation. It is recommended that this area be looked at as a landscaped pedestrian path. A good example of this is Appian Way at Keen State College. This could be used as an organizing element tying together the quad with Grappone Hall, MacRury Hall, Little Hall and the cafeteria. The Quad and College way upgrades are low hanging fruit that could greatly benefit the campus experience.

Space Analysis:
The team has measured all of the academic spaces on campus and have tabulating it. Teaching space analysis was done that show the locations of department spaces, color coded by department, a list of teaching spaces broken out by Department, building and by type of space i.e. classroom, lecture hall, seminar rooms, student breakout space, offices etc. All of these spaces are totaled and compared to FTE's to give the administration benchmarking tools to compare with other colleges and to identify space needs going forward.

In general based on what we heard in the meetings and what we observed there is a need for new furniture, new finishes (paint, flooring, lighting) and better faculty offices. For example the faculty offices in Little Hall are small and afford very little visual or acoustical privacy for students or faculty interaction. Many of the department heads identified a stable enrollment with no to little growth over the next 10 years. The exceptions to this are the Visual arts program which would need new space on campus and earlier identified as growing. The creation of the "One Stop or Gateway Center" may require new space but may be relocated into existing space.

The Visual Arts department may fit into Farnum which has 9,500 gross s.f. which would displace the computer programs into new space. Farnum offers the possibility of high vaulted ceilings conducive to metal work, wood working etc. Farnum also is a 3 pod design formed in a square with the missing pod an open space fronting the quad. This is a great opportunity to create an outdoor sculpture garden for shows and exhibits for the Visual Arts program. It is also a great space to add an addition in the future.
The MET programs in Little Hall are doing well and have used all the space available. If a new STEM or STEAM space is desired space would have to be found elsewhere or a program would have to move out of Little.

A quick look at the future space needs:

Existing total gross campus space: 327,635 s.f.
Existing total Net Assignable Square Feet: 234,031 s.f.

Space	New	Existing Repurposed	Displaced	Needed Space
Visual Arts relocated to campus	5,490	Farnum 9444 sf	IT goes to Sweeney	7000
300% expansion in 10 years	10,980			
				1652
IT Labs	7,000	Sweeney	2 computer labs	
			3 Reg classrooms	2400
			2 small classrooms	1230
New STEM or STEAM space				
Maker Space	800			800
X Classroom	1,000			1,000
Faculty offices	300			300
Fab Lab	1,500			1,500
XLearning Labs (2 labs 2 offices)	2,688			2,688
Gateway	7,000	Existing Space		
I CAN	5,000	Existing Space		
Chemistry Labs x2	3,000	MacRury	**Classroom 225**	**770**
			Classroom 201	**855**
North Hall Offices	5,352	Relocate to main campus		**5,352**
Total new before reuse of existing	**50,110**		**Total new required**	**25,547**

Total new space required on campus is 25,547 SF.

Executive Summary

Growth for New Hampshire H.S. Graduates is expected to decline by 10% from 2009 to 2028 as reported in an article by Jason E. Lane, director of educational studies at the Rockefeller Institute of Government at the State University of New York. It appears that between the growth of new or popular programs, the decline of some of the older programs and the predicted decline in available students, a moderate amount of additional new space is required beyond bringing visual arts onto campus, new space for IT and STEM.

The shuffling of programmatic space although mathematically possible, is often more difficult to make work especially without a swing space to put people during the transition. The other long term consideration is that at the end of 10 years if the number of college bound high school graduates does begin to increase as predicted, NHTI will be in a position of all the spaces maxed out with no new space available. The process of studying, designing and building a new addition or building could take 2-3 years before being ready to take on additional students. Without a new building on campus the need for swing space to allow the reshuffling of program space over several years becomes very important which leads to the Discovery Center.

I toured the Discovery Center and have reviewed the floor plans. The first floor is 21,220 sf and the second floor is 10,099 sf for a total space of 31,319 sf. The space is relatively new and currently underutilized. The space is located on the North-West side of the quad and has a very prominent 2 story glass façades looking out onto the quad area. The space would lend itself to several uses such as library use, Computer Gaming studios and classrooms, STEM space; Visual Arts display space or architectural studios. The types of use that would have the best synergy with the Discovery Center would be Computer Gaming studios and classrooms, STEM space.

With a growth need over the next 10 years of 25,547 s.f .as discussed above and the need to have swing space to allow reshuffling of programs within existing space, the proximity of 31,319 sf of space sitting prominently on the NHTI quad appears to be an opportunity ideally suited for NHTI's 10 plan. This space allows for swing space needed to reorganize existing program moves and allows moderate expansion after the reshuffling. NHTI would be in a better position coming out of a 10 flat growth and be better prepared for any pent up growth that would occur after the 10 years.

Building Analysis:

The design team is currently on campus documenting the conditions of the existing buildings. The two biggest candidates for overall renovations are Little Hall and Farnum Hall. Both buildings date back to the mid 1960's and although well maintained have seen no major upgrades. Little Hall has no insulation in the walls and Farnum has many of its original single glazed windows. The full envelope analysis of each building can be found in the appendix.

Other comments from programming meetings

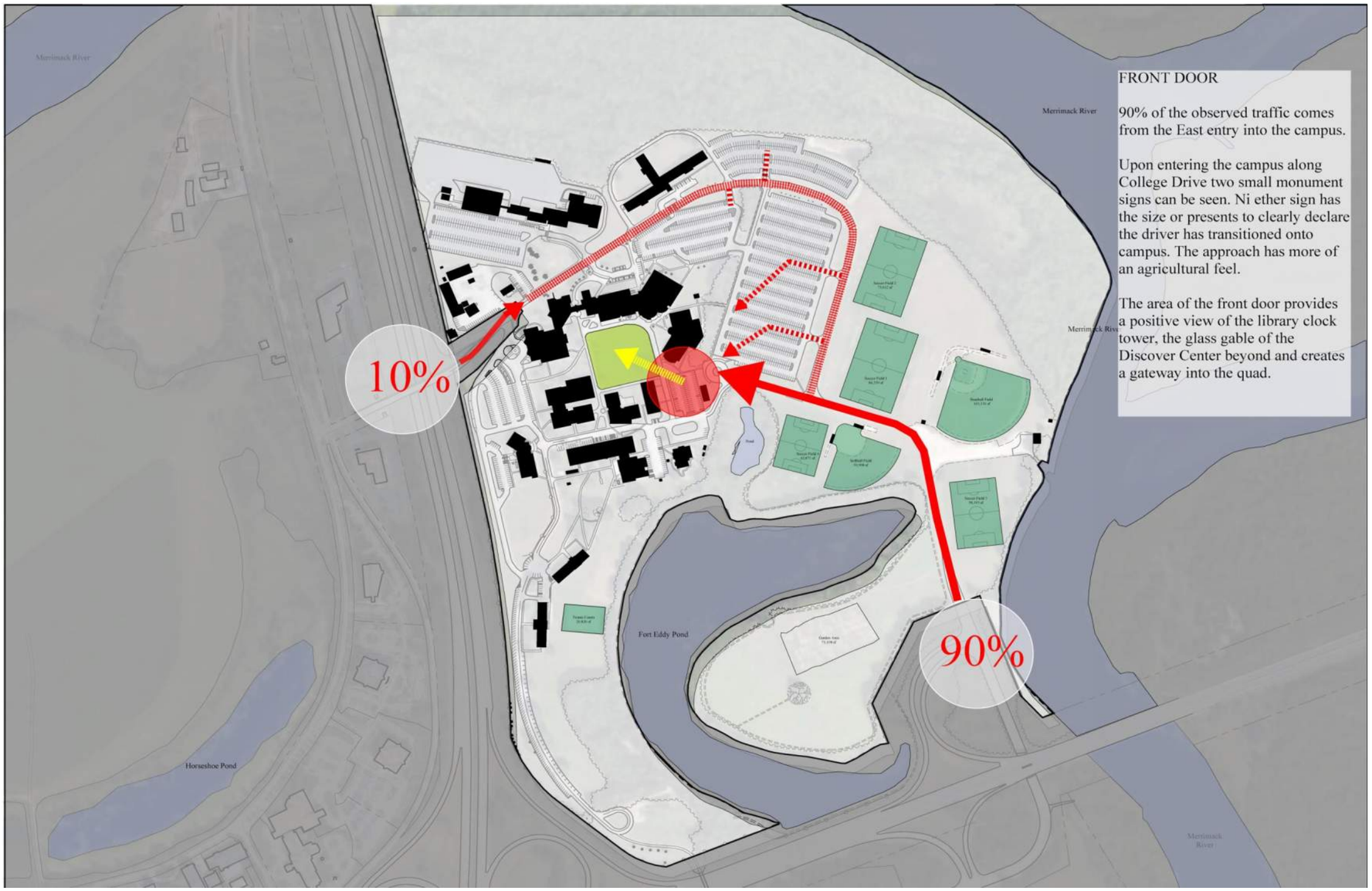
1) More crosswalks
2) Better voice communication between buildings

Site Plan Analysis

Executive Summary
Color Coded by Use Groups

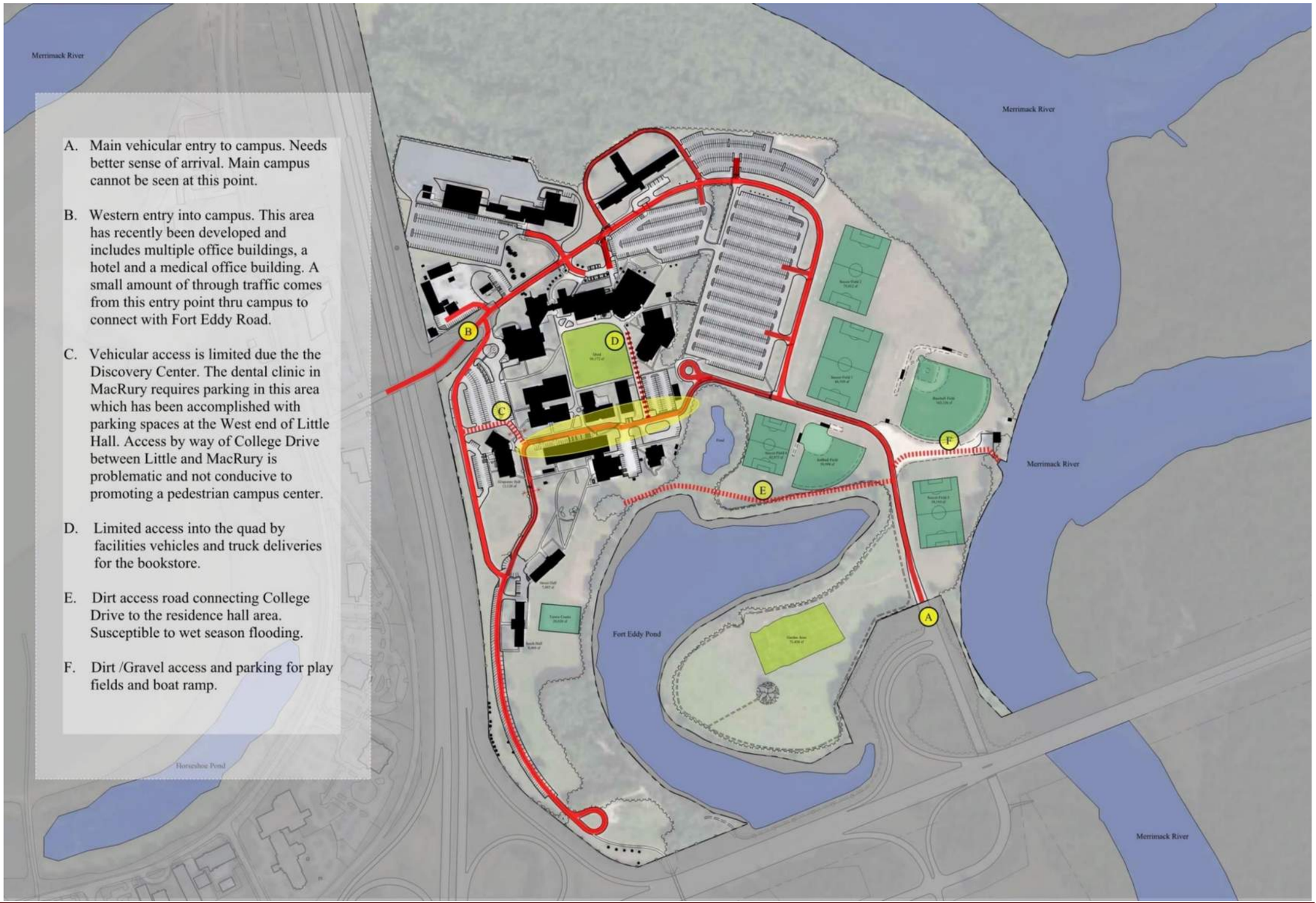
Site Plan Analysis

Front Door



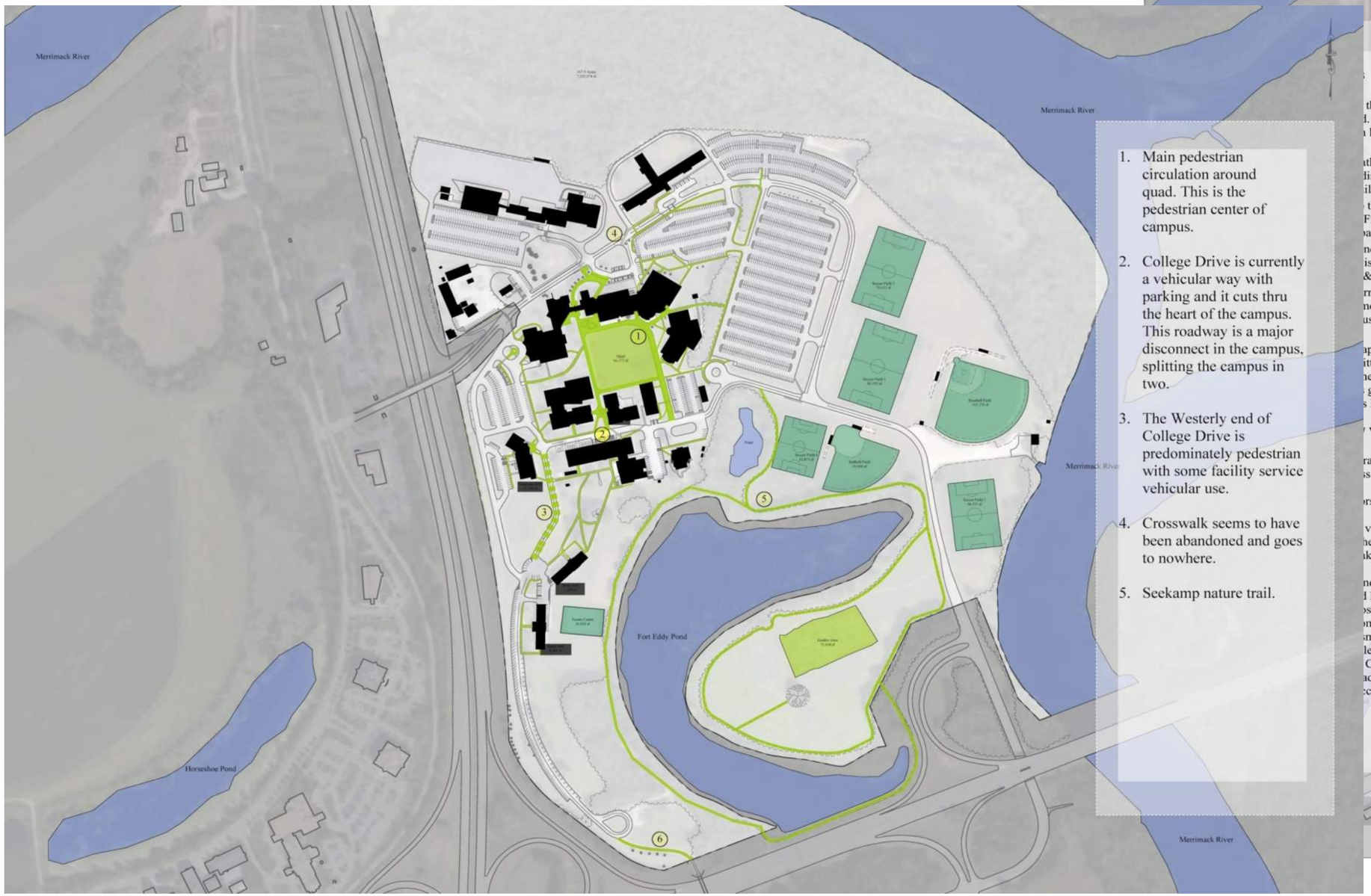
Site Plan Analysis

Vehicular Circulation



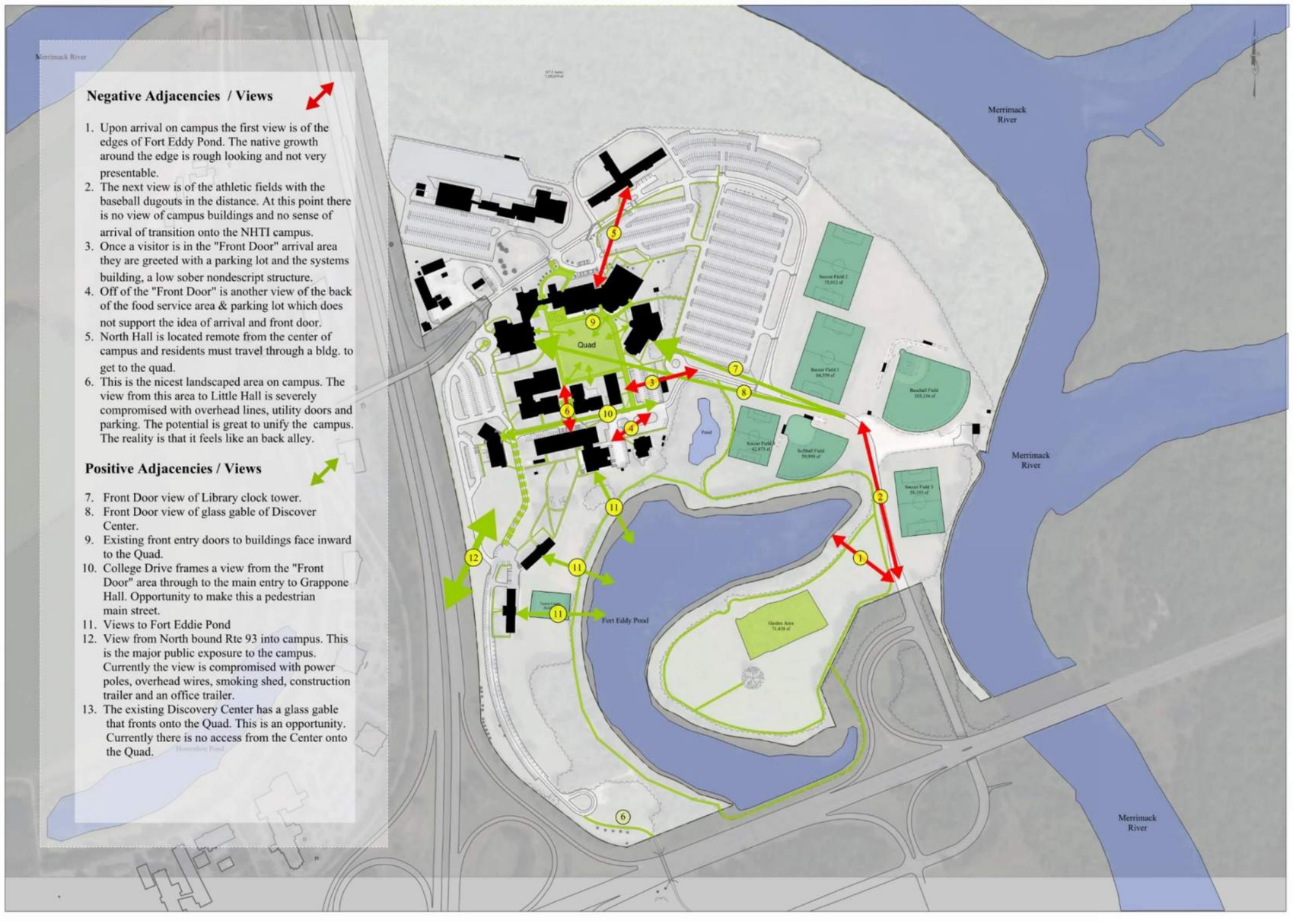
Site Plan Analysis

Pedestrian Circulation



Site Plan Analysis

Executive Summary
Adjacencies



Narrative - Civil

Site Analysis

Site Location and Access

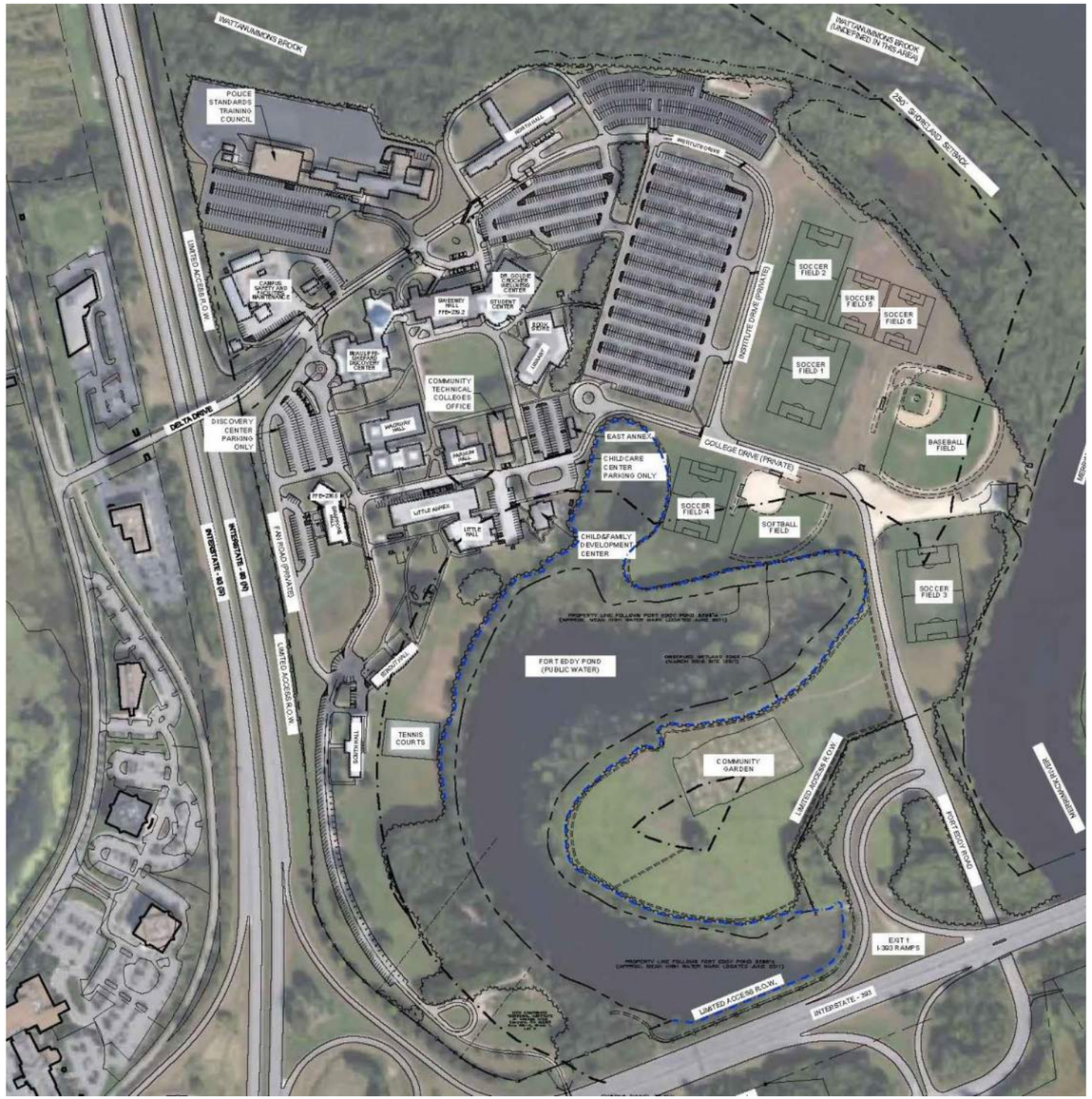
NHTI is located on College Drive in Concord, New Hampshire. There are two entrances into the campus: from the east via College Drive and from the west via Delta Drive. Based on site observations the east entrance via College Drive is the main entrance to the campus. The main roads within the campus are College Drive, Institute Drive and Fan Road. They are all private roads owned and maintained by NHTI. Refer to Figure 1 – Campus Map.

The campus is adjacent to the Merrimack River and the Fort Eddy Pond. Both water bodies are subject to the NH Department of Environmental Services (NHDES) Shoreland Program. There is a 250 foot Shoreland Protection Zone that extends from the mean high water level for the waterbody. There are use and activity restrictions within the Shoreland Protection Zone. Any disturbance within the 250 foot setback requires a permit from NHDES.

The campus is located in the Institutional (IS) District as defined by the City of Concord Zoning Ordinance. The entire campus property is located in the F1 Flood Plain overlay district. Also, the F2 Flood Way overlay districts runs along the banks of the Merrimack River. Refer to Figure 2 – Floodplain Map.

Portions of the NHTI campus lie within the 100-year floodplain for the Merrimack River as defined by Federal Emergency Management Agency (FEMA). Based on the current FEMA flood map the 100-year flood plain elevation is 234 feet. The land to the east and west of College Drive from Fort Eddy Road to Institute Drive is within the 100-year flood plain. West of College Drive, currently used for community gardens, the elevation is between 229 feet and 231 feet. The elevation of Soccer Field 4 and the softball field is 229 feet to 232 feet. On the east side of College Drive the baseball field and soccer fields range in elevation from 229 feet to 233 feet. Refer to Figure 2 – Floodplain Map.

The Police Standards and Training building is located on the campus on the north side of Institute Drive. They are not associated with the college, though the cadets eat in the campus dining hall. For the purpose of master planning the NHTI campus, the Police Standards site is excluded.



Existing Parking

There are 1,871 parking spaces on the NHTI campus. The breakdown is as follows:

Existing Parking Inventory

Location	Standard Spaces	Accessible Spaces	Total Spaces
Main Lot (1)	839	0	839
Overflow Lot (2)	279	0	279
Sweeney Lot (3)	257	12	269
North Hall	5	3	8
East Annex	65	2	67
CCSNH Offices	0	2	2
Little Hall	29	1	30
Little Annex	1	6	7
MacRury Hall	14	0	14
Grappone Hall	33	2	35
South Hall/Strout Hall	11	3	14
Fan Road (along both sides)	128	0	128
Subtotal NHTI Campus	**1661**	**31**	**1692**
Child Development Center	4	0	4
Maintenance & Safety	46	1	47
Planetarium/Discovery Center	120	8	128
Total Parking	**1831**	**40**	**1871**

1,692 spaces are available to NHTI students, faculty, and staff. Additionally, there are 47 spaces at the Maintenance/ Safety Building, four (4) spaces for the Childcare Center and 128 spaces for the Discovery Center. Additionally, there are four (4) designated bus parking spaces adjacent to the Discovery Center parking lot. This parking count does not include parking associated with the Police Standards and Training Council.

There are 40 designated accessible parking spaces disbursed throughout the site. For parking greater than 1,000 spaces the Americans with Disabilities Act (ADA) requires a minimum of 20 accessible parking spaces plus one (1) for every 100, or fraction thereof, over 1,000. Thus ADA requires a minimum of 29 accessible parking spaces. The number of accessible spaces on campus exceeds the minimum number required.

Each accessible space must adjoin an access aisle. A van space is required to have an 8-feet wide access aisle located to the right of the space. Other accessible spaces require a minimum 5-foot wide access aisle on either side. In each location, the first of every seven (7) accessible spaces must be designated a van space. The campus generally complies with ADA in that there are access aisles, striping and signage

denoting accessible parking spaces. Some but not all of the areas have a van accessible space. The signs are out-of-date and do not comply with current ADA standards.

Required Parking

To determine the required number of parking spaces we evaluated the City of Concord Zoning Ordinance. For residential post-secondary institutions 15 spaces are required per classroom plus parking for assembly spaces. Assembly space parking is calculated at one (1) space per every three (3) fixed seats or one (1) space per 40 square feet. For non-residential post-secondary institutions the requirement is five (5) spaces per classroom, one (1) per every two (2) beds, plus assembly space. In 2015 approximately 10% of students resided on campus.

	Required Spaces
75 classrooms @ 15 spaces/classroom x 90% non-residential	1,013
75 classrooms @ 5 spaces/classroom x 10% residential	38
Grappone 106 Auditorium: 175 seats @ 1 space per 3 seats	58
Sweeney 122 Auditorium: 238 seats @ 1 space per 3 seats	79
Gymnasium: 12,500 SF @ 1 space per 40 SF	313
Beds: 350 residential students @ 1 space per 2 beds	175
Total Required	1,676 Spaces
Total Provided	1,692 Spaces

Currently NHTI provides sixteen (16) more parking spaces than required by Concord zoning. If consideration is given to non-simultaneous use of the classrooms, auditoriums and gymnasium assembly space, more parking exists than is required. Both the required and provided parking totals closely align with a generally accepted rule of thumb of (1) parking space for every 3 students. The 2015 full time equivalent for day students was 4,523 students which equates to 1,508 required parking spaces.

In conclusion, NHTI has more than enough parking spaces for the current building. Parking could be removed in the main lot to create pedestrian walkways and landscape planting areas. If additional parking is needed in the future, it would be beneficial to share or lease some or all of the 128 parking spaces associated with the Discovery Center during non-simultaneous events.

Utilities

The campus is serviced by municipal water and sewer. In 2008 an 8-inch water main was extended south along Fan Road. It was extended through a sleeve under I-393 and connected to the existing 8-inch water main in Fort Eddy Road to create a loop. During design of the water loop the City noted that the water pressure on campus is very high.

All campus buildings are serviced by municipal sewer. There is a sewer pump station located near the southeast corner of Little Hall. It is a brick building heavily screened by shrubs. Sewer from the campus buildings flows by gravity to the pump station where it is then pumped to the municipal sewer system in Fort Eddy Road. The pump house was constructed in the early 1990's. Design drawings obtained from the NH Bureau of Public Works were dated November 21, 1989. According to NHTI maintenance staff the pumps were replaced, and variable flow device (VFD) controls and a new control panel were added in 2014 or 2015.

The campus is serviced by natural gas provided by Liberty Utilities.

Electric services and transformers on the campus are owned and maintained by NHTI. Power is delivered to the site by Unitil from three (3) different overhead lines all located on the west side of the campus. The multiple feeds provide redundancy to the campus. In the event of disruption is service on one line, Unitil can adjust switches to restore power to the campus from an unaffected line.

The Police Standards and Training building has its own utility connections with the exception of electric. Currently their electric service is fed off the NHTI distribution system and they are invoiced by NHTI. Police Standards and Unitil have worked out a plan to install a separate electric service to their building. At the time of writing they were awaiting funding.

On February 25, 2015 representatives from NHTI, Milestone Construction, Yeaton Associates and Nobis Engineering met with Unitil. The purpose of the meeting was to ask Unitil about providing a second independent feed to the campus to provide backup during outages. Unitil explained that the present feed is tapped from a 34.5 KV Transmission Line across I-93, and that reaching out to a separate substation or transmission source would be cost prohibitive. Further discussions were held regarding the small line that crosses the highway at Fan Road. It was determined that this line is actually tapped from the same transmission line feeding south campus. This line needs to be upgraded when and if Police Standards and Training disconnect from NHTI power systems. Unitil offered that once again, it would cost prohibitive to feed the campus from the north in lieu of the south, and that they were actually put of the same transmission system.

NHTI asked about taking over the campus medium voltage systems including overhead & underground wiring, transformers and associated equipment. Unitil explained that they would not be in a position to take ownership of the existing systems. At this point, they are responsible for providing large power to a metering structure and transformers. This is there point of demarcation.

NHTI asked about what the options were if any to look to having the utility own and maintain the medium voltage systems. Unitil explained that they have done this at other campuses where segmented improvements were installed to Unitil standards and acceptance became incremental as the systems got closer to the campus building services. Unitil would envision working with NHTI consultants to provide specification assistance and inspections as the segments of the system were designed and replaced.

NHTI asked about cleaning up the existing overhead wiring and metering structure to eliminate unsightly overhead wiring and transformers at the south end of the campus. Unitil offered that they would be happy to work with NHTI and their consultants to develop a plan that put transformers on grade and services underground, but that the main transmission pole and wiring across I93 would have to remain. At the location where the wires come across I93, a new pole would be installed to transition to underground. The existing overhead wires that service the dormitories could be placed underground. Also, the existing overhead wires that run north to the treeline could be placed underground, and go back up in the air at the tree line along the west edge of campus. Empty

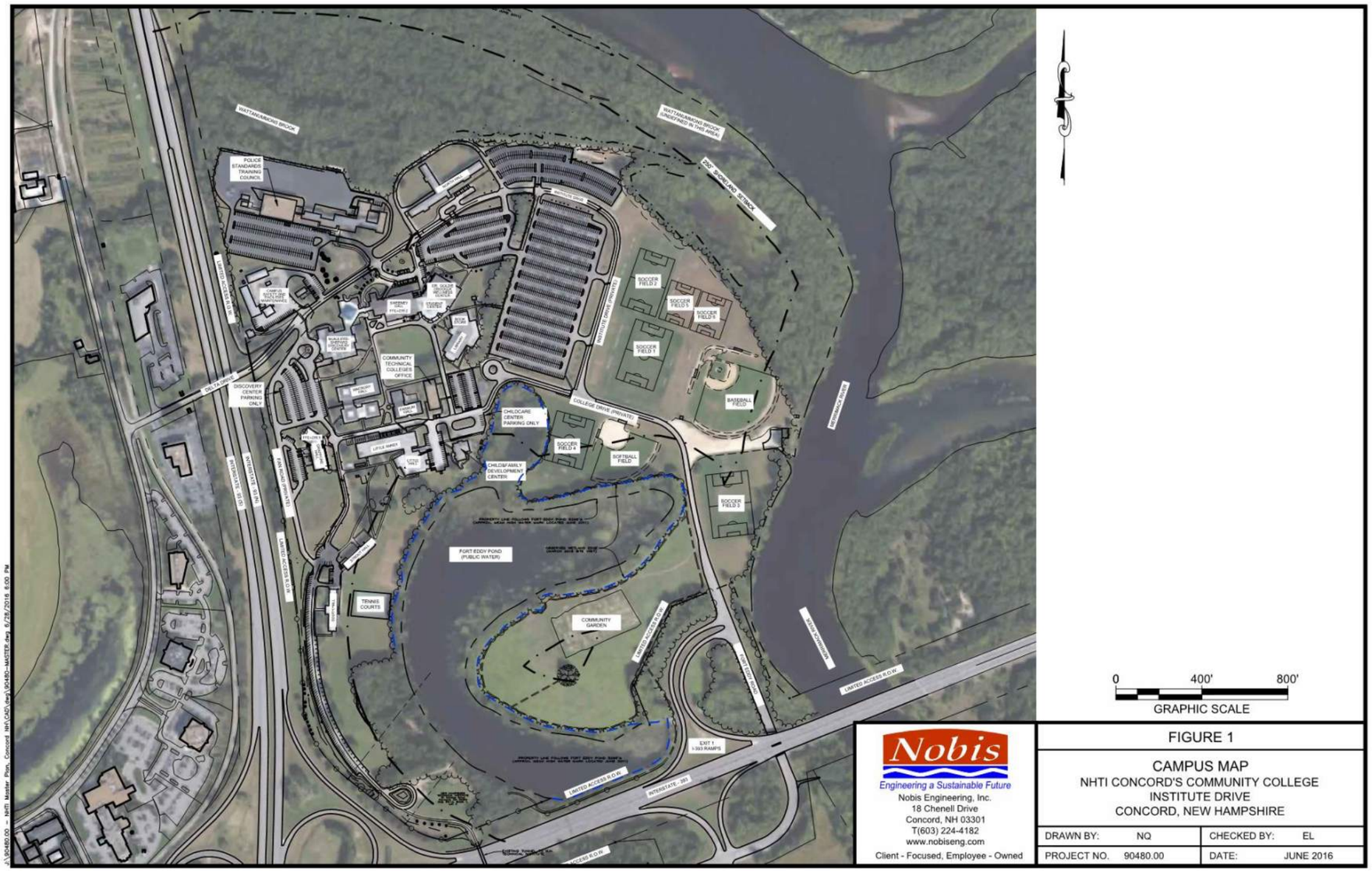
underground conduits could be installed from a new pad mounted metering center, and extend north to the first pole behind the tree screen. This would allow Unitil and other utilities to pull in new underground services, moving the point of demarcation closer to the central campus. This theme of tackling segments of the electrical system would continue until all of the NHTI owed medium voltage wiring and equipment is replaced with Unitil equipment and wiring.

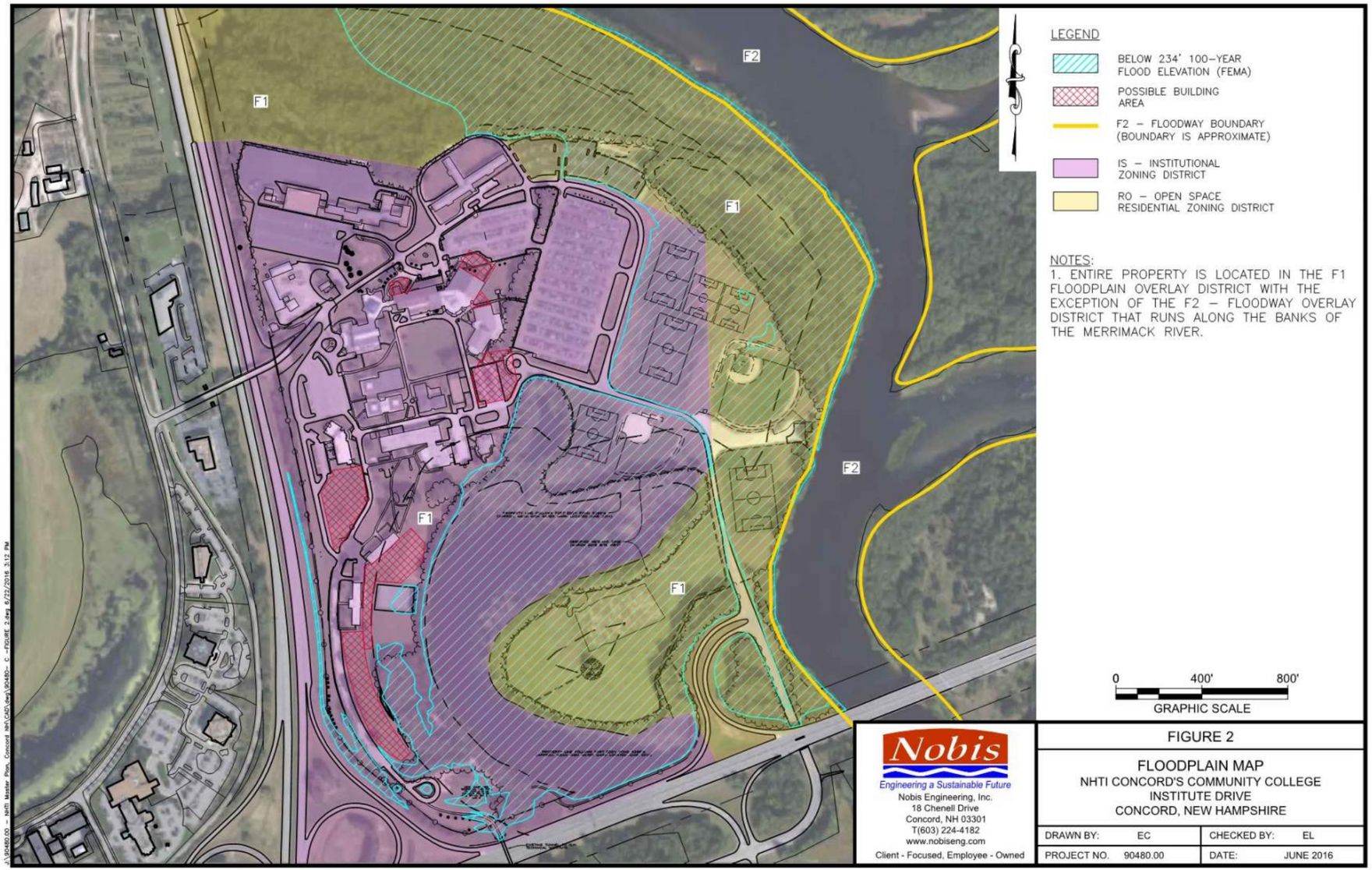
Future Building Opportunities

Within the site there are a number of locations to consider constructing future buildings. There is an available building pad south of Grappone Hall. The parking lot between Farnum Hall and the library is a possible building site. There is an infill opportunity between the Student Center and Bookstore. There are opportunities to expand Sweeney Hall and the Dr. Goldie Wellness Center to the north. There is available space adjacent to Strout Hall and South Hall for expanding and/or constructing new dormitories. The elevation in each of these areas is above 234 feet, the 100-year flood elevation.

The ball fields and community gardens along College Drive are below the elevation of the 100-year flood plain so they are not eligible to be building sites. However, they can continue to be used as ball fields, community gardens or future parking if constructed at the existing grade to preserve the flood storage capacity.

There is also an opportunity to construct a connector drive to the Strout Hall and South Hall Currently students have to drive around the entire campus to get to the dormitories. It may be possible to construct a driveway connecting College Drive directly to the parking lots for Strout and South Hall. A box culvert with headwalls would be required to hydraulically connect the wetland that would be truncated to the north. The elevation of the land along the proposed driveway route is currently below elevation 234, therefore flood storage would need to be evaluated and maintained. The driveway would likely need to be closed periodically when the river is at or near flood stage. Further consideration would need to be given to permits including a NHDES Shoreland Permit and Dredge and Fill permit for impact to wetlands.


WATTANAMONO BROOK
POLICE STANDARDS TRAINING COUNCIL
DELTA DRIVE
DISCOVERY CENTER PARKING ONLY
COMMUNITY TECHNICAL COLLEGES OFFICE
CHILDCARE CENTER PARKING ONLY
CHILD/FAMILY DEVELOPMENT CENTER
FORT EDDY POND (PUBLIC WATER)
TENNIS COURTS
COMMUNITY GARDEN
COLLEGE DRIVE (PRIVATE)
SOCCER FIELD 7
SOCCER FIELD 6
SOCCER FIELD 1
SOCCER FIELD 4
SOFTBALL FIELD
BASEBALL FIELD
SOCCER FIELDS 3
SOCCER FIELDS 5
SOCCER FIELDS 8
WATTANAMONO BROOK (UNDERGROUND IN THIS AREA)
200' SHORELAND SETBACK
WASHINGTON DRIVE (PRIVATE)
INSTITUTE DRIVE (PRIVATE)
LIMITED ACCESS R.O.W.
INTERSTATE 393
EXIT 1 I-393 RAMPS
0
400'
800'
GRAPHIC SCALE
Nobis
Engineering a Sustainable Future
Nobis Engineering, Inc.
18 Chenell Drive
Concord, NH 03301
T(603) 224-4182
www.nobiseng.com
Client - Focused, Employee - Owned
FIGURE 1
CAMPUS MAP
NHTI CONCORD'S COMMUNITY COLLEGE
INSTITUTE DRIVE
CONCORD, NEW HAMPSHIRE
DRAWN BY: NQ
CHECKED BY: EL
PROJECT NO. 90480.00
DATE: JUNE 2016


F1
F2
F1
F1
F1
F2
LEGEND
BELOW 234' 100-YEAR FLOOD ELEVATION (FEMA)
POSSIBLE BUILDING AREA
F2 – FLOODWAY BOUNDARY (BOUNDARY IS APPROXIMATE)
IS – INSTITUTIONAL ZONING DISTRICT
RO – OPEN SPACE RESIDENTIAL ZONING DISTRICT
NOTES:
1. ENTIRE PROPERTY IS LOCATED IN THE F1 FLOODPLAIN OVERLAY DISTRICT WITH THE EXCEPTION OF THE F2 – FLOODWAY OVERLAY DISTRICT THAT RUNS ALONG THE BANKS OF THE MERRIMACK RIVER.
0
400'
800'
GRAPHIC SCALE
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Concord, NH 03301
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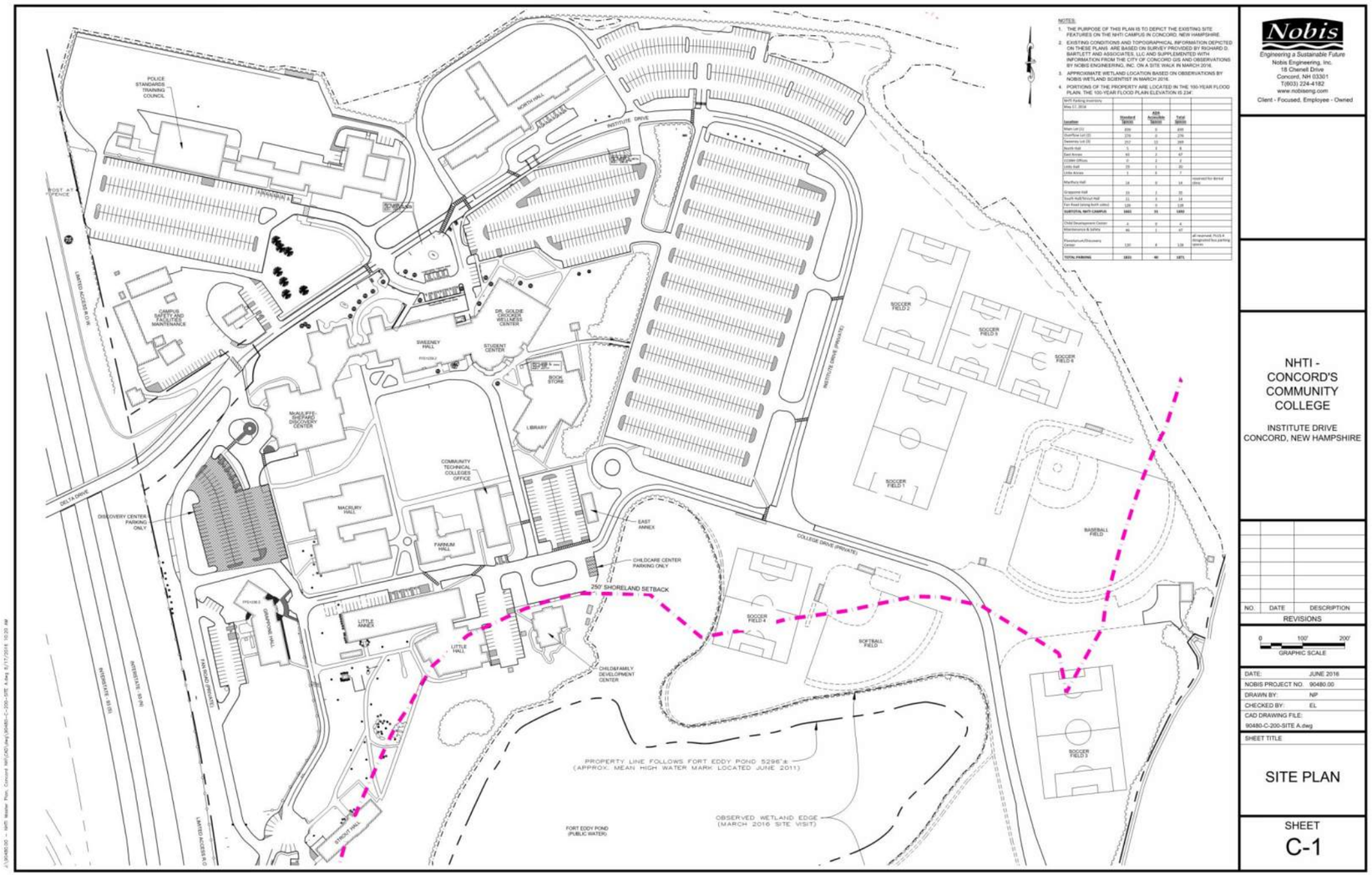
FIGURE 2
FLOODPLAIN MAP
NHTI CONCORD'S COMMUNITY COLLEGE
INSTITUTE DRIVE
CONCORD, NEW HAMPSHIRE
DRAWN BY: EC
CHECKED BY: EL
PROJECT NO. 90480.00
DATE: JUNE 2016


NOTES:
1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING SITE FEATURES ON THE NHTI CAMPUS IN CONCORD, NEW HAMPSHIRE.
2. EXISTING CONDITIONS AND TOPOGRAPHICAL INFORMATION DEPICTED ON THESE PLANS ARE BASED ON SURVEY PROVIDED BY RICHARD D. BARTLETT AND ASSOCIATES, LLC AND SUPPLEMENTED WITH INFORMATION FROM THE CITY OF CONCORD GIS AND OBSERVATIONS BY NOBIS ENGINEERING, INC. ON A SITE WALK IN MARCH 2016.
3. APPROXIMATE WETLAND LOCATION BASED ON OBSERVATIONS BY NOBIS WETLAND SCIENTIST IN MARCH 2016.
4. PORTIONS OF THE PROPERTY ARE LOCATED IN THE 100-YEAR FLOOD PLAIN. THE 100-YEAR FLOOD PLAIN ELEVATION IS 234'.
NHTI Parking Inventory
May 27, 2016
Location
Standard Spaces
ADA Accessible Spaces
Total Spaces
Main Lot (1)
Overflow Lot (2)
Sweeney Lot (3)
North Hall
East Annex
Golden Offices
Little Hall
Little Annex
MacRury Hall
reserved for dental clinic
Grappone Hall
South Hall/School Hall
Fire Road (along North side)
SUBTOTAL NHTI CAMPUS
Child Development Center
Miscellaneous & Safety
all reserved, PoCO # designated fire lane/no parking spaces
Planetarium/Discovery Center
TOTAL PARKING
POLICE STANDARDS TRAINING COUNCIL
NORTH HALL
INSTITUTE DRIVE
POST AT FENCE
LIMITED ACCESS R/W
CAMPUS SAFETY AND FACILITIES MAINTENANCE
SWEENEY HALL
STUDENT CENTER
DR. GOLDIE CALDWELL WELLNESS CENTER
BOOK STORE
LIBRARY
MCAULIFFE-SHEPARD DISCOVERY CENTER
COMMUNITY TECHNICAL COLLEGES OFFICE
MACRURY HALL
FARNUM HALL
DELTA DRIVE
DISCOVERY CENTER PARKING ONLY
INTERSTATE 93 N
INTERSTATE 93 S
EAST ANNEX
CHILDCARE CENTER PARKING ONLY
250' SHORELAND SETBACK
GRAPPONE HALL
PARKING GARAGE
LITTLE ANNEX
LITTLE HALL
CHILD&FAMILY DEVELOPMENT CENTER
STRODT HALL
LIMITED ACCESS R/W
PROPERTY LINE FOLLOWS FORT EDDY POND 5296'± (APPROX. MEAN HIGH WATER MARK LOCATED JUNE 2011)
OBSERVED WETLAND EDGE (MARCH 2016 SITE VISIT)
FORT EDDY POND (PUBLIC WATER)
INSTITUTE DRIVE (PRIVATE)
COLLEGE DRIVE (PRIVATE)
SOCCER FIELD 2
SOCCER FIELD 3
SOCCER FIELD 6
SOCCER FIELD 1
BASEBALL FIELD
SOCCER FIELD 4
SOFTBALL FIELD
SOCCER FIELD 5
Nobis
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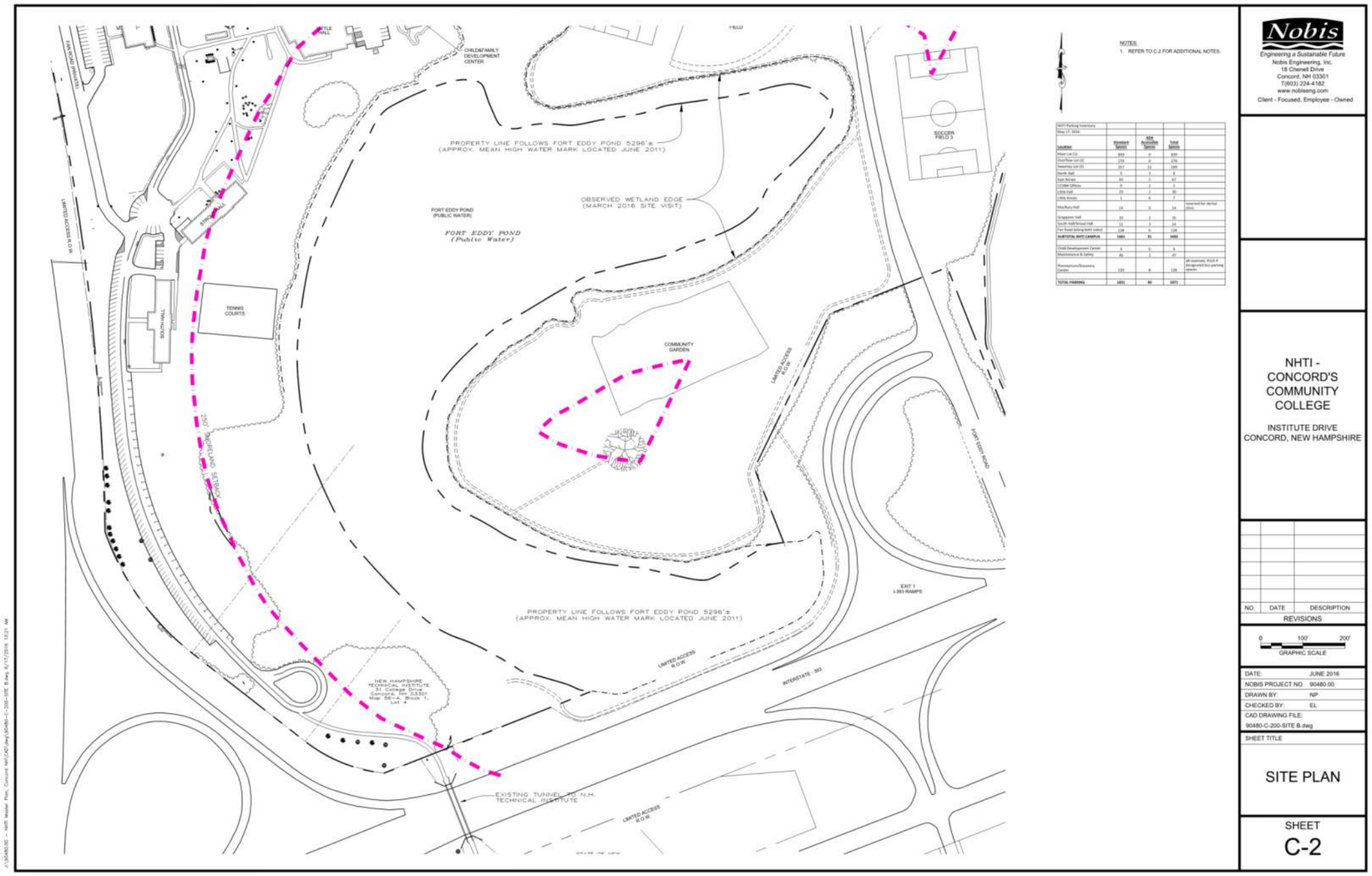
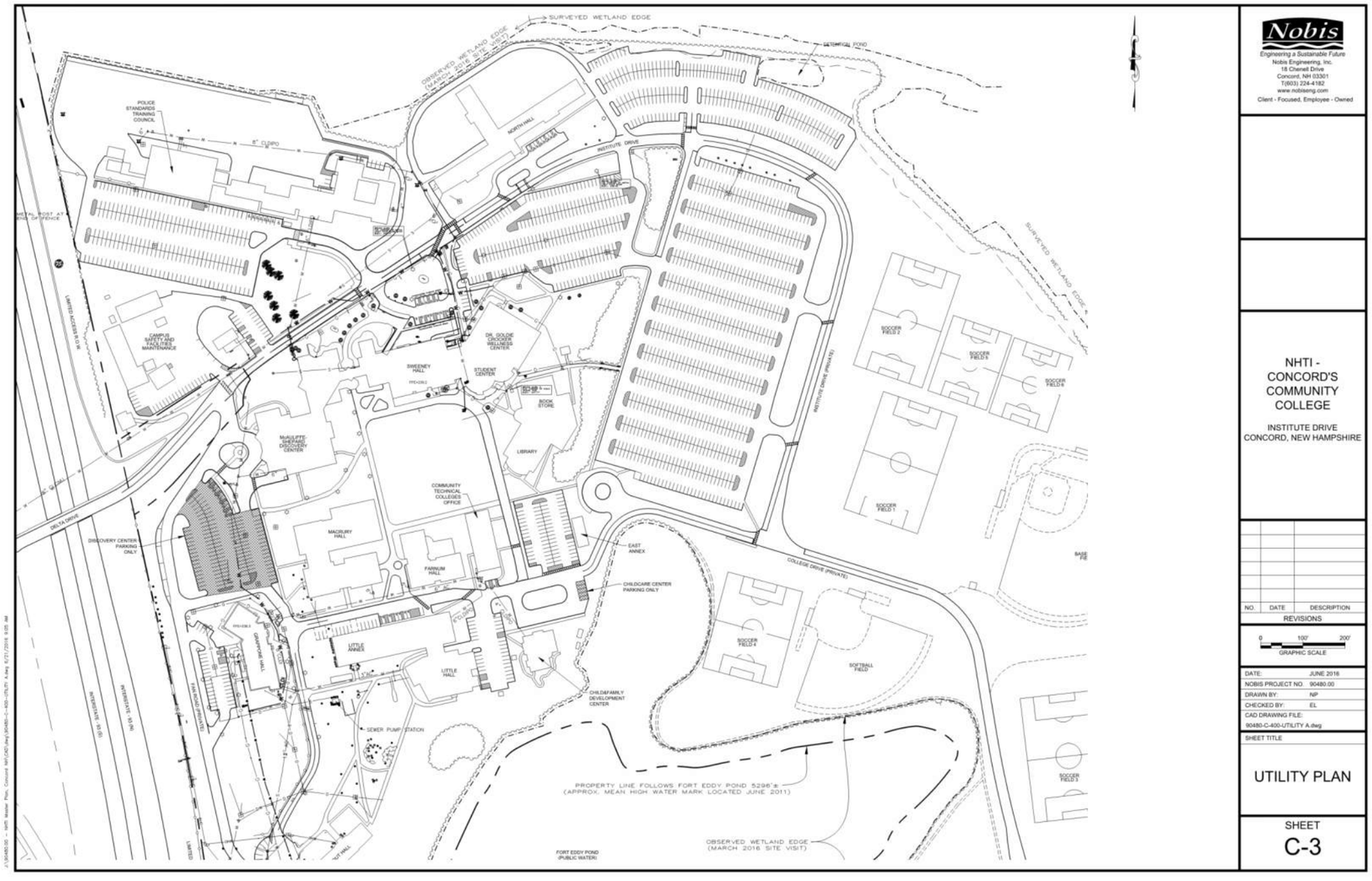
Nobis Engineering, Inc.
18 Chenell Drive
Concord, NH 03301
T(603) 224-4182
www.nobiseng.com
Client - Focused, Employee - Owned
NHTI - CONCORD'S COMMUNITY COLLEGE
INSTITUTE DRIVE
CONCORD, NEW HAMPSHIRE
NO.
DATE
DESCRIPTION
REVISIONS
0
100'
200'
GRAPHIC SCALE
DATE: JUNE 2016
NOBIS PROJECT NO. 90480.00
DRAWN BY: NP
CHECKED BY: EL
CAD DRAWING FILE: 90480-C-200-SITE A.dwg
SHEET TITLE
SITE PLAN
SHEET
C-1

Site Plan Civil Analysis

Executive Summary




SURVEYED WETLAND EDGE
OBSERVED WETLAND EDGE (MARCH 2016 SITE VISIT)
HISTORICAL POND
POLICE STANDARDS TRAINING COUNCIL
8" CIPPO
INSTITUTE DRIVE
NORTH HALL
CAMPUS SAFETY AND FACILITIES MAINTENANCE
SWEENEY HALL
STUDENT CENTER
DR. GLODE CROCKER WELLNESS CENTER
BOOK STORE
LIBRARY
McAULIFFE-SHEPARD DISCOVERY CENTER
COMMUNITY TECHNICAL COLLEGES OFFICE
MACBURY HALL
FANNUM HALL
EAST ANNEX
CHILDCARE CENTER PARKING ONLY
COLLEGE DRIVE (PRIVATE)
SOCCER FIELD 1
SOCCER FIELD 2
SOCCER FIELD 3
SOCCER FIELD 4
SOCCER FIELD 5
SOCCER FIELD 6
SOFTBALL FIELD
DISCOVERY CENTER PARKING ONLY
LITTLE ANNEX
LITTLE HALL
CHILD&FAMILY DEVELOPMENT CENTER
SEWER PUMP STATION
PROPERTY LINE FOLLOWS FORT EDDY POND 5296'± (APPROX. MEAN HIGH WATER MARK LOCATED JUNE 2011)
FORT EDDY POND (PUBLIC WATER)
Nobis
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Nobis Engineering, Inc.
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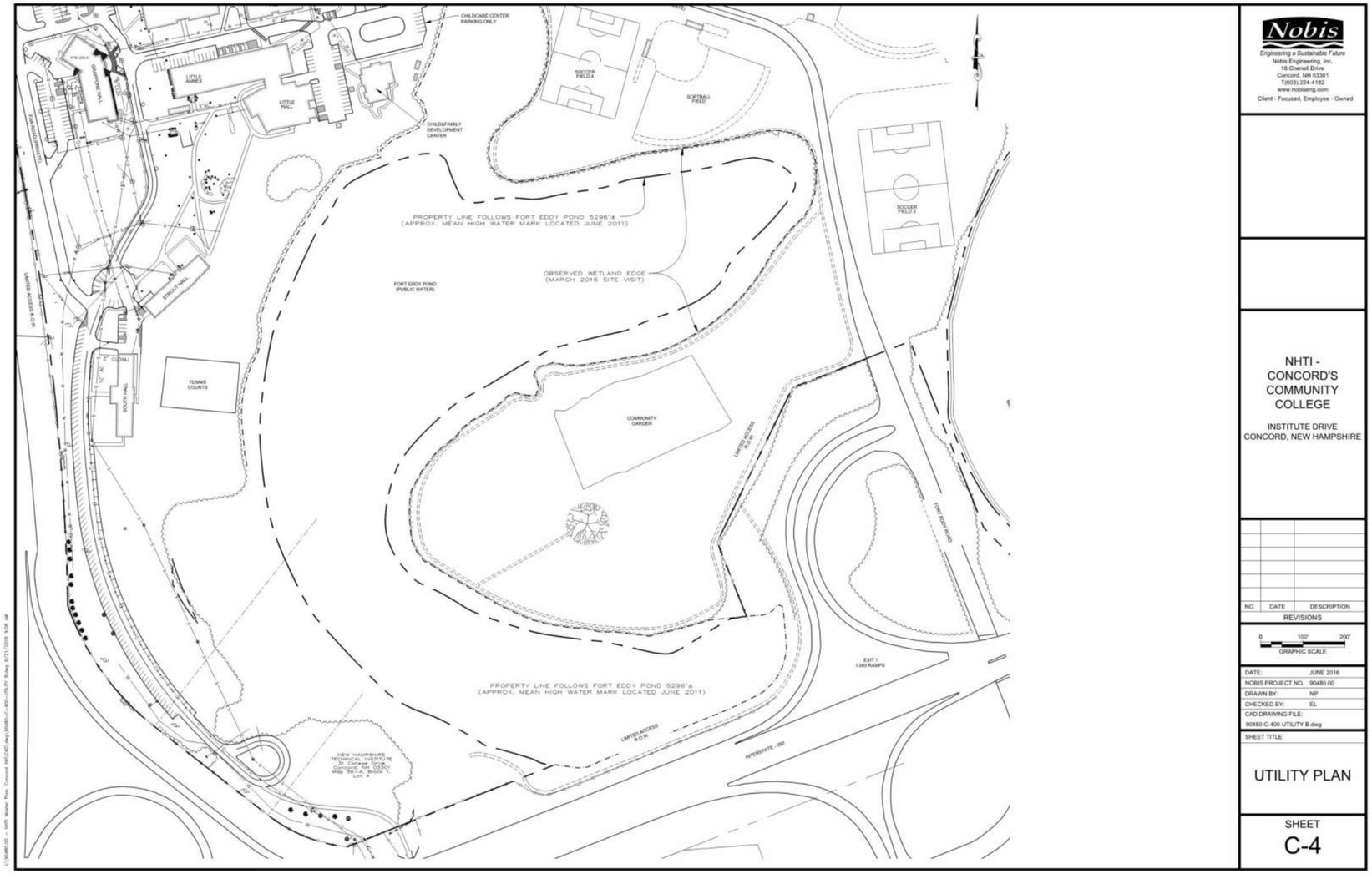
www.nobiseng.com
Client - Focused, Employee - Owned
NHTI - CONCORD'S COMMUNITY COLLEGE
INSTITUTE DRIVE
CONCORD, NEW HAMPSHIRE
NO. DATE DESCRIPTION
REVISIONS
0 100' 200'
GRAPHIC SCALE
DATE: JUNE 2016
NOBIS PROJECT NO. 90480.00
DRAWN BY: NP
CHECKED BY: EL
CAD DRAWING FILE: 90480-C-400-UTILITY A.dwg
SHEET TITLE
UTILITY PLAN
SHEET
C-3


CHILDCARE CENTER PARKING ONLY
LITTLE ANNEX
LITTLE HALL
CHILD/FAMILY DEVELOPMENT CENTER
SOCCER FIELD 4
SOFTBALL FIELD
SOCCER FIELD 3
PROPERTY LINE FOLLOWS FORT EDDY POND 5296'± (APPROX. MEAN HIGH WATER MARK LOCATED JUNE 2011)
OBSERVED WETLAND EDGE (MARCH 2016 SITE VISIT)
FORT EDDY POND (PUBLIC WATER)
TENNIS COURTS
SOUTH HALL
COMMUNITY GARDEN
LIMITED ACCESS R.O.W.
FORT EDDY ROAD
EXIT 1 I-393 RAMPS
INTERSTATE - 393
NEW HAMPSHIRE TECHNICAL INSTITUTE 31 Campus Drive, Concord, NH 03301 Map 58, Block 1, Lot 2
PROPERTY LINE FOLLOWS FORT EDDY POND 5296'± (APPROX. MEAN HIGH WATER MARK LOCATED JUNE 2011)
Nobis
Engineering a Sustainable Future
Nobis Engineering, Inc.
18 Chenell Drive
Concord, NH 03301
T(603) 224-4182
www.nobiseng.com
Client - Focused, Employee - Owned
NHTI - CONCORD'S COMMUNITY COLLEGE
INSTITUTE DRIVE
CONCORD, NEW HAMPSHIRE
NO. DATE DESCRIPTION
REVISIONS
0 100' 200'
GRAPHIC SCALE
DATE: JUNE 2016
NOBIS PROJECT NO. 90480.00
DRAWN BY: NP
CHECKED BY: EL
CAD DRAWING FILE: 90480-C-400-UTILITY B.dwg
SHEET TITLE
UTILITY PLAN
SHEET
C-4

WATTANUMMONS BROOK
WATTANUMMONS BROOK
(Undefined, on Utility Poles)
MERRIMACK RIVER
FORT EDDY POND
(Public Water)
MERRIMACK RIVER
Nobis
Engineering a Sustainable Future
Nobis Engineering, Inc.
18 Chenell Drive
Concord, NH 03301
T(603) 224-4182
www.nobiseng.com
Client - Focused, Employee - Owned
NHTI - CONCORD'S COMMUNITY COLLEGE
INSTITUTE DRIVE
CONCORD, NEW HAMPSHIRE
NO.
DATE
DESCRIPTION
REVISIONS
0
200'
400'
GRAPHIC SCALE
DATE: JUNE 2016
NOBIS PROJECT NO. 90480.00
DRAWN BY: NP
CHECKED BY: EL
CAD DRAWING FILE:
90480- C -300-G&D.dwg
SHEET TITLE
GRADING PLAN
SHEET
C-5

Specialty Rooms/Labs

Room	M	T	W	R	F	201610 Total Courses	% Use (43 hrs)
FARNUM 101	7	6	8	6	0	27	63%
FARNUM 102	4	3	4	4	0	15	35%
FARNUM 104	4	4	4	8	0	20	47%
GRAPPN 136	0	1	2	6	0	9	21%
GRAPPN 218	6	6	8	5	0	25	58%
LITTLE109	0	0	3	0	0	3	7%
LITTLE 110	2	0	4	3	0	9	21%
LITTLE 111	6	4	6	6	4	26	60%
LITTLE 112	5	3	3	5	7	23	53%
LITTLE 128	3	3	3	8	4	21	49%
LITTLE 131	0	5	2	3	0	10	23%
LITTLE 133	0	3	6	3	0	12	28%
LITTLE 201	8	7	8	6	2	31	72%
LITTLE 202	4	6	6	8	2	26	60%
LITTLE 204	2	3	4	3	0	12	28%
LITTLE 205	0	5	2	5	6	18	42%
LITTLE 213	0	0	0	0	6	6	14%
LITTLE 230	3	6	6	6	6	27	63%
LITTLE 231	4	2	5	6	3	20	47%
LITTLE 234	0	0	0	3	6	9	21%
LITTLE 235	0	3	6	6	3	18	42%
MACRUR 103	0	0	7	7	0	14	33%
MACRUR 104	7	3	8	7	0	25	58%
MACRUR 105	0	0	0	7	7	14	33%
MACRUR 108	5	5	0	6	4	20	47%
MACRUR 110	2	2	6	4	0	14	33%
MACRUR 116	3	5	3	3	0	14	33%
MACRUR 123	0	0	0	6	0	6	14%
MACRUR 124	0	7	0	0	4	11	26%
MACRUR 128	0	0	0	6	0	6	14%
MACRUR 137	6	2	6	2	0	16	37%
MACRUR 138	7	6	6	7	0	26	60%
MACRUR 139	8	7	8	8	8	39	91%
MACRUR 201	0	7	7	0	0	14	33%
MACRUR 208	7	3	5	2	2	19	44%
SWEENY 208	5	6	3	6	3	23	53%
SWEENY 217	9	7	8	8	6	38	88%
SWEENY 218	4	6	6	5	6	27	63%
	121	136	163	184	89	693	1612%

	M	T	W	TH	F	WEEK
Lab Utilization	31%	35%	42%	48%	23%	37%

Assumes 9 hrs per day maximum utilization per room

Small Classroom

Room	M	T	W	R	F	201610 Total Courses	% Use (43 hrs)
FARNUM 105	5	2	6	5	3	21	49%
FARNUM 109	2	5	6	4	0	17	40%
	7	7	12	9	3	38	88%

	M	T	W	TH	F	WEEK	WEEK
S. CR Utilization	39%	39%	67%	50%	17%	44%	44%

Natural Science Labs

LITTLE 226	8	6	4	6	6	30	70%
LITTLE 228	4	5	6	4	3	22	51%
MACRUR 200	7	7	8	7	4	33	77%
MACRUR 206	4	4	8	6	5	27	63%
MACRUR 210	4	0	5	0	0	9	21%
	27	22	31	23	18	121	281%

	M	T	W	TH	F	WEEK
S. CR Utilization	60%	49%	69%	51%	40%	56%

Lecture Hall

Room	M	T	W	R	F	201610 Total Courses	% Use (43 hrs)
GRAPPN 106	5	5	3	0	0	13	30%
GRAPPN 301	3	5	5	5	0	18	42%
LITTLE 114	4	6	6	4	4	24	56%
LITTLE 224	8	5	8	4	5	30	70%
MACRUR 138	7	6	6	7	0	26	60%
MACRUR 140	6	5	7	6	2	26	60%
	33	32	35	26	11	137	319%

	M	T	W	TH	F	WEEK
Lecture Utilizatio	61%	59%	65%	48%	20%	53%

General Purpose Classroom

Room	M	T	W	R	F	201610 Total Courses	% Use (43 hrs)
GRAPPN 207	7	6	5	8	5	31	72%
GRAPPN 306	6	5	8	4	2	25	58%
GRAPPN 323	9	3	5	9	4	30	70%
GRAPPN 324	8	7	6	6	2	29	67%
GRAPPN 325	8	6	8	7	4	33	77%
LITTLE 113	8	6	8	6	6	34	79%
LITTLE 214	8	4	6	6	1	25	58%
LITTLE 221	6	6	3	6	2	23	53%
LITTLE 222	7	6	6	6	0	25	58%
MACRUR 101	8	6	9	8	5	36	84%
MACRUR 212	8	5	6	5	2	26	60%
MACRUR 217	8	5	6	7	0	26	60%
STDCTR 235	4	3	4	6	0	17	40%
SWEENY 210	7	4	6	7	0	24	56%
SWEENY 211	8	7	8	7	3	33	77%
SWEENY 212	8	5	3	5	0	21	49%
SWEENY 219	6	6	6	6	0	24	56%
SWEENY 220	6	6	3	7	0	22	51%
SWEENY 307	7	5	7	7	2	28	65%
SWEENY 308	6	6	6	4	0	22	51%
SWEENY 309	6	6	7	6	3	28	65%
SWEENY 310	6	6	5	3	0	20	47%
SWEENY 311	6	6	8	6	2	28	65%
SWEENY 314	8	3	7	3	2	23	53%
SWEENY 315	6	7	6	8	3	30	70%
SWEENY 316	8	4	7	6	0	25	58%
SWEENY 317	8	6	8	6	2	30	70%
SWEENY 318	6	6	5	8	6	31	72%
Totals	197	151	172	173	56	749	1742%

	M	T	W	TH	F	WEEK
Lecture Utilizatio	78%	60%	68%	69%	22%	62%

Building	Dept.	Room No.	Room Name	Type	NSF	NASF	Occupancy	Classroom < 20	Classroom > 20	Lecture Hall	Auditorium > 60	Student Study	Computer Lab	Lab	Office	Conference room	Single Room	Double Room	Recreation Space
Child Care		Room No.	Room Name	Subject	Area		Occupancy												
				Subtotal	4,800	4,022	84%	0	0	0	0	0	0	0	2	0			
				Area-Gross	5,336														
Crocker Wellness		Room No.	Room Name	Subject	Area		Occupancy												
				Subtotal	15,709	14,840	94%	0	0	0	0	0	0	0	1	0			
				Area-Gross-1st	14,506														
				Area-Gross-2nd	2,265														
				Area-Gross	16,771														
Dental		Room No.	Room Name	Type	Area		Occupancy												
				Subtotal	17,483	13,048	75%	0	2	2	0	0	1	2	13	1			
				Area-Gross	19,024														
Farnum Hall		Room N0.	Room Name	Subject	Area		Occupancy												
				Subtotal	8,404	6,641	79%		2				4		13	19			
				Area-Gross	9,444														
Gappone Hall		Room N0.	Room Name	Subject	Area		Occupancy												
					29,459	19,981	68%	5	6	1	1	1	1	1	23	3			
				Area-Gross-1st	13,119														
				Area-Gross-2nd	10,293														
				Area-Gross-3rd	9,405														
					32,817														
Library		Room No.	Room Name	Subject	Area		Occupancy												
			Library only	Subtotal	16,757	13,983	83%												
			Academic Center	Subtotal	3,814	3,814	100%												
			Bookstore	Subtotal	2,349	2,349	100%	0	1	0	0	5	2	0	7	2			
				Area-Gross	24,841	20,146													
Little Hall		Room No.	Room Name	Subject	Area		Occupancy												
					38,412	30,760	80%	0	4	2	0	0	5	13	32	1			
				Area-Gross-1st Flr	20,799														
				Area-Gross-2nd Flr	20,755														
					41,554		74%												
Dining Commons		Room No.	Room Name	Subject	Area														
			Dining Commons	Area-Gross	13,960	12,065													
MacRury Hall		Room No.	Room Name	Subject	Area		Occupancy												
				Subtotal	20,914	15,515	74%	4	3	0	0	1	1	10	10	2			
				Area-Gross-1st Flr	11,452														
				Area-Gross-2nd Flr	11,588														
					23,040														
North Hall		Room No.	Room Name	Subject	Area		Occupancy												
				Net	40,644	33,134	82%	0	0	0	0	0	1	0	27	2	0	3	81	6
				Area-Gross-1st Flr	22,615														
				Area-Gross-2nd Flr	22,405														
					45,020														

Executive Summary
Master Space Model Summary

Programming

Building	Dept.	Room No.	Room Name	Type	NSF	NASF	Occupancy	Classroom <20	Classroom >20	Lecture Hall	Auditorium >60	Student Study	Computer Lab	Lab	Office	Conference room	Single Room	Double Room	Recreation Space					
South Hall		Room No.	Room Name	Subject	Area		Occupancy																	
					22,302	15,262	68%	0	0	0	0	1	0	0	2	0	0	53	4					
				Area-Gross-1st	8,396																			
				Area-Gross-2nd	8,324																			
				Area-Gross-3rd	8,324																			
					25,044		61%																	
Strout Hall		Room No.	Room Name	Subject	Area		Occupancy																	
					19,982	14,072	70%					1			3		4	51	2					
				Area-Gross-1st	7,486																			
				Area-Gross-2nd	7,398																			
				Area-Gross-3rd	7,398																			
					22,282		63%																	
Student Center		Room No.	Room Name	Subject	Area		Occupancy																	
					18,165	12,473	69%					1			14	3			5					
				Area-Gross-1st Flr	12,270																			
				Area-Gross-2nd Flr	7,633																			
					19,903		63%																	
Sweeny Hall		Room No.	Room Name	Subject	Area		Occupancy																	
					44,185	34,137	77%	2	15		1		2		20	1			41					
				Area-Gross-1st	16,151																			
				Area-Gross-2nd	13,306																			
				Area-Gross-3rd	13,098																			
					42,555		80%																	
White Hall		Room No.	Room Name	Subject	Area																			
			Campus IT	Area - Gross est.	2800																			
Maintenance Bldgs		Room No.	Room Name	Subject	Area																			
(Does not incl. Storage Bays 1-6)			Maintenance	Area - Gross	5000																			
Security & Busness Offices		Room No.	Room Name	Subject	Area																			
				Area - Gross est.	2,800																			
CCSNH Bldg		Room No.	Room Name	Subject	Area																			
					7,600																			
					GSA	NASF																		
			GRAND TOTAL		322,295	234,031	73%	11	33	5	2	9	18	26	167	34	0	7	185	58				
			Totals -w/o Dorms & Wellness		213,178	156,723	74%																	
			Totals - Academic Only		190,133	144,250	76%																	
Discovery Center		Room Number	Room Name	Subject	Area		Occupancy																	
					33,640	24,791	74%																	

NSF	**Net Square Feet**
GSF	**Gross Square Feet**
NASF	**Net Assignable Square Feet**

- **Master Space model in excel format , showing all rooms on campus is provided as part of the Master Plan**

NHTI
Space Analysis Benchmarks

					Ratio's					
Institution	GSF	Headcount	FTE	NASF	Gross SF Headcount	Gross SF FTE	FTE Headcount	NASF Headcount	NASF FTE	NASF Gross SF
NHTI (Total incl'g Residence Halls & Wellness)	322,295	4,292	3500	234031	75	92	0.82	55	67	73%
NHTI (w/o Residence Halls & Wellness)	213,178	4,292	3500	156723	50	61	0.82	37	45	74%
Austin Community Colleges (7 campuses)*	1,000,000	33,039			29.8		0.53			
ACC Benchmarking Study recommendation						110				
Alamo Community College		8,000								
Dallas County Community College		50,000								
El Paso Community College		8,000								
N. Harris Montgomery C.C.										
San Jacinto Community College						140				
Tarrant County Community College		8,000								
Texas CC as a peer Group					58	110	0.55			
THECB Standard					50	175			60	
SCUP Standard (2004 report)					100			71		
Carteret Community College (NC)	156,827	2,308	1,423			139	0.62			
North Carolina CC ave						98				
Alabama Community Colleges				7,510,527					144	
Ohio Community Colleges Ave	6,438,659			3,624,293						56%
Ohio State Community Colleges Ave	4,938,223			3,533,090						72%
Ohio Technical Colleges	366,411			252,145						69%

THECB - Texas Higher Education Coordinating Board, Developed for 4 years colleges and includes dorms & athletic facilities

SCUP - Society For College & University Planning

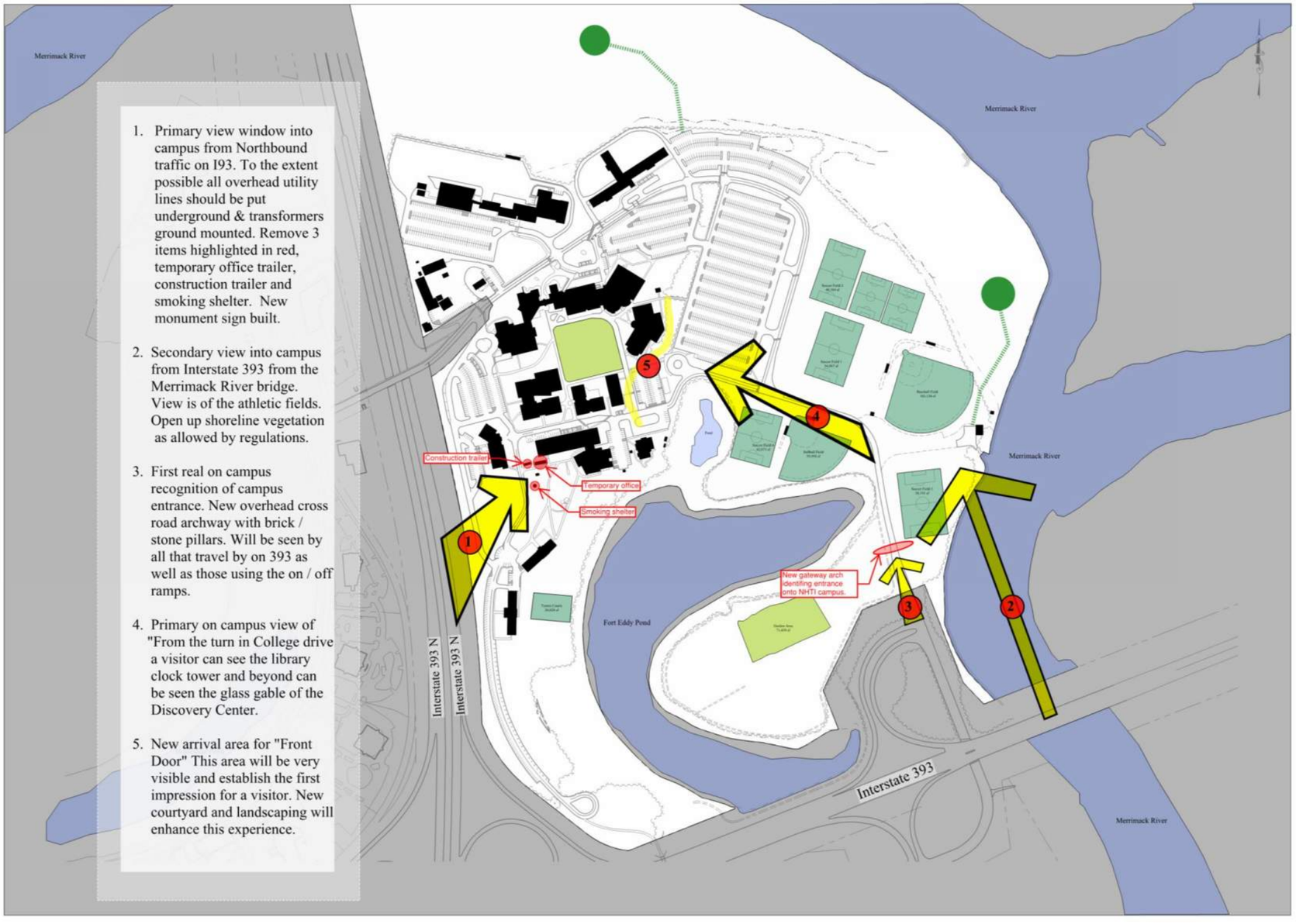
* Austin community College (ACC) Facilities Master Plan 2007 by Sasaki Associates

** Blank spaces are where no information was available

Part 2:
Master Plan Recommendations

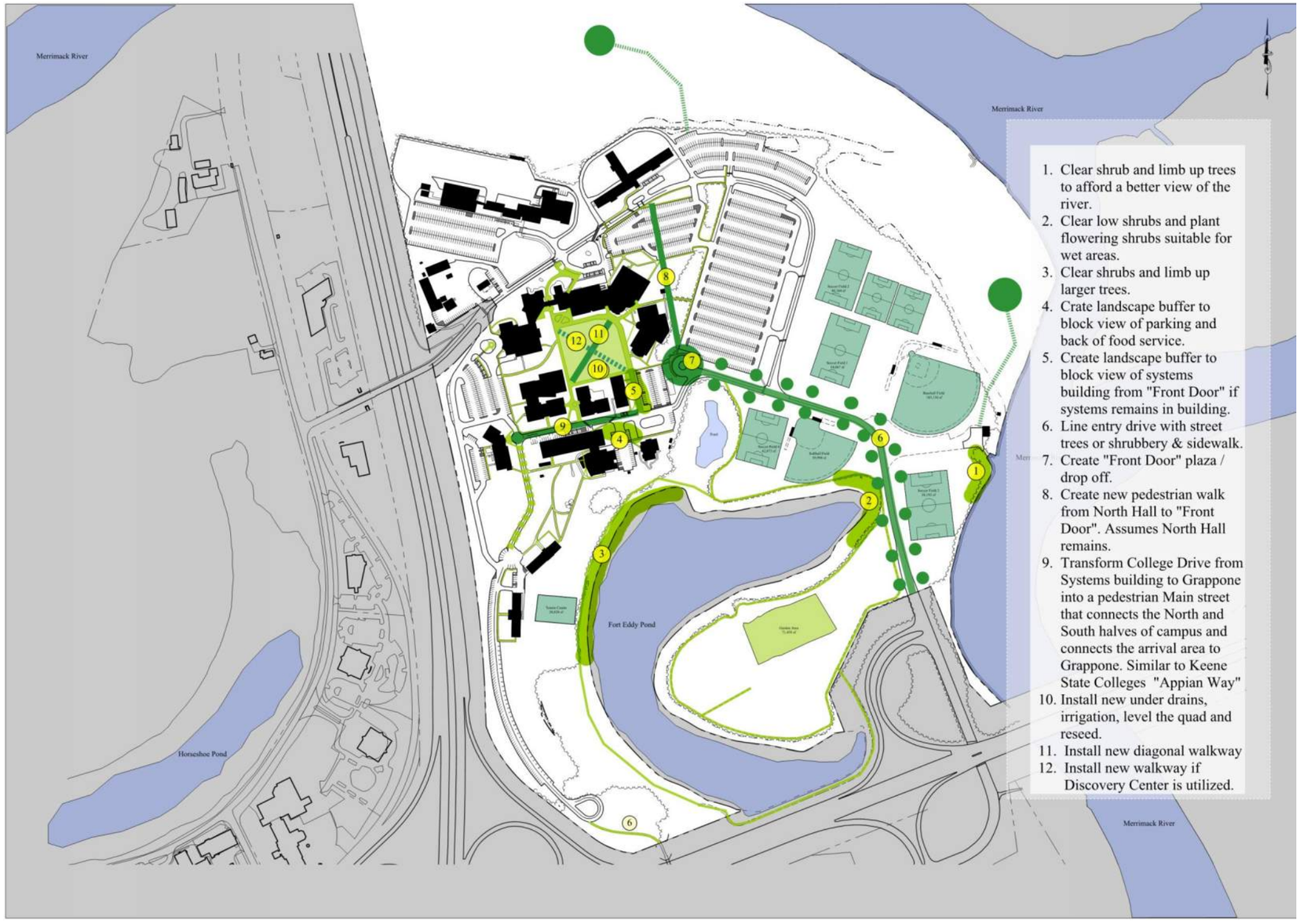
Master Plan Recommendations

Visually Identity



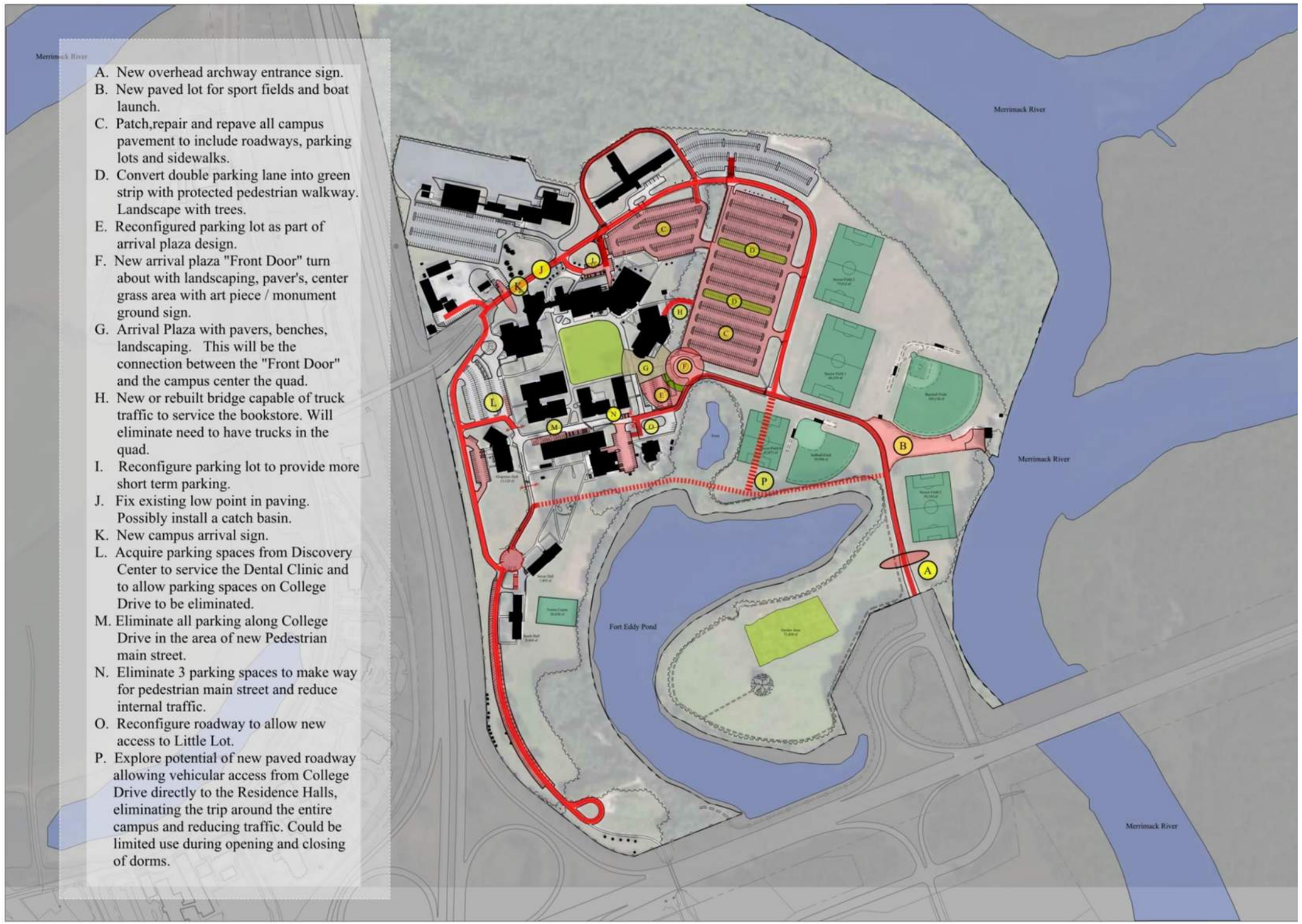
Master Plan Recommendations

Pedestrian Circulation



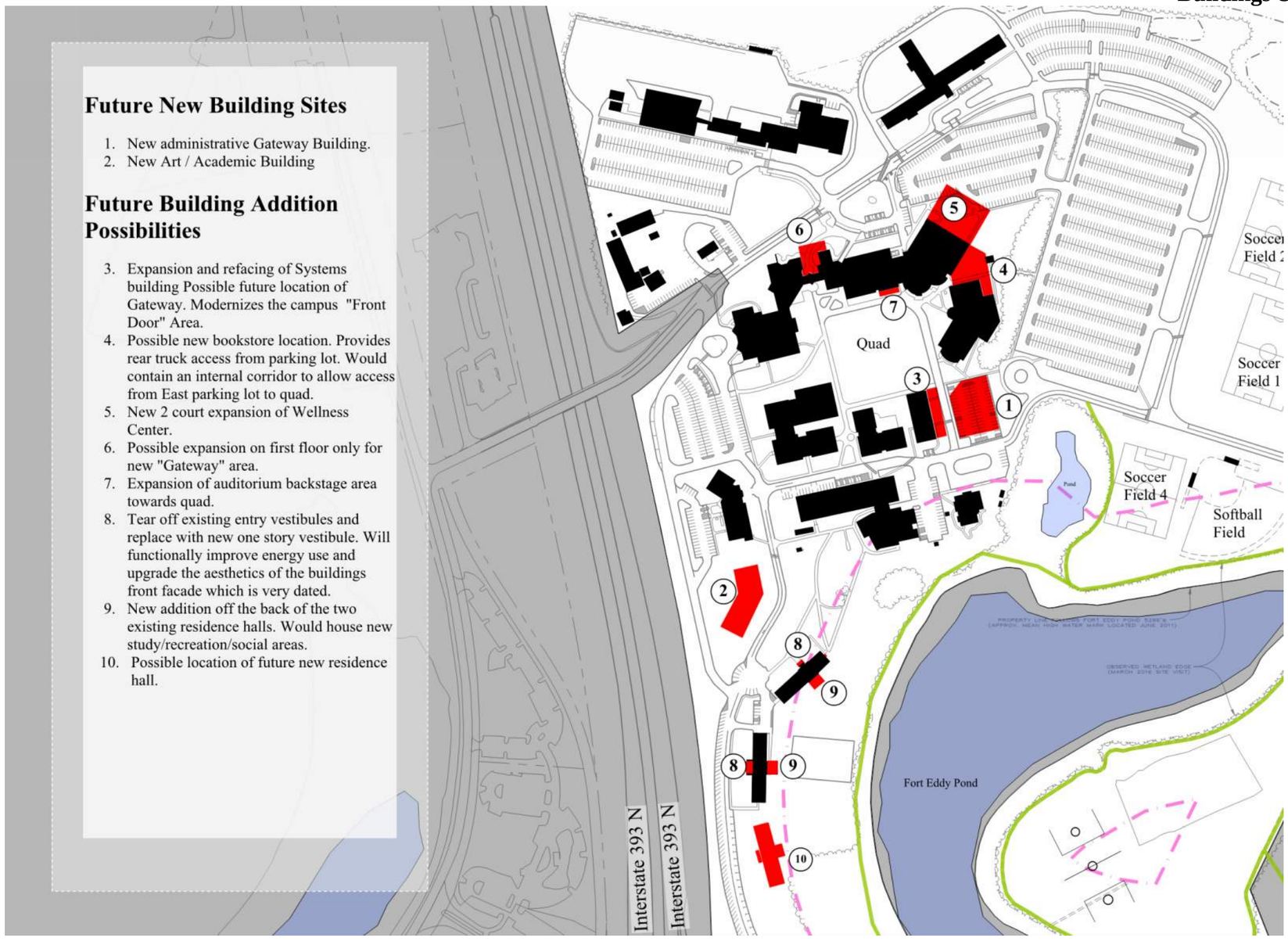
Master Plan Recommendations

Vehicular Circulation



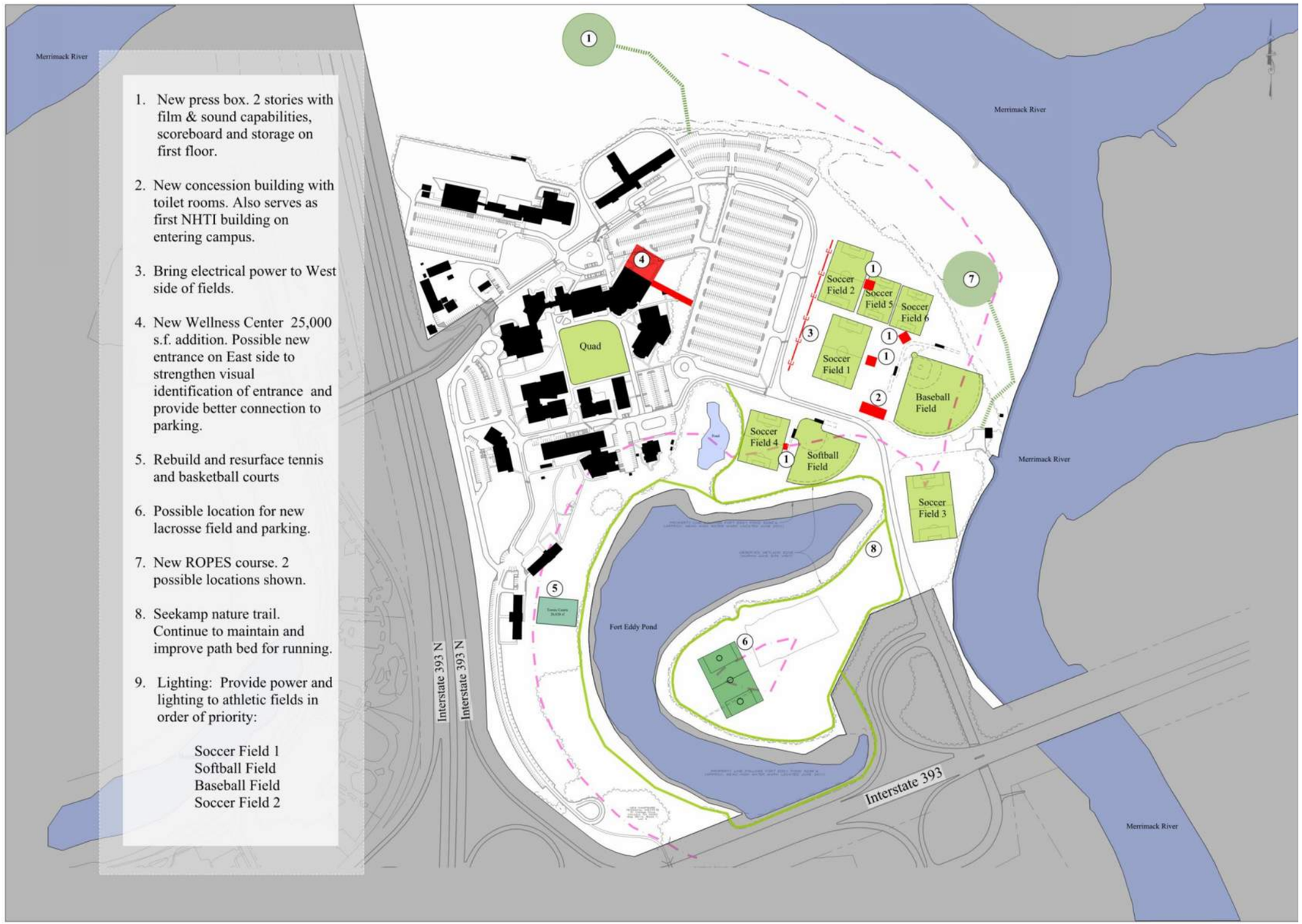
Master Plan Recommendations

Buildings & Additions



Master Plan Recommendations

Athletic & Recreation Fields



Proposed Projects List:

Site

1) Fix / repair /repave 80% of paved areas on campus including boat launch area
   Fix ponding of rainwater on Institute Drive, NW corner of Sweeney
2) Level and add diagonal walkway to the quad
3) Transform College Way into a pedestrian friendly "Apian Way"
4) Remove overhead power lines and put underground. Priority should be given to the area at the Route 93 crossover.
5) Remove smoking hut, mobile office and trailer from 93 view outside of Little Hall
6) Design and build new front door to campus without a new building: large plaza, turnabout, visitor parking with tree lined drive and landscaping. Approximately where the systems build parking lot is now.
7) Improve the 393 East entry sequence into campus with signage, landscaping and possibly an arch over the roadway to signify transition onto campus.
8) Provide redundant fiber Optic cable underground system

Buildings:
Minor

1) New furniture, floor coverings, paint in Sweeny, C&F Dev. Center
2) New North entry to Student Center
3) Partial renovation to South Hall & Strout Hall (new entry lobbies and recreation rooms off back with view to pond)
4) Partial renovation of the Dental Clinic (reconfiguration for better utilization and circulation)
5) Renovate MacRury to add 2 lab spaces on second floor (will cause the relocation or loss of 2 classrooms)
6) Tear down White Hall and build new building or integrate function into existing
7) Backstage addition do the Sweeny auditorium. Expansion on South side towards quad.

Major

8) Relocate and renovate space for " One Stop " program functions
9) Full renovation of Little Hall, Farnum Hall
10) Partial renovation to South Hall & Strout Hall (new entry lobbies and recreation rooms off back with view to pond)
11) Tear down, major renovation or repurpose North Hall
12) New residence hall on South campus
13) Study New bookstore infill building between the North end of the Library /bookstore and the East side of the wellness center. This could allow the Gateway function to possible move into the library building (near font door) the bookstore to have rear (North Side) truck deliveries instead of from the quad side and give them a little more autonomy.
14) Move to Acquire or secure future rights to the Discovery Center space

Athletics:

1) New press box / coaches box
2) New concession stands and bathrooms
3) New bleachers
4) Field lights for Field #1, Softball Field, Baseball Field and Soccer field #2 (in order of preference)
5) New addition to wellness center
6) Power on West side of fields #1,#2
7) Ropes course to North of campus
8) Fence on river side of baseball field

Campus:

1) Campus wide improved and expanded Wi-Fi

Part 3.
Appendix

Phase 1 Priority Project List

Estimates of Probable Cost from Milestone Construction

Existing Building Assessments

Building Plans Color Coded by Department and by Use Group

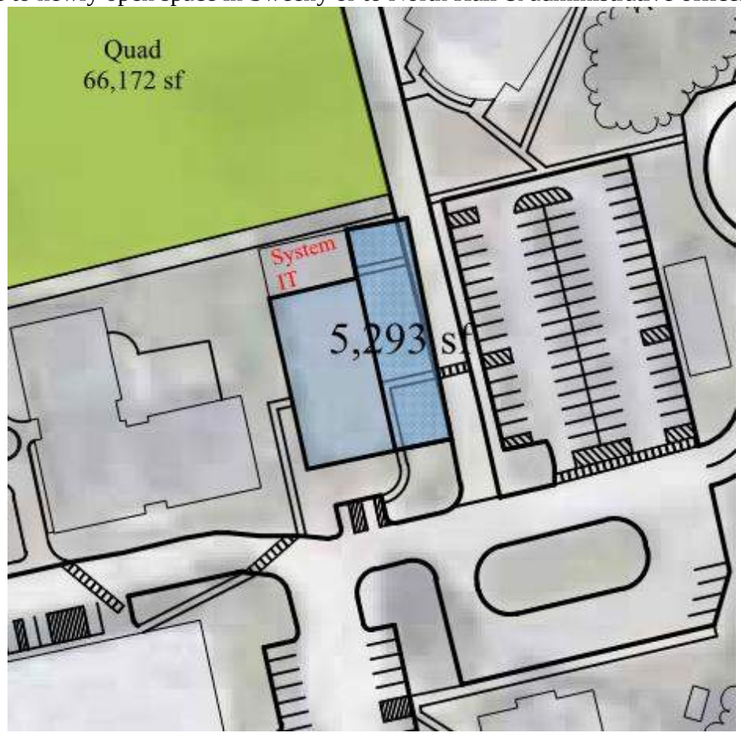
Proposed Lab Design for MacRury

Phase 1 Priority List:

1) One Stop
2) Bring Visual Arts onto campus
3) Create a front door
4) North Hall roof redesign/repair
5) Level quad and install underdrains
6) Athletic Field Concessions Building

Scope Narrative:

1) **One Stop (Gateway)**
   - Option One:
     - Renovate 5600 sf in Sweeny first floor NW end
     - One story addition 5400 sf
   - Option Two:
     - Renovate Farnum 9444 sf
   - Option Three:
     - Renovate 5862 sf of System bldg and add 5293 sf new addition one story. Systems IT to stay in place. System offices to move to newly open space in Sweeny or to North Hall & administrative offices move to Sweeny.



2) **Visual Arts**
   Option One:
      Renovate Farnum 9444sf. Gut rehab similar to Macrury Hall
   Option Two:
      New 15000 sf building. Partial 2 story. Locate on new rte 93 site. South of Grappone Hall. Remove all but one power pole and relocate pole transformers to ground mount.

3) **Front Door**
   MFP page 33: do 3,
   MFP page 34: do 2,6,7,10 &11
   MFP page 35 : do A,E,F,G,

4) **North Hall roof redesign/repair**
   Remove all attic insulation and reinsulate with blown in cellulose to R38 or ventilated roof panel R20.

   Remove all existing roofing
   Install new weather barrier membrane
   Install new asphalt shingle roof

5) **Level quad and install underdrains**
   MFP page 34: Do 10 & 11

6) **Athletic Field Concessions Building**
   1900 s.f, one story structure. Housing mens and womens toilet rooms and food concessions. Could also be a ticket window for sporting event where tickets are sold.

Building: Little Hall - Academic

Const. Date: 1963

Renovations: 1969 – Café
2000 - Window replacement
2000 – Exterior door replacement
2002 – Roof replacement

Size: 41,550 Gross S.F.

Floors: 2

Building Envelope Survey					
Component	**Narrative**	**Condition**	**Priority**	**Photo**	**Source**
Roof	New roof installed in 2002. " SUPREMA". The construction drawings call for 2" of insulrock. A 1970 Insulrock publication gives an insulation k value of .51 which equates to an approximate R value of 3.9. The current 2009 Energy code requires an R of 38. No documents were found that show if additional insulation was added during the 2002 reroofing project.	2	Low-Medium		FW D,F
Cladding System	4" Brick veneer over cinder block. No drainage cavity is indicated on drawings. Brick appears to be in good condition and the joints are tight. The brick is Gonic Harvard and Smooth Antique from the now defunct Kane Gonic Brick Co. in Gonic, NH.	3	Medium		F, D

Windows	Original windows replaced with insulated units in 2000. Replacements appear to be 1" insulated glass. We were not able to determine if the frames were thermally broken. No failed seals were observed. 2009 Energy code limits glass area to 40% of above grade wall. The observed glass area appears to exceed 40%. The curtainwall systems incorporate a insulated panel approximately 1" in thickness. The exterior appearance looks old and dated. A few windows had been filled with window AC units. Interior sills were painted wood and natural finish wood.	2	Low-Medium		F,D
Walls	4" brick veneer over 8" cinder block with no cavity or insulation. Interior finish is painted block. The estimated R value of this wall is in the range of 3-5. The 2009 Energy code requires R13.3 continuous for new construction. Structurally the walls are in great shape but the heat loss is very large.	4	Med -High		F,D
Doors / Entry's	Doors and entries are mill finish aluminum storefront installed in year 2000. Entry doors on North side and to the dining hall are automatic sliding doors and appear to be a more recent replacement. The South West entry doors appear to be from the 2000 replacement.	2/4	Medium		F,D
Interior Elements Survey					
Doors	The majority of doors are solid core wood oak doors with lever handles. They appear to be in good working condition. Interior doors frames were Hollow Metal.	3	Medium		
Lighting					
Sound Control					
Accessibility					
Furniture					

Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	Exposed interior power and plumbing lines due to retrofits.				F

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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Building: **Little Hall – Dining Hall**

Const. Date: 1963

Renovations: 1969 – Activities addition
2007 – Capital Commons
2007 – Roof replacement

Size: 13,960 Gross S.F.

Floors: 1

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	New roof installed in 2007. " SUPREMA". The construction drawings call for 3" of insulrock. A 1970 Insulrock publication gives an insulation k value of .51 which equates to an approximate R value of 5.8. The current 2009 Energy code requires an R20ci. No documents were found that show if additional insulation was added during the 2007reroofing project. New roof over addition: Single ply membrane w/ 4" rigid insulation R24 ci	2	**Low-Med**		FW D,F
Cladding System	Original: 4" Brick veneer over cinder block. No drainage cavity is indicated on drawings. Brick appears to be in good condition and the joints are tight. New addition is an accent color brick and is in very good condition.	3	**Medium**	1,2	

Windows	New windows in new dining area (2007) are thermally broken aluminum with 1" insulated glass.(new addition). The existing window wall on the South side of the dining hall original with a glass replacement. At least 50% of the new glass units have seal failures. Similar observations on the East side (server). Recommend full replacement of frames and glass.	2/4 New/Old	**Medium**		
Walls	Original: 4" brick veneer over 8" cinder block with no cavity or insulation. Interior finish is painted block. The estimated R value of this wall is in the range of 3-5. The 2009 Energy code requires R13.3 continuous for new construction. Structurally the walls are in great shape but the heat loss is very large. New addition: brick veneer, air space, 2" rigid insulation over 6" metal studs R13	2/4	Low		
Doors / Entry's	Newer aluminum bi-parting doors appear to have been added recently.	2	**Low-Med**		
Interior Elements Survey					
Doors	The majority of doors are solid core wood oak doors with lever handles or push / pulls. They appear to be in good working condition. Interior doors frames were Hollow Metal.	3	**Medium**		
Lighting					
Sound Control					
Accessibility					
Furniture					

Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	Lobby to Capitol Commons has new annunciator panel on wall with exposed conduit. Recommend painting or rerouting. Visual connection to Fort Eddy Pond is an unrealized opportunity.				

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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Building: MacRury Hall (not incl. Dental Annex)
Const. Date: 1968
Renovations: 2009 Total rehab

Size: 23,040 Gross S.F.
Floors: 2

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	TPO single ply membrane & sloped asphalt shingles. 3" rigid insulation, R18 above deck. Current energy code requires R20 ci.	1	**Low**		D

Cladding System	Original Bldg: 4" Brick veneer with CMU backer. No drainage cavity is indicated on drawings. Brick appears to be in good condition and the joints are tight. The brick veneer represents about 30% of the exterior with the balance made up of precast concrete panels. The panels are full wall height and appear in good condition.	1	**Low**		F D
Windows	Windows are thermally broken aluminum frame with 1" insulated glass w/ low e coatings. Fixed and operable. They were part of the 2009 renovation.	1	**Low**		F D
Walls	Brick over CMU & pre-cast conc. panels. 2009 renovation added 2" rigid insulation to interior of the cmu wall. Increase of R13. Current energy code requires R13.3ci	1	**Low**		D
Doors / Entry's	Entry doors are aluminum storefront type doors with emergency crash bars. Vestibules at both entrances. New in 2009	1	**Low**		F D
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					

Furniture					
Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	The two Southern most pods were fully gutted and renovated in 2009. New MEP was included in the renovation. There are 3 entries into the bldg. One at each West /East end of the bldg. and one at the midpoint on the South side. This last entry could become part of a pedestrian way developed along College Drive. The Eastern end of the bldg opens onto a small pedestrian plaza that is formed between MacRury and Farnum Hall. This space is one of the nicer public spaces on campus and should be used as an example of the space that could expand unto College Drive.				

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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Building: Farnum Hall

Const. Date: 1969

Renovations: 2003 – New roof, repairs made in 2008
2008 - Lavatories

Size: 9,440 Gross S.F.

Floors: 1

Building Envelope Survey					
Component	**Narrative**	**Condition**	**Priority**	**Photo**	**Source**
Roof	New roof installed in 2003 and repairs were made in 2008 under warranty. 2" insulating deck material called for on original drawings. It is not known if additional insulation was installed during the 2003 reroofing.	2	Low-Med	1,2,3,4,5,6	FW

Cladding System	4" Brick veneer with CMU backer. No drainage cavity is indicated on drawings. Brick appears to be in good condition and the joints are tight. The brick veneer represents about 30% of the exterior with the balance made up of precast concrete panels. The panels are full wall height and appear in good condition but all the soft joints are failing and need to be replaced.	3	Medium	1,2,3,4,5,6	D F
Windows	Original windows still in place, single glazed. Aluminum storm windows were added at some point. Does not meet current energy standards.	4	Med-High	7	F
Walls	4" brick veneer over 8" cinder block with no cavity or insulation, 1" rigid board insulation on interior face. Interior finish is painted GWB on strapping. The estimated R value of this wall is in the range of 9-12. The 2009 Energy code requires R13.3 continuous for new construction.	4	Med-High	8	D
Doors / Entry's	Doors and entries are mill finish aluminum storefront original to the building.	4	Med-High	9	F
Interior Elements Survey					
Doors	The majority of doors are solid core wood oak doors with lever handles. They appear to be in good working condition. Interior doors frames were Hollow Metal.	3	Medium		F
Lighting					
Sound Control					
Accessibility					

Furniture					
Toilet Rooms	Newly renovated in 2008. Met ADA at that point.	1	Low		F
Finishes Corridor Classrooms Offices					
Miscellaneous	The roof structure of this bldg is similar to MacRury and lends itself to an open cathedral type ceiling space. This type of space could be used for exhibit STEM or industrial activities that could utilize a high ceiling.				

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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Building: Sweeney Hall

Const. Date: 1983

Renovations: 2008 – window replacement

Size: 43,700 Gross S.F. (not incld'g Bistro)

Floors: 3

Building Envelope Survey					
Component	**Narrative**	**Condition**	**Priority**	**Photo**	**Source**
Roof	Existing metal standing seam roof. Believed to be original. 3rd floor shed dormer and small flat areas have single ply roof membrane roofs. Drawings indicate 4" rigid board insulation R30. Code requires R20ci	2	Low-Med	1	F,D
Cladding System	4" brick veneer over 6" metal stud with GWB interior finish. Accent walls of ribbed split face CMU at Western entries. Brick veneer appears in good condition with very little cracking or joint deterioration. Control joints are showing their age and should be reviewed. The Northwest exterior wall of the shed roof addition is experiencing splash back from rainwater coming off the roof, hitting the ground and splashing onto the brick wall. A gravel splash course should be considered.	2	Low-Med	2,3	F,D

Windows	Windows were replaced in 2008 and generally look to be thermally broken aluminum frames with 1" insulated glass. They appear to have a low e coating and the higher windows on the South side gables are either tinted or have an applique applied to reduce glare.	1	Low	4	F,D
Walls	The majority of exterior wall are 4" brick veneer over 6" metal stud with 6" fiberglass batt insulation. The estimated R value is R19. The effective R value of the existing system once the thermal bridging thru the metal studs is accounted for is somewhere around R7-R10. Current energy code requires R7.5 continuous insulation on the exterior of the sheathing and R13 in the stud cavity. While not optimal from an energy use perspective The wall is functional.	3	Medium	7	D
Doors / Entry's	Entry doors on the Western end of the building are aluminum storefront type doors with emergency crash bars. Replaced in 2008. Bistro doors are hollow metal with lever handles. Some rust noticed at bottom.	1 new 3 Bristo	Low Medium		F,D
Interior Elements SurveyMedium					
Doors					
Lighting					
Sound Control					
Accessibility					
Furniture					

Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	Exterior handrails at South West entry are exhibiting rust and discoloring the concrete. This is either due to rust of the handrail or the metal sleeve insert. Recommend replacement. Northern exterior wall is bermed and shows some erosion which should be remediated. NW end of building where it connects to the planetarium on the North side contains a very nice potential courtyard which should be looked at as an opportunity.			5,6	

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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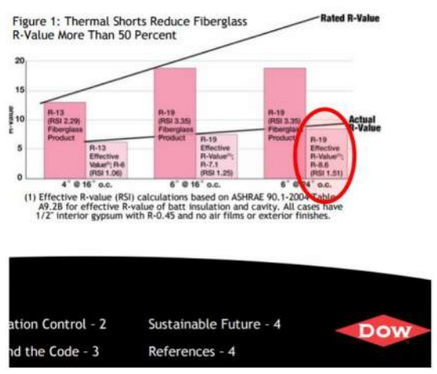
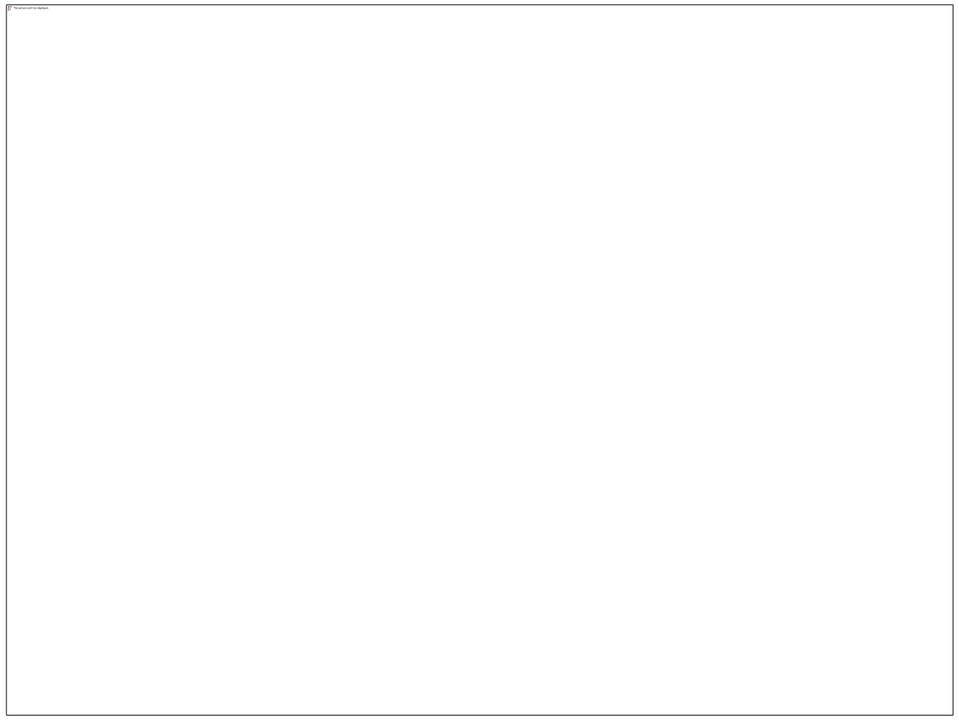


Figure 1: Thermal Shorts Reduce Fiberglass R-Value More Than 50 Percent
Rated R-Value
Actual R-Value
20
15
10
5
0
R-13 (RSI 2.29) Fiberglass Product
R-13 Effective Value(1): R-6 (RSI 1.06)
R-19 (RSI 3.35) Fiberglass Product
R-19 Effective R-Value(1): R-7.1 (RSI 1.25)
R-19 (RSI 3.35) Fiberglass Product
R-19 Effective R-Value(1): R-8.6 (RSI 1.51)
4" @ 16" o.c.
6" @ 16" o.c.
(1) Effective R-value (RSI) calculations based on ASHRAE 90.1-2004 Table A9.2B for effective R-value of batt insulation and cavity. All cases have 1/2" interior gypsum with R-0.45 and no air films or exterior finishes.
ation Control - 2
Sustainable Future - 4
nd the Code - 3
References - 4
Dow

#7



Building: Wellness Center

Const. Date: 1995

Renovations:

Construction Type: Pre-Engineered metal building, Expandable to the North

Size: 34,520 Gross S.F.

Floors: 2

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	Existing metal standing seam roof. Believed to be original. Drawings indicate 4" rigid board insulation over gym area and fiberglass batt R30 over the main gym. The 2015 Code requires R25+R11 Liner System plus have thermal block spacers. Existing is OK as is but does not meet the 2015 code. Roof over North entry needs design review to divert rain and snow from entry area.	3	Medium	1,5	D

Cladding System	4" brick veneer on eave walls and metal building mfr metal panel system on gable end. Brick veneer appears in good condition with very little cracking or joint deterioration. Accent brick appears to have a different surface glaze and shows surface cracking. Control joints are showing their age and should be reviewed. Half ht. walls at North entry are in disrepair. Spalling and cracks in the joints are evident.	2 - walls 4 - half ht walls	Low-Medium Med-High	2,3 6,7	F
Windows	Windows appear to be original l to the building. They are a mix of alum. frame w/insulated glass Operable and fixed and alum. frame Kalwall units.	3	Medium	4	F D
Walls	The majority of exterior wall is 4" brick veneer,air space, rigid insulation, CMU backup cavity wall system. . The estimated R value is R19. Current energy code requires R5.6 continuous insulation on the exterior of the sheathing and R13 in the stud cavity. The expandable gable end wall is a 3" insulated metal panel over horizontal metal girts. Estimated R value of R18	3	Medium		F D
Doors / Entry's	Entry doors on the Northern side are aluminum storefront type doors with emergency crash bars. All other service doors are H.M. steel doors and frames.	3	Medium	5	F D
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					

Furniture					
Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	The Pre-engineered metal building drawings call for the structure to be designed to be expandable from the NE wall for 3 -20" bays.			5	D

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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Building: Student Center

Const. Date: 2005

Renovations:

Size: 16,870 Gross S.F.

Floors: 2

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	Original roof in place. Primarily standing seam metal roof with small areas of flat roof single ply membrane. Main space is a large, tall open seating area with an exposed steel structure conical roof. Roof is insulated with rigid board insulation R36. North side entry is problematic. The scale (height) is out of proportion to the entry doors. The roof drops snow and rain in the door area causing some deterioration of the low benchwall adjacent to the entry doors. If North Hall remains in use then this entry should be redesigned.	2	Low-Medium	1,3,12,13	
Cladding System	Horizontally oriented ribbed metal panels and brick veneer on South side facing quad. North side is brick veneer on metal stud. Some deterioration of brick and cracking of lower bricks, most likely due to roof issue. (see above)	3	Medium	2,3,4	

Windows	Original windows in place. Clear anodized aluminum, most likely thermally broken frames with insulated glass. Mix of fixed and operable awning units.	2	Low-Med	3,4	
Walls	Metal panel cladding over metal studs. Insulation is R19 Fiber Glass batt. Actual R value approximately R9.	2	Low-Med		
Doors / Entry's	Clear anodized aluminum swing doors. Vestibule at North and South entries. Panic hardware and closers on doors.	3	Medium	5,6	
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					
Furniture					

Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous					

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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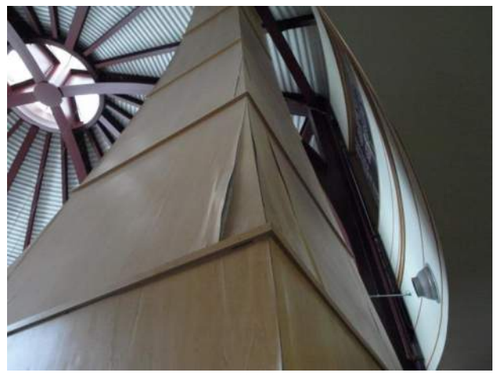

#11

#12

#13

Building: **Library / Learning Center/ Bookstore**

Const. Date: 2001

Renovations: 2014 – New roof & Flashing repairs

Size: 24,840 Gross S.F.

Floors: 1

Building Envelope Survey

Component	Narrative	Condition	Priority	Photo	Source
Roof	New roof installed in 2014 and various roof flashing repairs performed. A couple water stained ceiling tiles were noted in the flat roof areas. History of roof leaks. Roof has both pitched roof and flat roof areas. Original construction dwgs show 4" rigid insulation giving an approximate R value of 24. R 20 ci is the current code requirement. Larger R values are better.	1	Low	1,4	D, FW
Cladding System	Brick veneer, drainage cavity on metal stud base with 1 ½" E.I.F.S. (Exterior Insulation Finishing System) upper. Finish is in good condition with some joint cracking at outside corners.	3	Medium	2,3,4	D F
Windows	Original windows still in place, 5/8" insulated glass with low E film. Thermally broken frames. Estimated U value of .51. Current code requires U value of .55. Lower is better.	2	Low-Medium	5	F D

Walls	4" brick veneer over 6" metal stud & 1 ½" EIFS over metal stud. Cavity wall system. Estimated R value, 6" batt insulation + 1" rigid insulation = R19 + R6ci Very close to meeting current code. The 2009 Energy code requires R13.3 + R7.5ci (continuous) for new construction.	3	Medium	2,3,4	D F
Doors / Entry's	Doors and entries are mill finish aluminum storefront original to the building.	3	Medium		D F
Interior Elements Survey					
Doors	The majority of doors are solid core wood oak doors with lever handles. They appear to be in good working condition. Interior doors frames were Hollow Metal.	3	Medium		F
Lighting					
Sound Control					
Accessibility					
Furniture					
Toilet Rooms	Newly renovated in 2008. Met ADA at that point.	1			F

Finishes Corridor Classrooms Offices					
Miscellaneous	Currently the library is divided into three entities: Library, Learning Center and Bookstore. Deliveries come thru the front door creating cross traffic with trucks and pedestrians in the quad. Delivery to the side of rear should be pursued.				

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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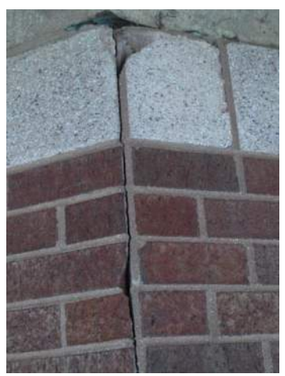

#3

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Building: Dental Clinic

Const. Date: 2004

Renovations: 2009 (Original Northern most pod)

Size: 19,020 Gross S.F.

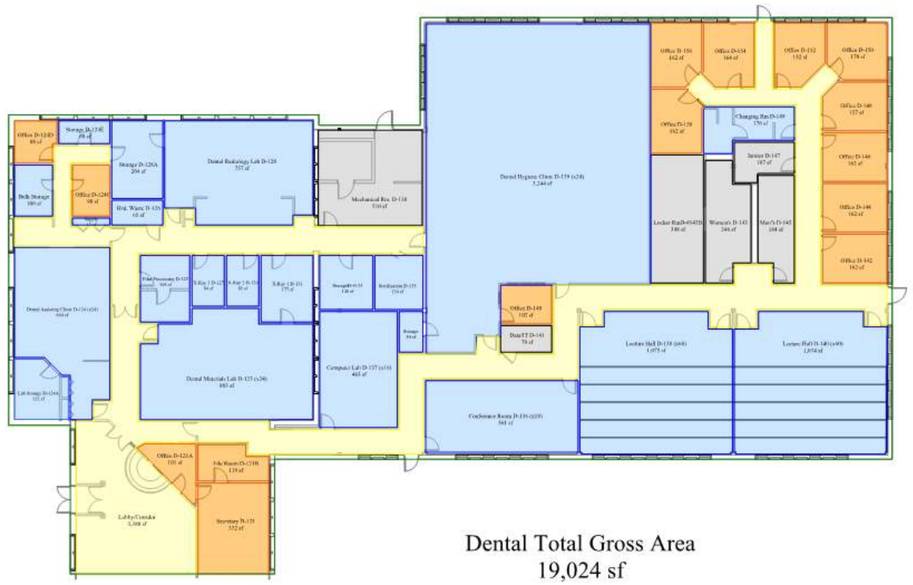
Floors: 1

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	Northern pod of original bldg: Single ply membrane & sloped asphalt shingles. 5" rigid insulation, R30 above deck (2009). Current energy code requires R20 ci. Fascia & soffits replaced with alum. In 2009.	1	Low	1,2	D
	Dental Wing addition 2004 : original EPDM roof, 3 » rigid insulation R18	2	Low-Medium	1,4	FW D

Cladding System	Original Bldg: 4" Brick veneer with CMU backer. No drainage cavity is indicated on drawings. Brick appears to be in good condition and the joints are tight. The brick veneer represents about 30% of the exterior with the balance made up of precast concrete panels. The panels are full wall height and appear in good condition. 2004 Addition: Brick veneer & EIFS panels mimicking pre-cast concrete of original bldg. EIFS is showing dents, gouges and discoloration from mold. The EIFS panels are a poor match & the color is too white to blend in with the original bldg.	1 3 EIFS	Low Medium	2,3 5,6,7	F D
Windows	**Original Bldg**.: Non-thermally broken frame w/ single glazing. Storm panels added at later date. **Addition**: Aluminum frame with insulated glass	4 2	Med-High Low-Medium	2,3 4	F D
Walls	**Original Bldg**: Brick over CMU & pre-cast conc. panels. Original drawings indicate 1" if rigid insulation in the interior side of the CMU. The 1" insulation represents a nominal R vaule of R5. Current energy code requires R13.3ci **Addition:** Brick veneer and E.I.F.S. over 6" metal studs w/ 6" fiberglass cavity insulation. R value at brick approximately R9, at EIFS - varies	2 2	Low-Med Low-Med	1,2,3 1,8	F D
Doors / Entry's	Original aluminum storefront doors, non-thermally broken at original bldg. Addition doors on East end of building.	4 3	Med-High Medium	2	F D
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					

Furniture					
Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	Addition appears to be a "Design Build" structure. Interior needs redesign to open up student /client flow. Upgrade HVAC. Need better client parking with HC spaces to the West side of site.				

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI



Dental Total Gross Area
19,024 sf

Net Assignable Area: 12,645 sf (67%)

Floor plan. North is UP #1

Original West entry #2

Existing #3

New Addition #4

#5

E.I.F.S Damage #6

#7

#8
Left is MacRury, Right is Dental

Building: Grappone Hall

Const. Date: 2008

Renovations:

Size: 32,820 Gross S.F.

Floors: 3

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	Single ply membrane. 5" rigid insulation, R30 above deck. Current energy code requires R20 ci. Small stair tower roof on South end has damage. Replacement is recommended	1 4	Low Med-High	3 2	D

Cladding System	4" brick veneer (1st 2 stories). Metal panel at third floor. Brick veneer & metal panels appear in good condition with no cracking or joint deterioration.	1	Low	1,4	F D
Windows	Windows are thermally broken aluminum frame with 1" insulated glass w/ low e coatings. Fixed and operable.	1	Low	3,4	F D
Walls	The majority of exterior wall is 4" brick veneer over 6" metal stud. The estimated R value is R18 continuous. Current energy code requires R7.5 continuous insulation on the exterior of the sheathing and R13 in the stud cavity.	1	Low		D
Doors / Entry's	Entry doors are aluminum storefront type doors with emergency crash bars. Vestibules at both entrances. Southern stair tower exit has a broken roof panel and should be replaced.	1	Low	3	F D
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					

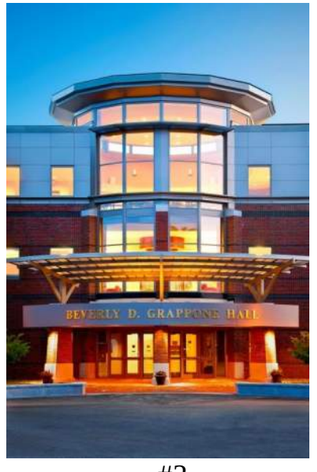
Furniture					
Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	Received LEED silver rating in 2010. Grappone Hall is the newest bldg on campus and anchor's the Western end of a potential pedestrian way along College Drive. Both exterior canopies at the West & East entries shows signs of water damage of the ceiling. This should be monitored for future damage. The structure of the auditorium was designed to accept a third floor. Potential gained space is 3,358 sf			1,4	

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

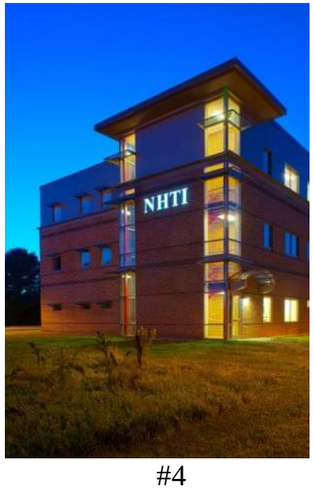
U.S. GREEN BUILDING COUNCIL
LEED SILVER
2010

#1

#2


BEVERLY D. GRAPPONE HALL

#3


NHTI

#4

Building: White Hall

Const. Date: Unknown
Renovations: Unknown
Use Campus IT
Size: 2,800 Gross S.F. Estimated
Floors: 2

Building Envelope Survey					
Component	**Narrative**	**Condition**	**Priority**	**Photo**	**Source**
Roof	Standing seam metal roof age unknown.	3	Medium	1,2,5	D
Cladding System	Front & sides is a modular thin brick veneer (nominal ½") not original to the structure. The rear façade appears to be resided in vinyl clapboards.	4	Med-High	2,4,5,6	F D

Windows	Replacement windows, age unknown.	4	Med-High	5	F D
Walls	Given the apparent age of the structure the probable wall construction is 2x4 wood stud, plywood or board sheathing, fiber glass batt insulation.	3	Medium		D
Doors / Entry's	Doors appear top residential grade insulated hollow metal. Front doors had observed rust developing at the sill.	4	Med-High	3	F D
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					
Furniture					

Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	Structure is speculated to be an original wood framed residence which was added onto (East side) and resided. Structure is residential in nature and not great for commercial educational use. Accessibility is by an aging concrete ramp with cracks appearing in the ramp and metal railings that would not meet current ADA standards.			4	

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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Building: Systems Building

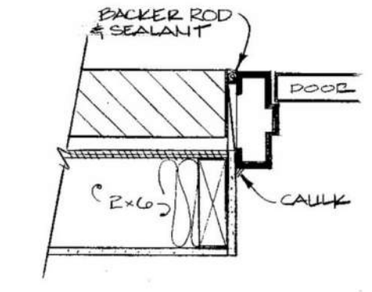
Const. Date: 1991
Renovations: 2012
Use CCSNH Systems
Size: 7,600 Gross S.F.
Floors: 1

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	Unknown	3	Medium		FW
Cladding System	Brick veneer with 2x6 wood stud backup. Wall, joints and soft joints appear in good condition.	3	Medium	5,6,7	D

Windows	Replacement windows, age unknown. Double Hung Alum. frame, thermally broken. Glass is either single glazed or minimal insulated glass.	4	Med-High	4	F D
Walls	4" brick cavity wall with 2x6 wood stud backup. 6" fiber glass batt in stud cavity. Nominal R19, actual R11 +/- Current energy code requires R13 + R7.5ci	3	Medium	1	D
Doors / Entry's	Main entries are aluminum storefront with insulated glass & ADA hardware.	4	Med-High	1,2,3	F D
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					
Furniture					

Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	Bldg is approximately 36" out of grade on the North end. ADA access is by asphalt walkway from South. Location is prominent in that it is at the observed front door to the campus and is visually non-descript. Does not enhance the arrival experience.				

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI


BACKER ROD & SEALANT
DOOR
2×6
CAULK
3
A4
JAMB @ EXT. DOORS TYPE 2 & 3 (HEAD SIM)

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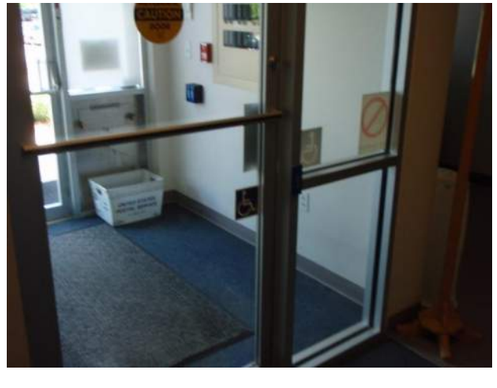

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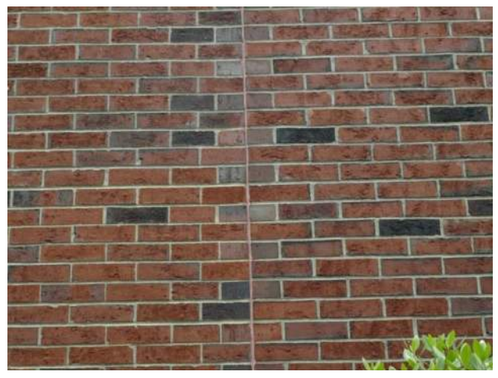

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Building: **North Residence Hall**

Const. Date:	1988
Renovations:	2006 - Windows 2008 – Doors 2012 – Toilet rooms
Use	Mens, Womens Residence Hall Faculty offices
Size:	45,740 Gross S.F.
Floors:	2

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	Asphalt shingle. Age unknown possibly original. Insulation in the attic is R19 fiberglass batts. Many batts are misplaced and loosely fir. Some areas lack any insulation. The bldg. most likely experiences large heat loss during the winter contributing to ice damming & large energy use. Many of the air vents from the soffits were blocked. Adjacent small dormers at large dormers do not allow enough clearance for snow to slide off thus creating a snow & water trap. Interior of these areas should be inspected for water damage. Should be reviewed for design solution.	4	Med-High	1,2,3,4,5,6	F D
Cladding System	Base is 2/3rds 4" brick veneer and upper 1/3 is vinyl clapboards. Brick has some joint cracking and control joints need to be re-caulked. Vinyl warped and deteriorated. Flashing at brick / vinyl junction is loose and will let water into wall cavity. Must be repaired.	3/Brick 4/Vinyl	Medium Medium- High	7,8,9	F D

Windows	Replacement windows, 2006 are poorly fit and daylight air gaps were observed. Phot #14 shows the upper right hand corner of the lower sash. A vertical line is seen where an air gap exists between sash and frame.	4	Med-High	12,13,14	F D
Walls	4" brick veneer cavity wall with 2x6 wood stud backup. Vinyl clapboard over 2x6 wood stud wall 6" fiberglass insulation in stud cavity. Nominal R19, Actual R10. Current code requires R13 + R7.5ci	3	Medium		D
Doors / Entry's	Main entry doors are aluminum frame insulated glass. Exterior doors insulated hollow metal doors w/ion panel.	3	Medium		F D
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					
Furniture					

Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	North Hall was built under a design build contract and as such, design, material's and construction observation was most likely chosen for low cost and short term results. The building is now 28 years old which is young for an institutional building but due to poor construction will require constant maintenance and attention. College dormitory use is also very demanding on a building. Options for this building are either major renovation or demolition. Also observed was a magnetic card swipe lock on both sides of the second floor door from the West wing to the central core. This restricts the second means of egress to only those with a card. This type of locked egress is usually limited to correctional institutions. The magnetic lock should have a power out default of open which I was unable to verify. This condition should be looked at in detail to assure safety and code compliance.	5	High		

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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Building: **South Residence Hall**
Const. Date: 1968
Renovations: 2008 - Roof
2013 - Windows

Use Mens & Womens Residence Hall

Size: 25,042 Gross S.F.
Floors: 3

Building Envelope Survey					
Component	**Narrative**	**Condition**	**Priority**	**Photo**	**Source**
Roof	Replaced in 2008 with 25 year warranty. Single thickness membrane roof (unconfirmed) New board insulation may have been installed during reroofing (unconfirmed) 2" original insulated roof deck shown on original const. drawings. Recommend verifying roof insulation. Adding insulation at next reroofing	2 3	Low Med Medium		FW

Cladding System	Brick veneer over 8" CMU, Void filled with solid grout. Exterior has accent panels of epoxy aggregate over 4" CMU. Panel areas give the exterior a very dated look and appear to be losing some of the stone chips as well as showing signs of discoloration. Interior is painted CMU. No wall insulation is shown on original construction drawings.	3	Medium	1,2,3,4	F D
Windows	Replacement windows in 2013	1	Low	5,6	F D FW
Walls	4" brick over 8" CMU. No insulation observed. Current code requires R13 + R7.5ci. Major heat loss thru exterior walls. Recommend adding insulation	3 5	Medium High	7	F,D
Doors / Entry's	Main entry doors are aluminum frame look to be original. All new doors, hardware and glass is recommended. Recommend entire new entry vestibule with new entry doors	5	High	8	F D
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					

Furniture					
Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	South Hall is a solid structure architecturally. The exterior Brick is in good shape but the accent panel are very dated. The entry's are dated and in very poor condition. Has the feel of a dormitory rather than a residence hall by current standards. The addition of a new living / activity common for social interaction off the back would help take the edge off the dormitory feel.	5	High	8	

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

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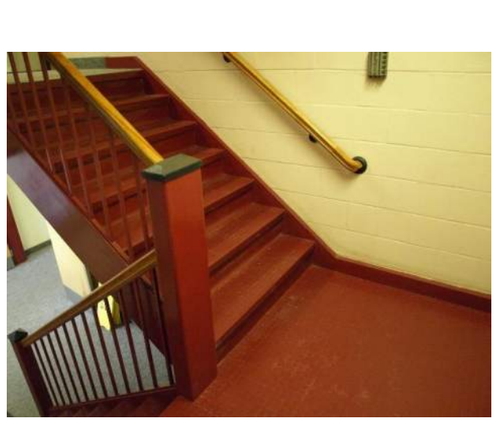

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8.

Building: **Strout Residence Hall**

Const. Date: 1963

Renovations: 2000 - Roof
2011 - Windows

Use Mens & Womens Residence Hall

Size: 22,282 Gross S.F.

Floors: 3

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	Replaced in 2000. Single thickness membrane roof (unconfirmed) Recommend verifying roof insulation with core sample. Adding insulation at next reroofing	3	Medium		FW
Cladding System	Brick veneer. Condition appears solid with some staining from water run off at window sill corners Staining looks like it has developed over years. Brick joints look solid. Foundation cracked at N.E. corner. Interior is painted CMU	3	Medium	1,2,3,4	F

Windows	Replacement windows in 2011	2	Low-Medium	3,7	F FW
Walls	CMU, no original drawings were found. Major heat loss thru exterior walls. Recommend adding insulation	3 5	Medium High		F
Doors / Entry's	Main entry doors are aluminum frame look to be original. All new doors, hardware and glass is recommended. Recommend entire new entry vestibule with new entry doors	5	High	5,6	F
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					
Furniture					

Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	Strout Hall appears to be a solid structure architecturally. The exterior Brick is in good shape. An exterior cleaning of the brick would likely remove the observed staining. The entry's are dated and in very poor condition. Recommend removing both entry structures and replacing with new entry vestibule. Has the feel of a dormitory rather than a residence hall by current standards. The addition of a new living / activity common for social interaction off the back would help take the edge off the dormitory feel.	5	High	8	

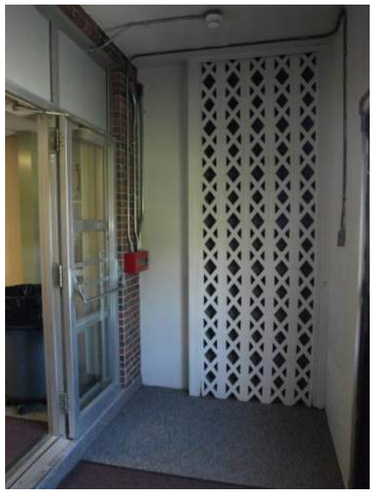
	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

1.

2.

3.

4.



5.

6.

7.

Building: **Facilities Building**
Const. Date: 1991
Renovations:

Use Facilities offices & sheds

Size: 5000 Gross S.F.
Floors: 1

Building Envelope Survey					Source
Component	**Narrative**	**Condition**	**Priority**	**Photo**	
Roof	Pitched metal roof	3	Medium		FW

Cladding System	Metal siding	3	Medium		F
Windows		2	Low-Medium		FW
Walls		3	Medium		F
Doors / Entry's		4	Med-High		F, FW
Interior Elements Survey					
Doors					
Lighting					
Sound Control					
Accessibility					

Furniture					
Toilet Rooms					
Finishes Corridor Classrooms Offices					
Miscellaneous	No original construction drawings were found.				

	LEGEND			
Condition	**Description**	**Priority**	**Source**	
1	Fully operational, new, recently replaced	**Low**	**F**	Field survey – non-destructive
2	Fully operational, 0-25% of life expectancy used, no issues, no concerns,	**Low-Med**	**D**	Original construction drawings
3	Fully operational, 25-50% life expectancy used, periodic problems	**Medium**	**C**	Campus Facility Master Plan – 2002
4	Operational, 50-75% life expectancy used, occasional problems, frequent repairs needed	**Med-High**	**O**	Observed – destructive testing
5	Operational only with constant attention, 100% life expectancy used, failure imminent	**High**	**FW**	Facilities Worksheet – NHTI

NHTI Academic Programs

Accounting & Business Programs
Accounting; Business Administration; Event/Conference Management; Hospitality & Tourism Management; Hotel Administration; Management; Sports Management; Travel & Tourism; Travel Information Technology; Wedding Planning Management

Computer Programs:
Animation & Graphic Game Programming; IT Entry Level Networking; IT Hardware & Software; IT Applications Development; IT Networking; IT Tech Support; IT VoIP

Education Programs:
Career & Technical Education Alternative; Early Care & Education for Young Children with Disabilities; Early Childhood Education; Education; English for Speakers of Other Languages; Special Education; Teacher Education Conversion ; Yound children with Autism and Exceptionalities

Engineering Technology Programs:
Advanced Manufacturing Process Technology; Advanced Manufacturing Processes; Applied Career Fundamentals for Advanced Manufacturing; Architectural Engineering Technology; Building Inspector & Plans Examiner; Civil Engineering Technology; Computer Aided Design-Architectural Concentration; Computer Engineering Technology; Computer Technology Programming (Advanced); Electronic Engineering Technology; Electronic Technology; Industrial Design Technology; Manufacturing Engineering Technology; Mechanical Engineering Technology; Robotics & Automation Engineering Technology

Environmental Studies:
Environmental Sciences; Landscaping and Environmental Design; Landscape Design

Health & Science Programs:
Biology; Coaching; Dental Assisting: Dental Hygiene; Diagnostic Medical Sonography; Health Science; Health Science Nutrition & Wellness Concentration; Nursing (RN) LPN-RN Advancement; Medical Coding; Orthopaedic Technology; Paramedic Emergency Medicine; Radiation Therapy; Radiologic Technology

Liberal Arts/visual Arts:
Liberal Arts; Liberal Arts-English Concentration; General Studies; Visual Arts

Justice/Legal Studies Programs:
Criminal Justice; Legal Nurse Consultant; Paralegal Studies

Human Services Programs:
Addiction Counseling; Addiction Counseling/Criminal Justice; Community Social Service; Human Services; Veteran's Counseling

Mathematics:
Mathematics

100% Online Programs:
Accounting; Business Administration; Criminal Justice; Early childhood Education; General Studies; Hospitality & Tourism Management

Key to other Area Designations shown on Plans

Administration | ***Shared Area*** | ***Student Area*** | ***Faculty Area*** | ***Dining Services*** | ***Library*** | ***Bookstore*** | ***C.A.E.***

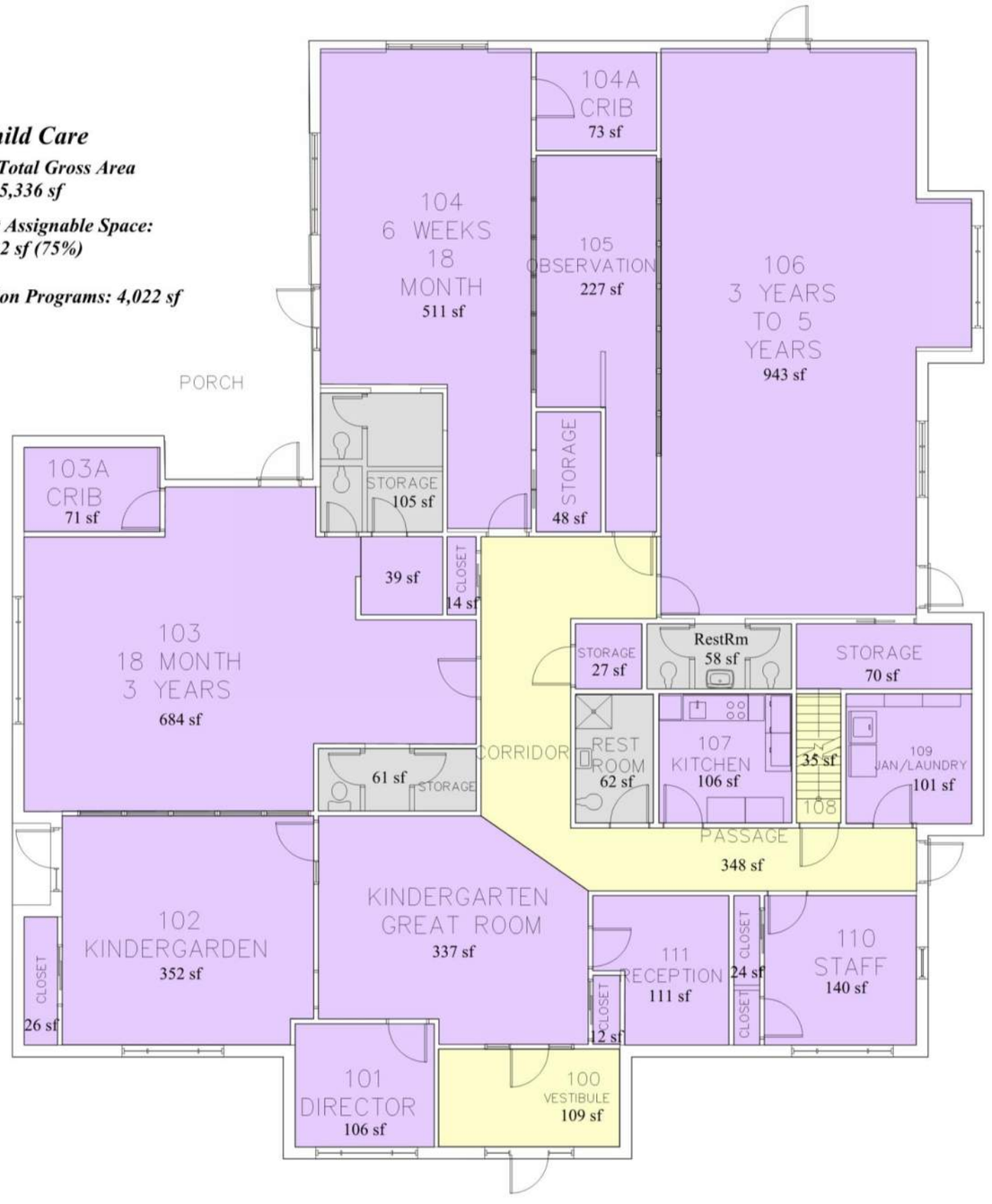
By Department

Child Care

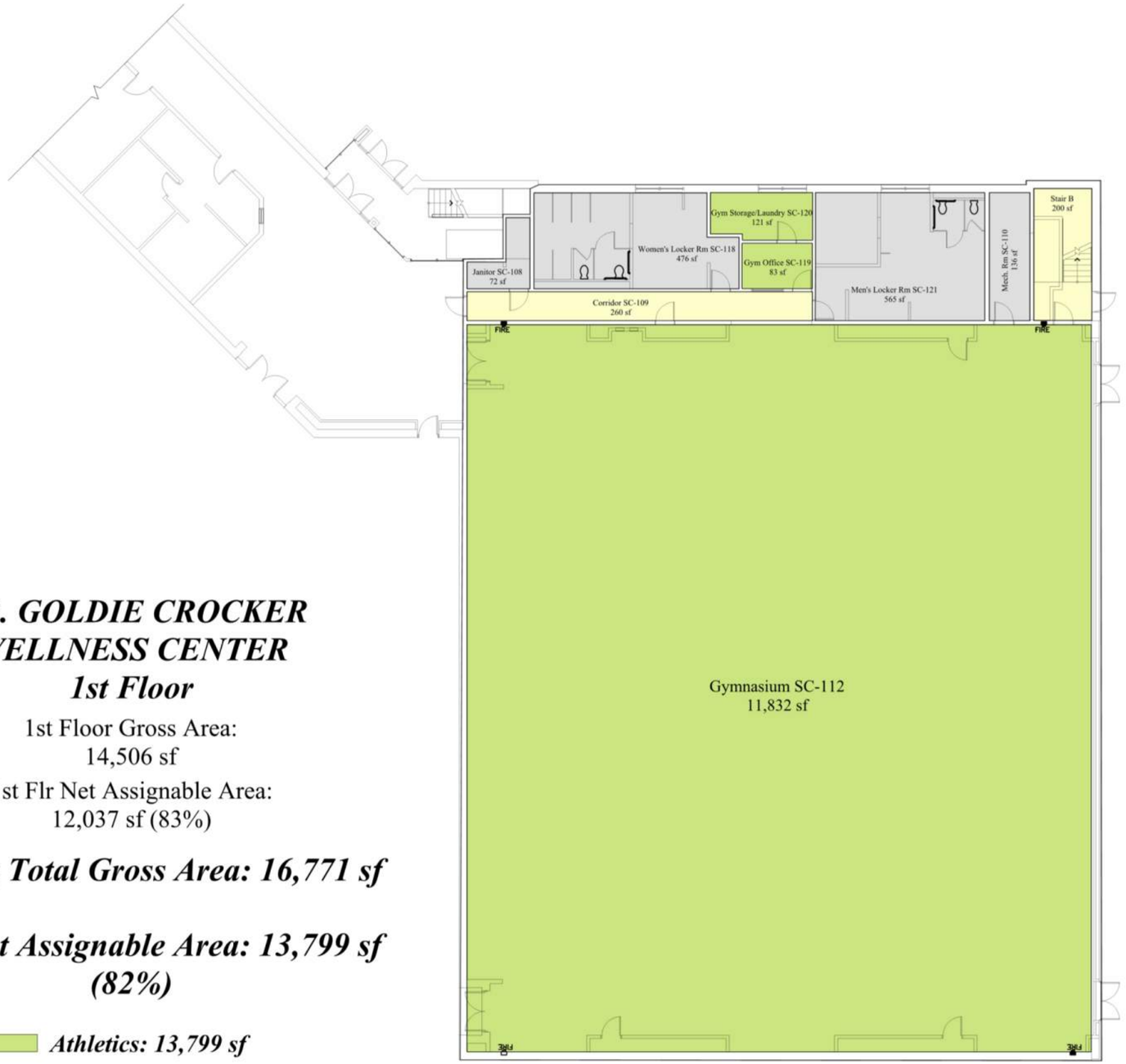
BuildingTotal Gross Area
5,336 sf

Building Net Assignable Space:
4,022 sf (75%)

Education Programs: 4,022 sf



By Department



DR. GOLDIE CROCKER WELLNESS CENTER
1st Floor

1st Floor Gross Area:
14,506 sf

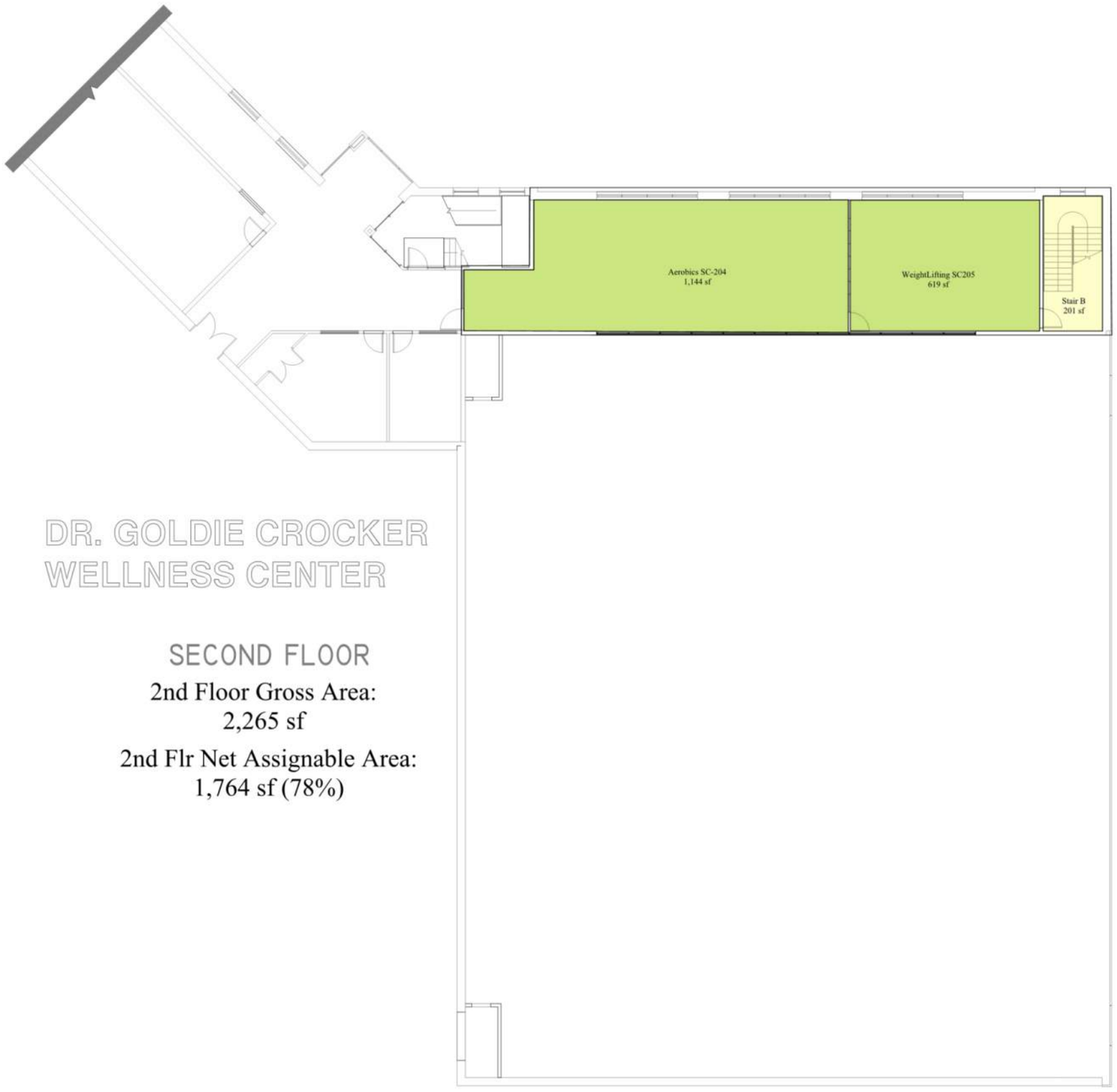
1st Flr Net Assignable Area:
12,037 sf (83%)

Building Total Gross Area: 16,771 sf

Total Net Assignable Area: 13,799 sf (82%)

Athletics: 13,799 sf

By Department



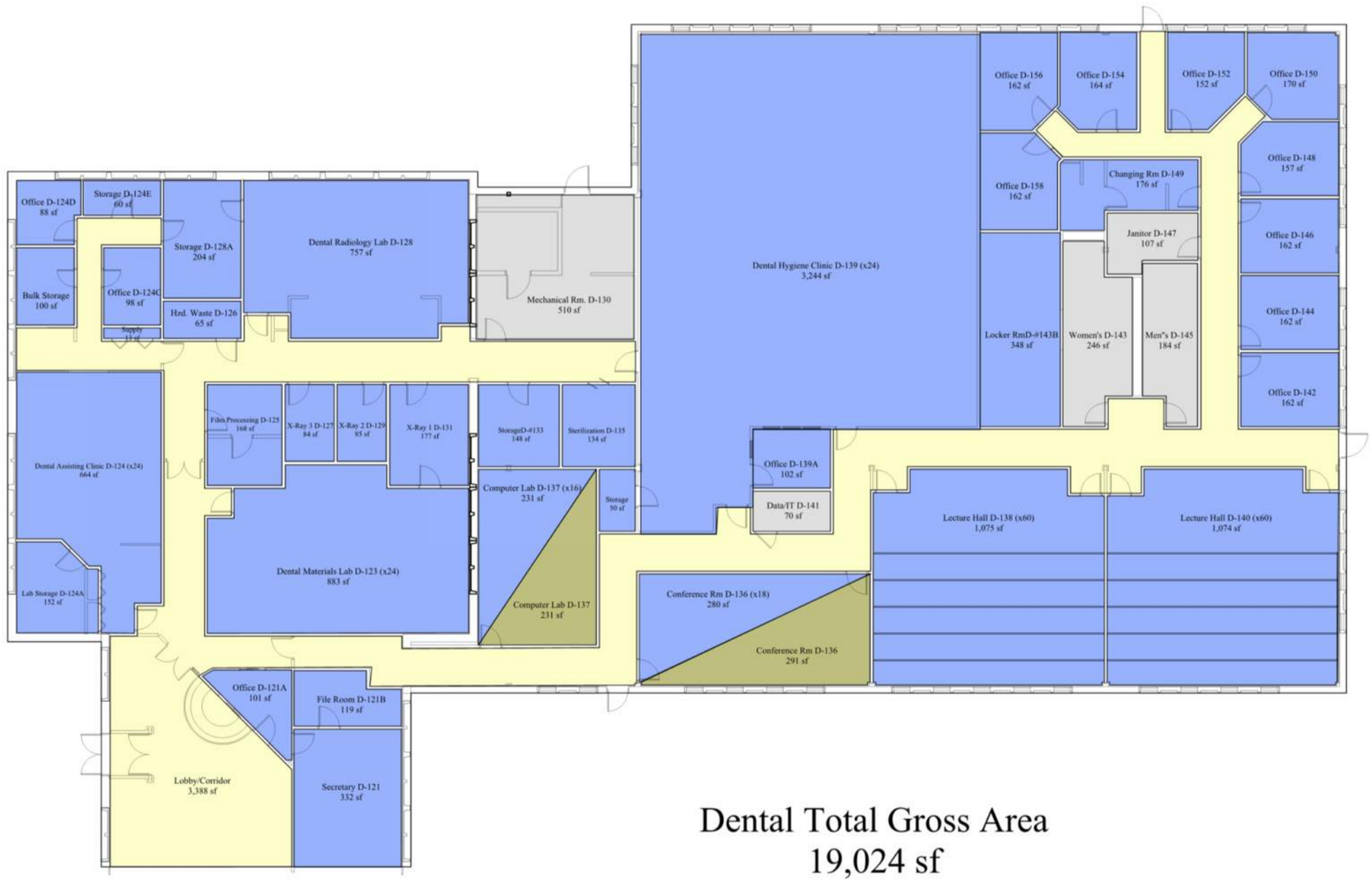
DR. GOLDIE CROCKER
WELLNESS CENTER

SECOND FLOOR

2nd Floor Gross Area:
2,265 sf

2nd Flr Net Assignable Area:
1,764 sf (78%)

By Department

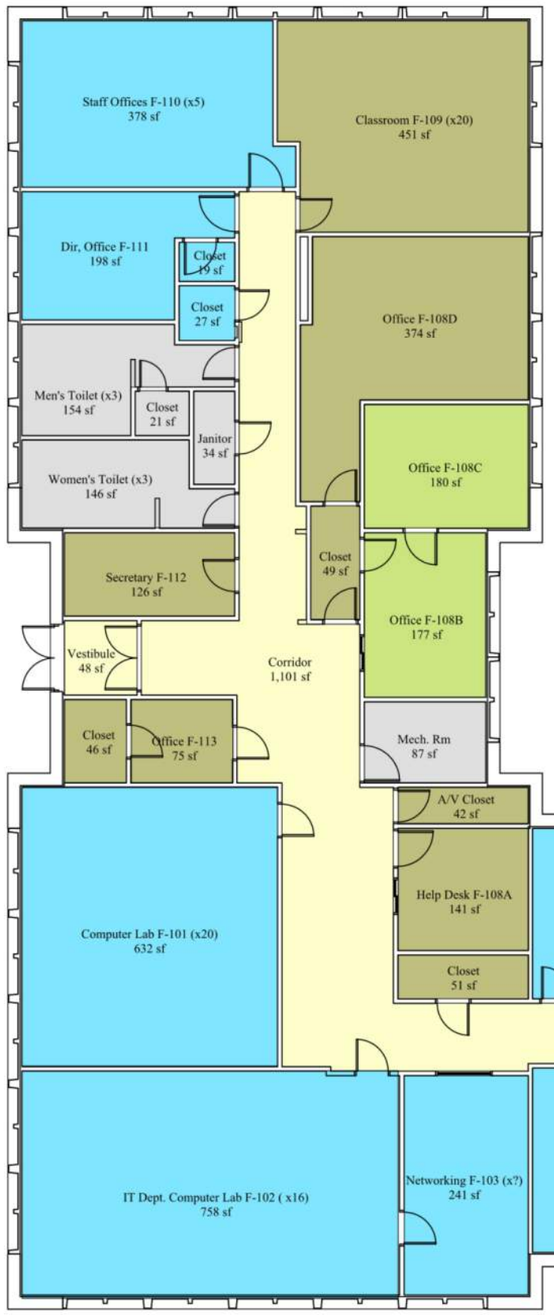


Dental Total Gross Area
19,024 sf

Net Assignable Area: 12,978 sf (68%)

Health & Science Programs: 12,466 sf
Shared Program Area: 523 sf

By Department

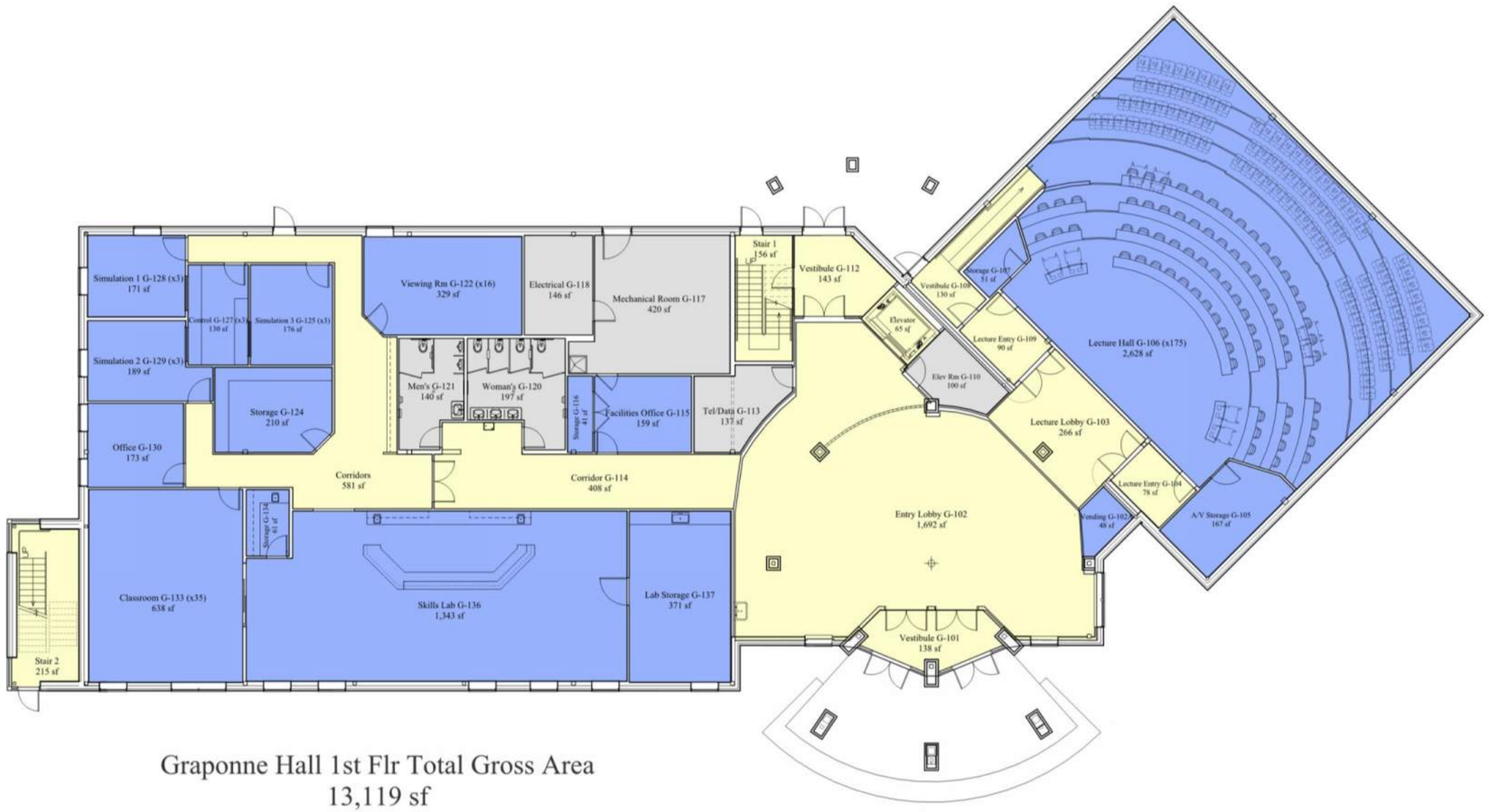


FARNUM HALL

Building Total Gross Area
9,444 sf
Net Assignable Area: 6,620 sf (70%)

- *Computer Programs: 3,049 sf*
- *Accounting & Business Programs: 1,735 sf*
- *Shared Program Area: 1,836 sf*

By Department



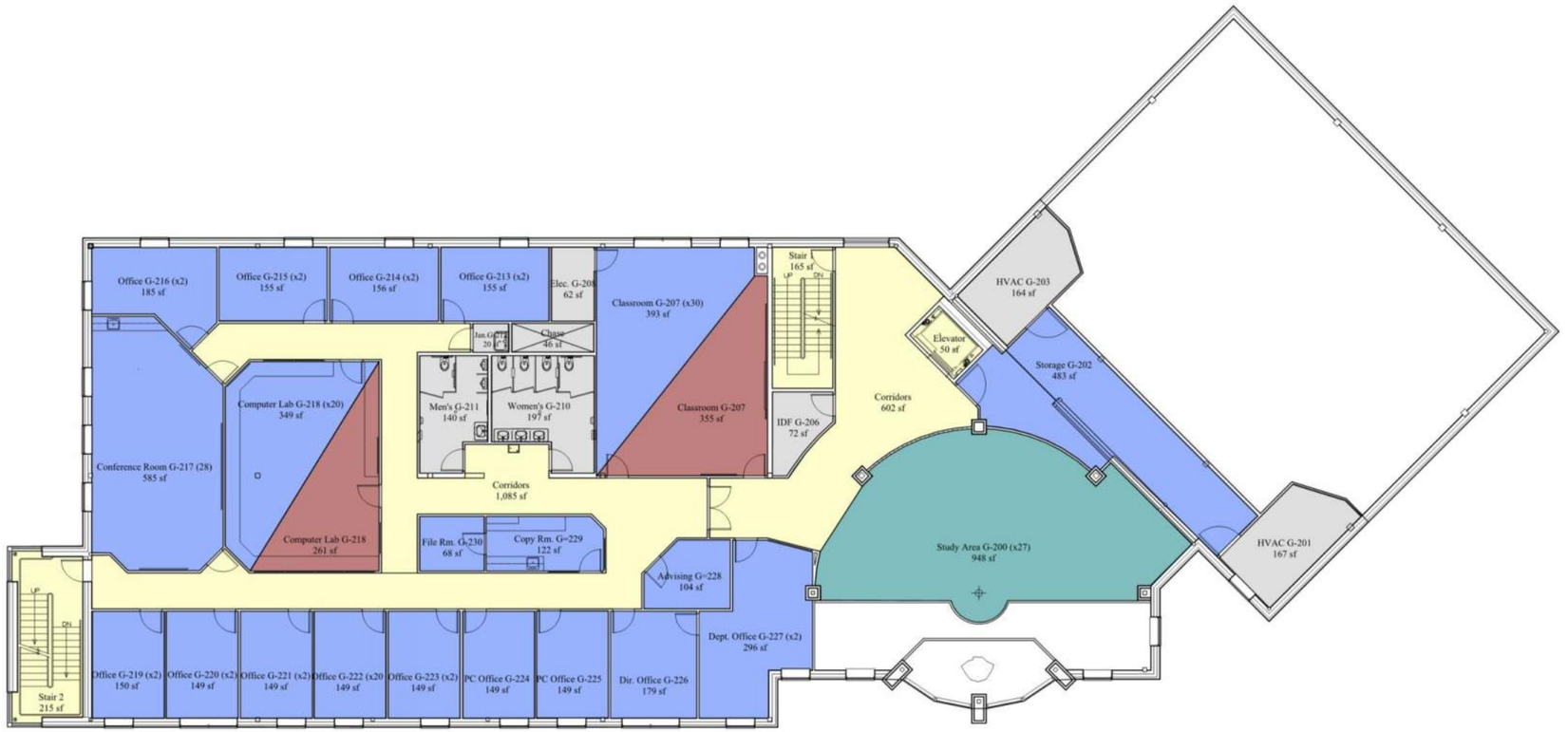
Graponne Hall 1st Flr Total Gross Area
13,119 sf

1st Flr Net Assignable Area: 6,886 sf (52%)

Building Total Gross Area: 32,817 sf
Building Net Assignable Area: 19,008 sf (58%)

Health & Science Programs: 14,621 sf
Engineering Technology Programs: 3,438 sf
Student Area: 948 sf

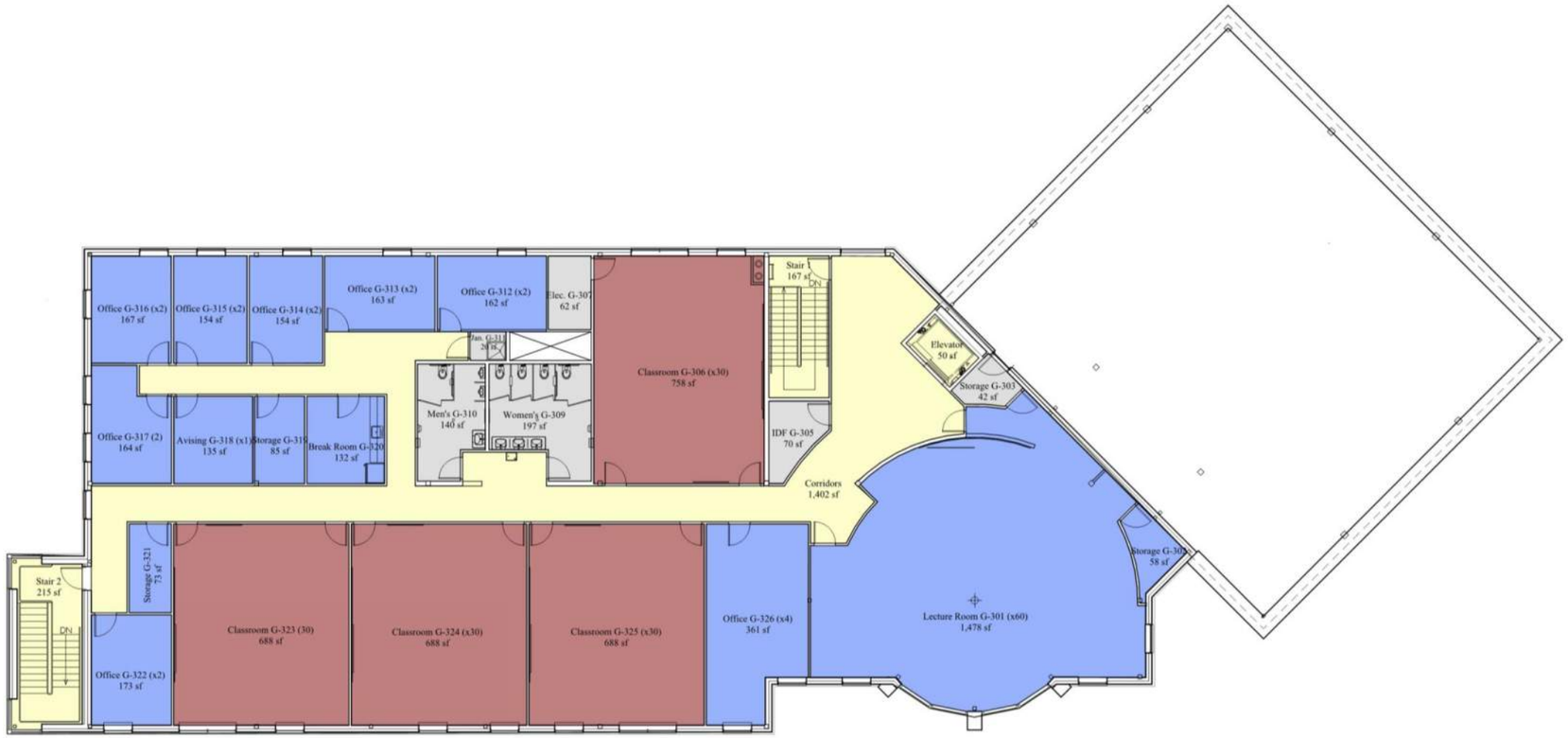
By Department



Graponne Hall 2nd Flr Total Gross Area
10,293 sf

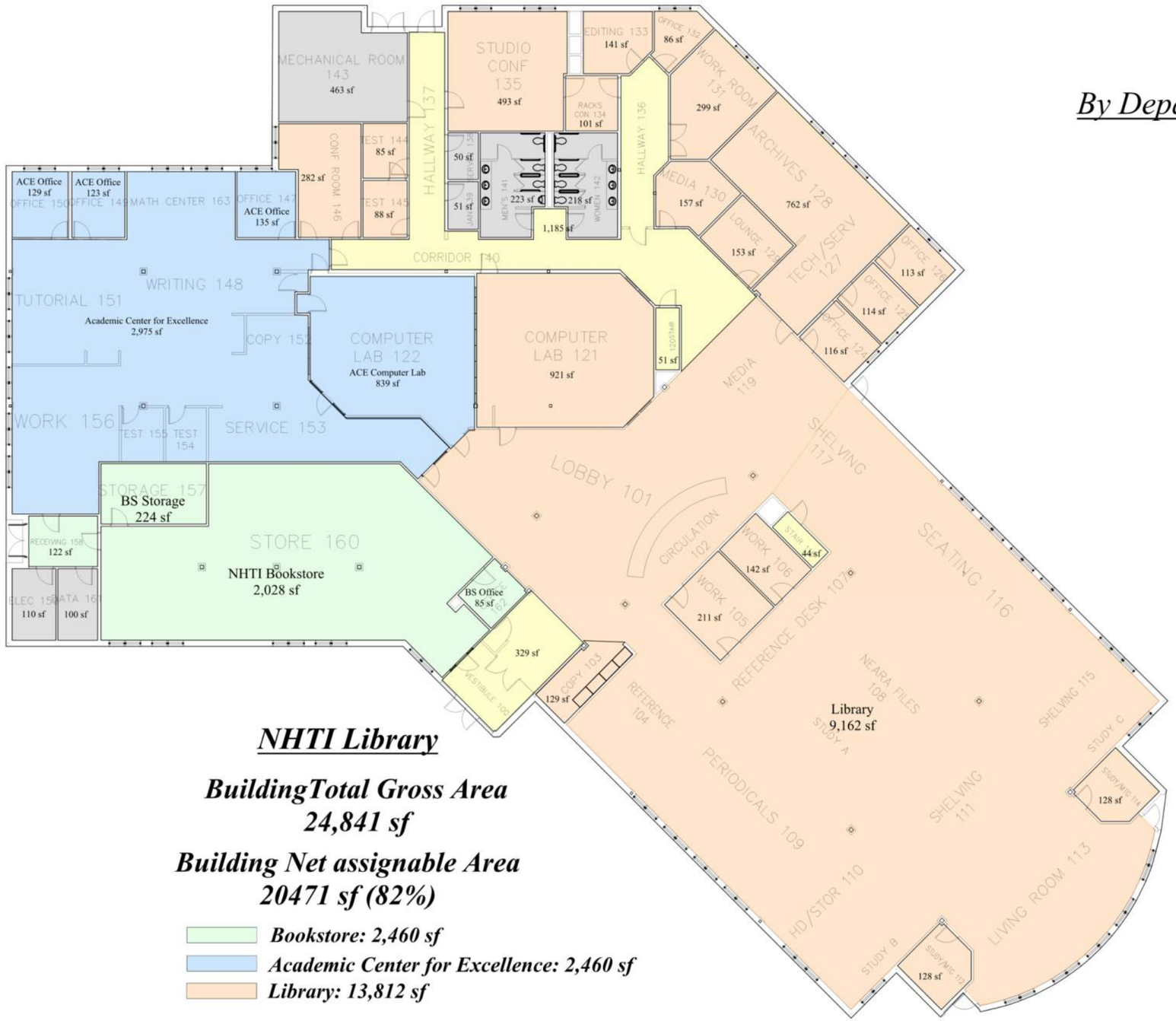
2nd Flr Net Assignable Area: 5,840 sf (57%)

By Department



Graponne Hall 3rd Flr Total Gross Area
9,405 sf
3rd Flr Net Assignable Area: 6,282 sf (67%)

By Department



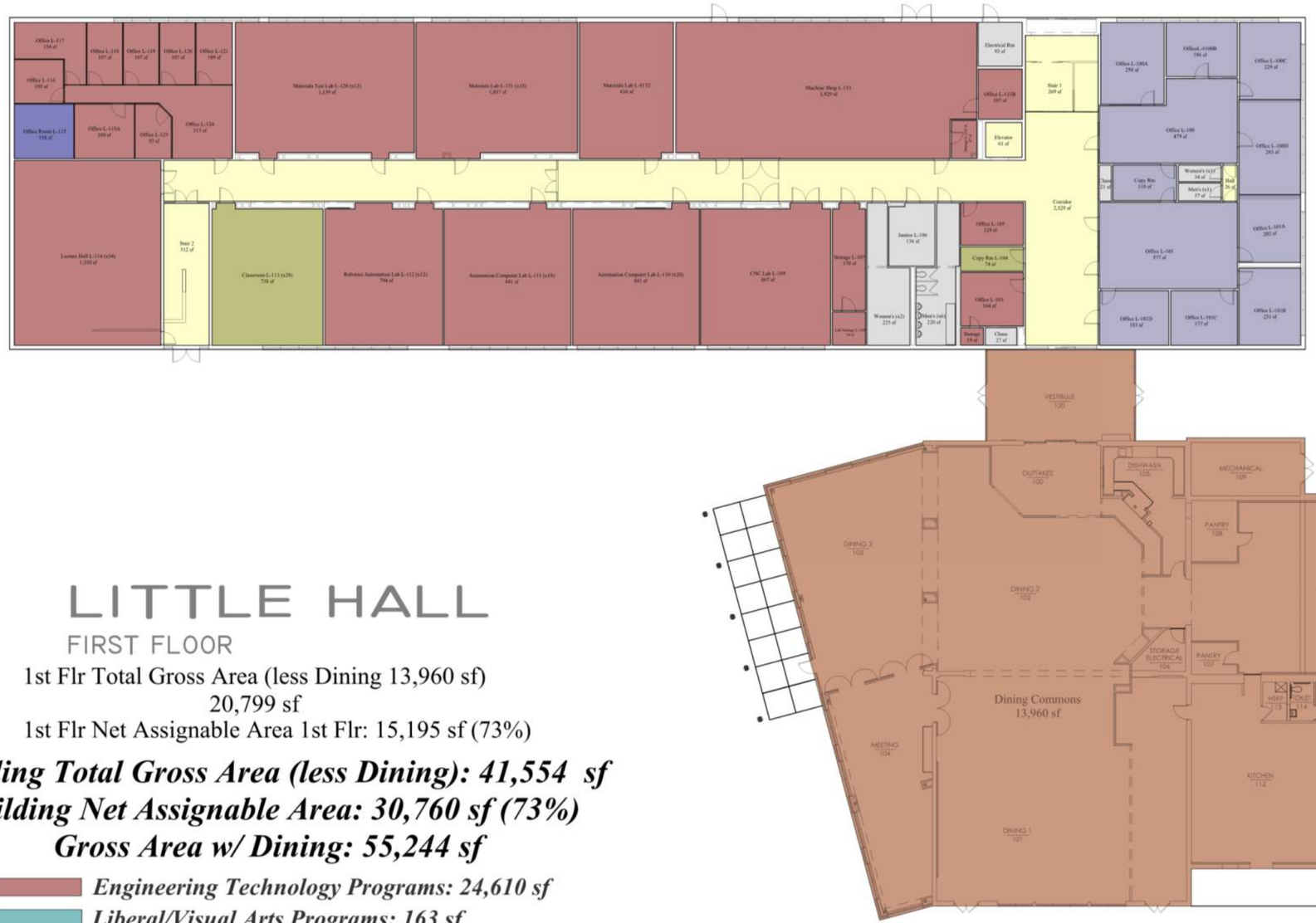
NHTI Library

BuildingTotal Gross Area
24,841 sf

Building Net assignable Area
20471 sf (82%)

- ***Bookstore: 2,460 sf***
- ***Academic Center for Excellence: 2,460 sf***
- ***Library: 13,812 sf***

By Department



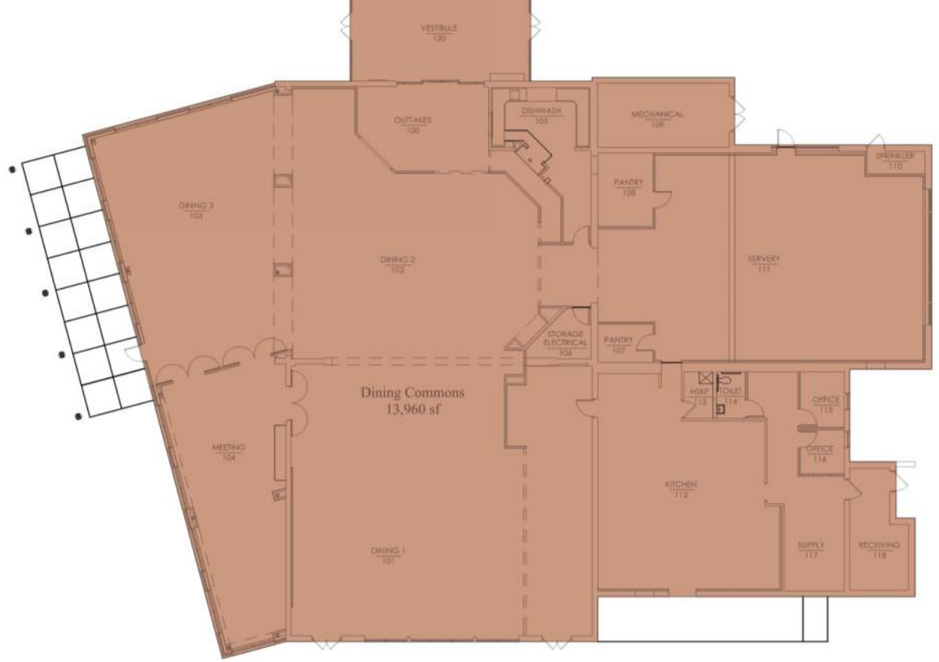
LITTLE HALL

FIRST FLOOR

1st Flr Total Gross Area (less Dining 13,960 sf)
20,799 sf
1st Flr Net Assignable Area 1st Flr: 15,195 sf (73%)

Building Total Gross Area (less Dining): 41,554 sf
Building Net Assignable Area: 30,760 sf (73%)
Gross Area w/ Dining: 55,244 sf

- *Engineering Technology Programs: 24,610 sf*
- *Liberal/Visual Arts Programs: 163 sf*
- *Mathematics Programs: 158 sf*
- *Shared Program Area: 2,923 sf*
- *Administration Area: 2,908 sf*



Dining Commons Gross Area: 13960 sf
Net Assignable Area: 12065 sf (86%)

By Department

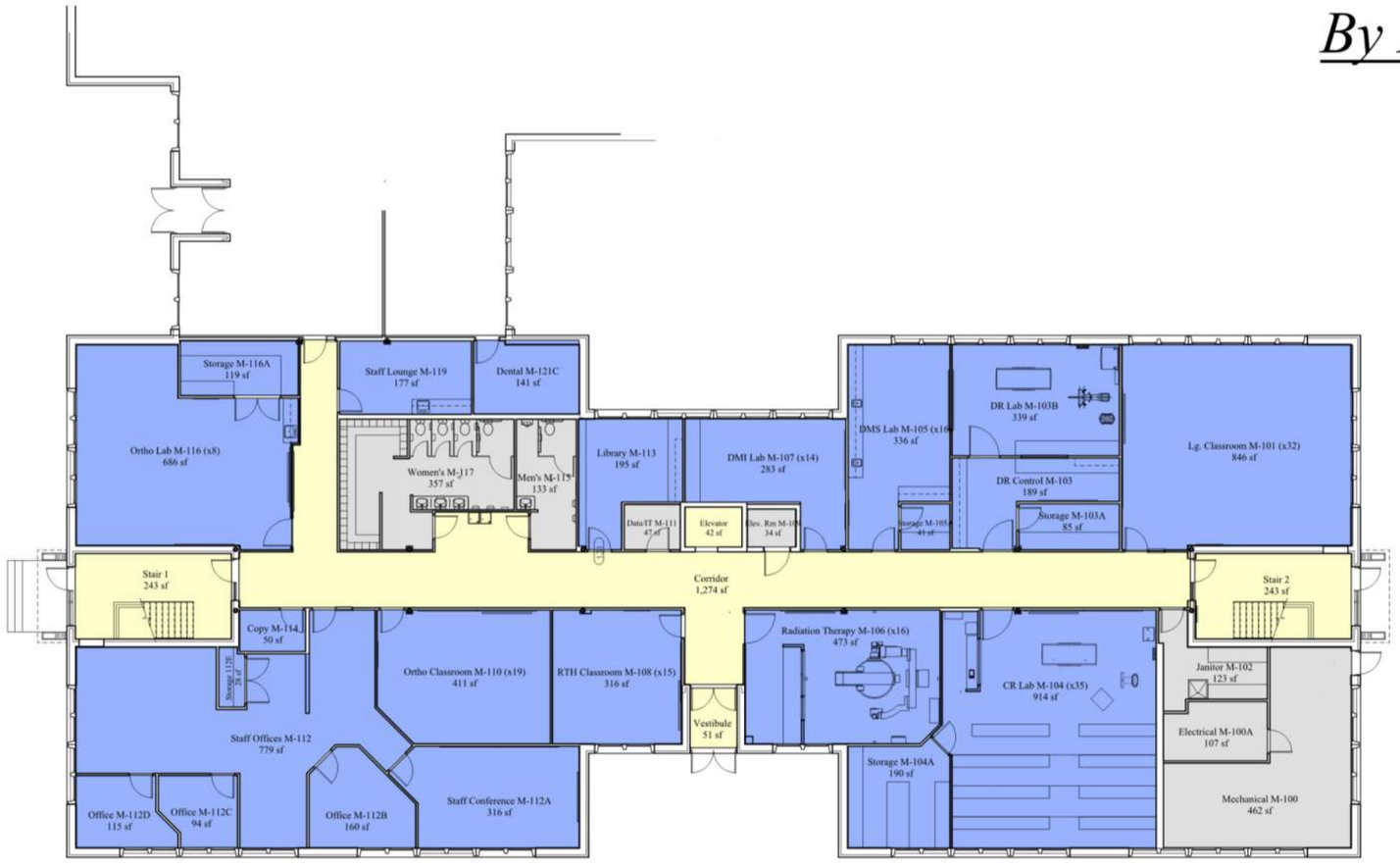
LITTLE HALL

SECOND FLOOR

2nd Flr Total Gross Area
20,755 sf

2nd Flr Net Assignable Area: 15,566 sf (75%)

By Department



MacRury Hall-First Floor

1st Flr Total Gross Area

11,452 sf

1st Flr Net Assignable Space: 7,282 sf (63%)

Building Total Gross Area: 23,040 sf

Building Net Assignable Area: 15,422 sf (67%)

Health & Science Programs: 15,422 sf

By Department

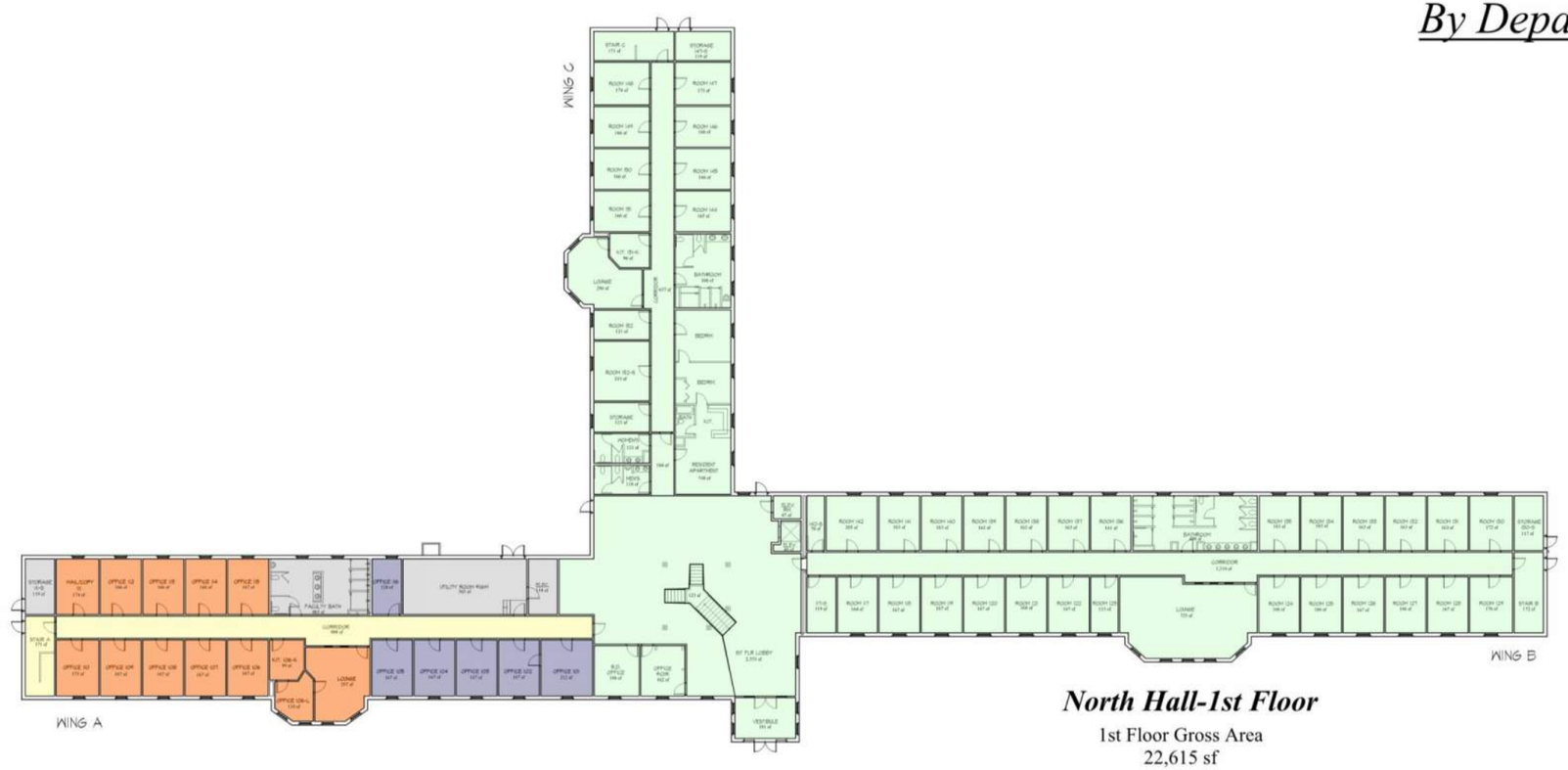
MacRury Hall - Second Floor

2nd Flr Total Gross Area

11,588 sf

2nd Flr Net Assignable Space: 8,140 sf (70%)

By Department



North Hall-1st Floor

1st Floor Gross Area
22,615 sf

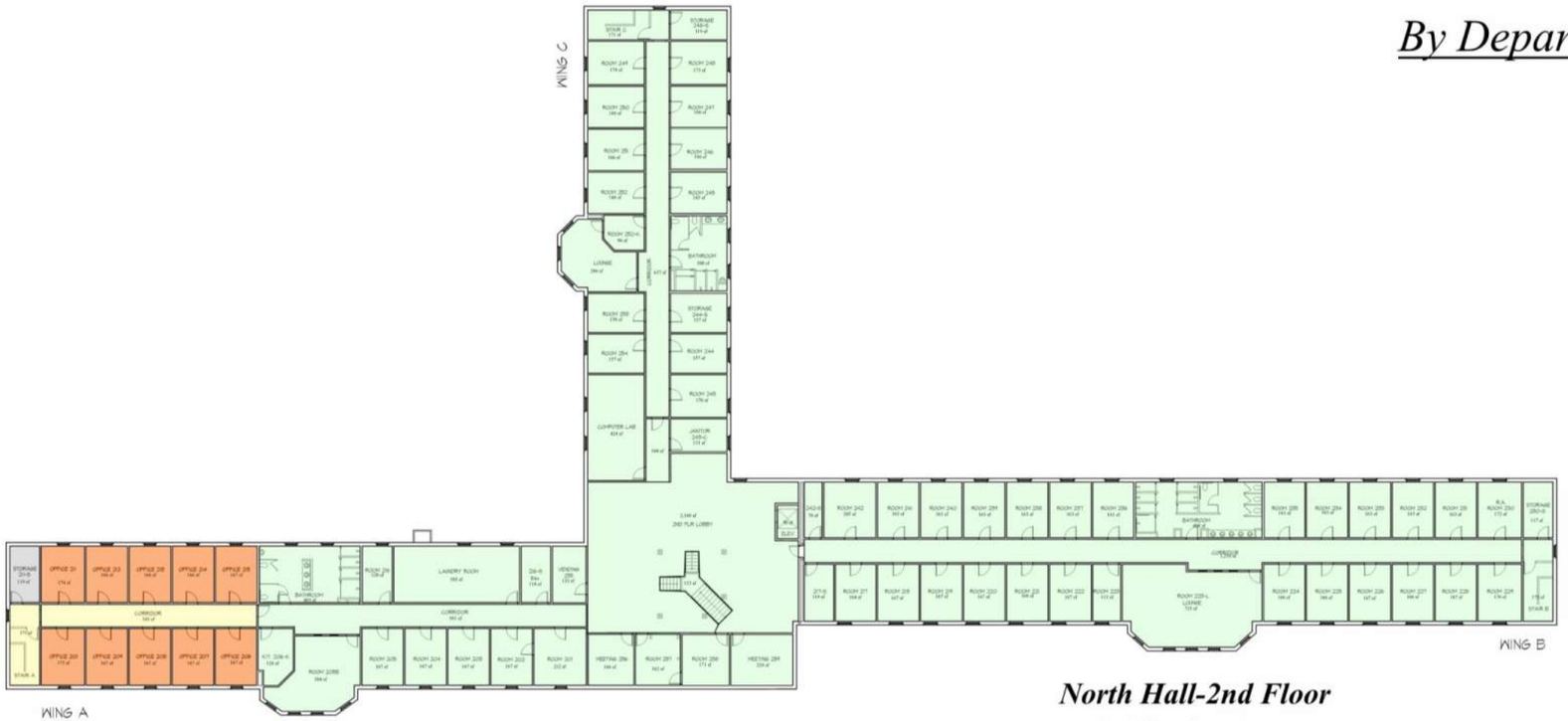
1st Floor Net Assignable Area:
14,710 sf (65%)

Building Total Gross Area: 45,020 sf
Building Net Assignable Area: 29,808 sf (66%)

Faculty Area: 3,873 sf

Administration Area: 1,000 sf

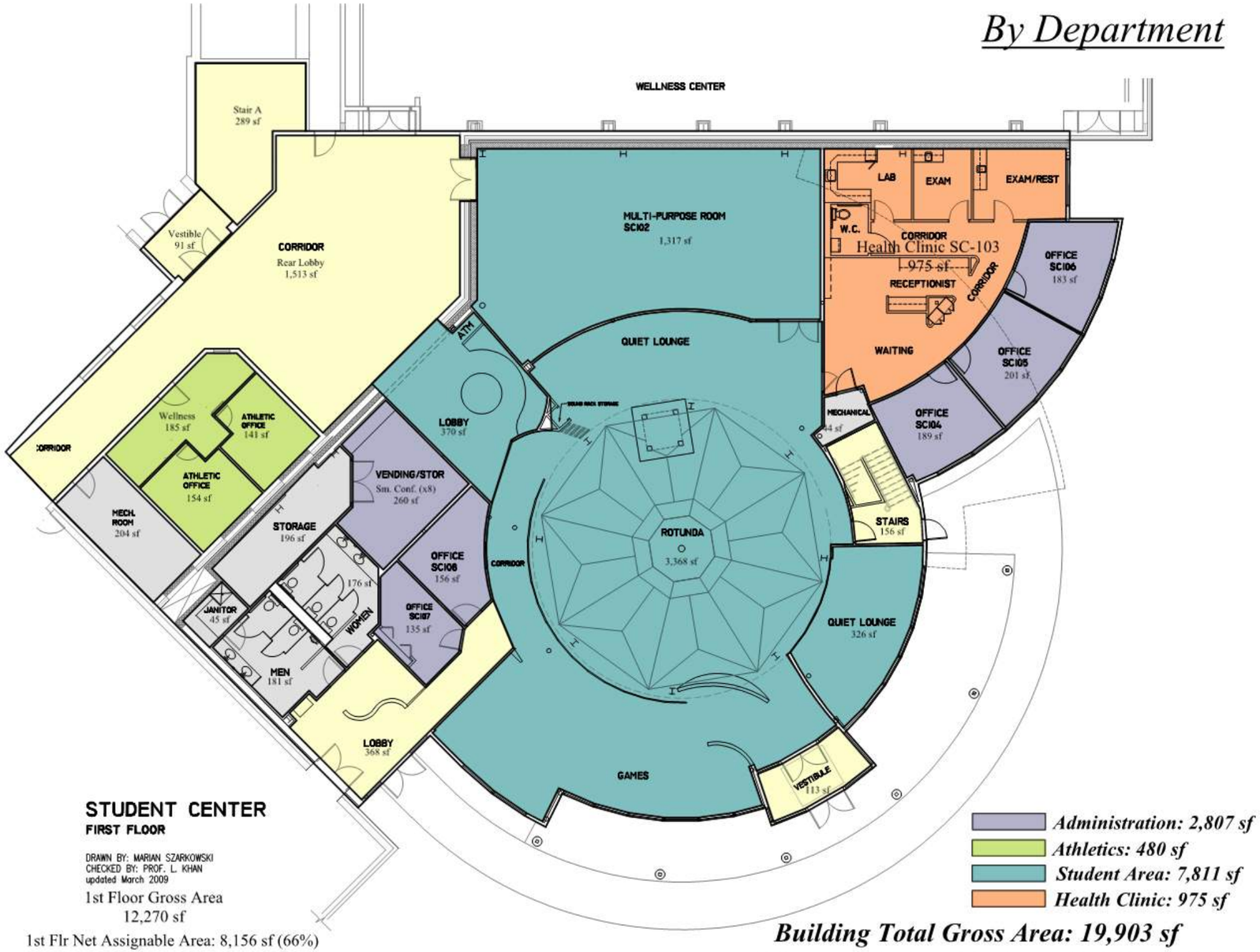
By Department



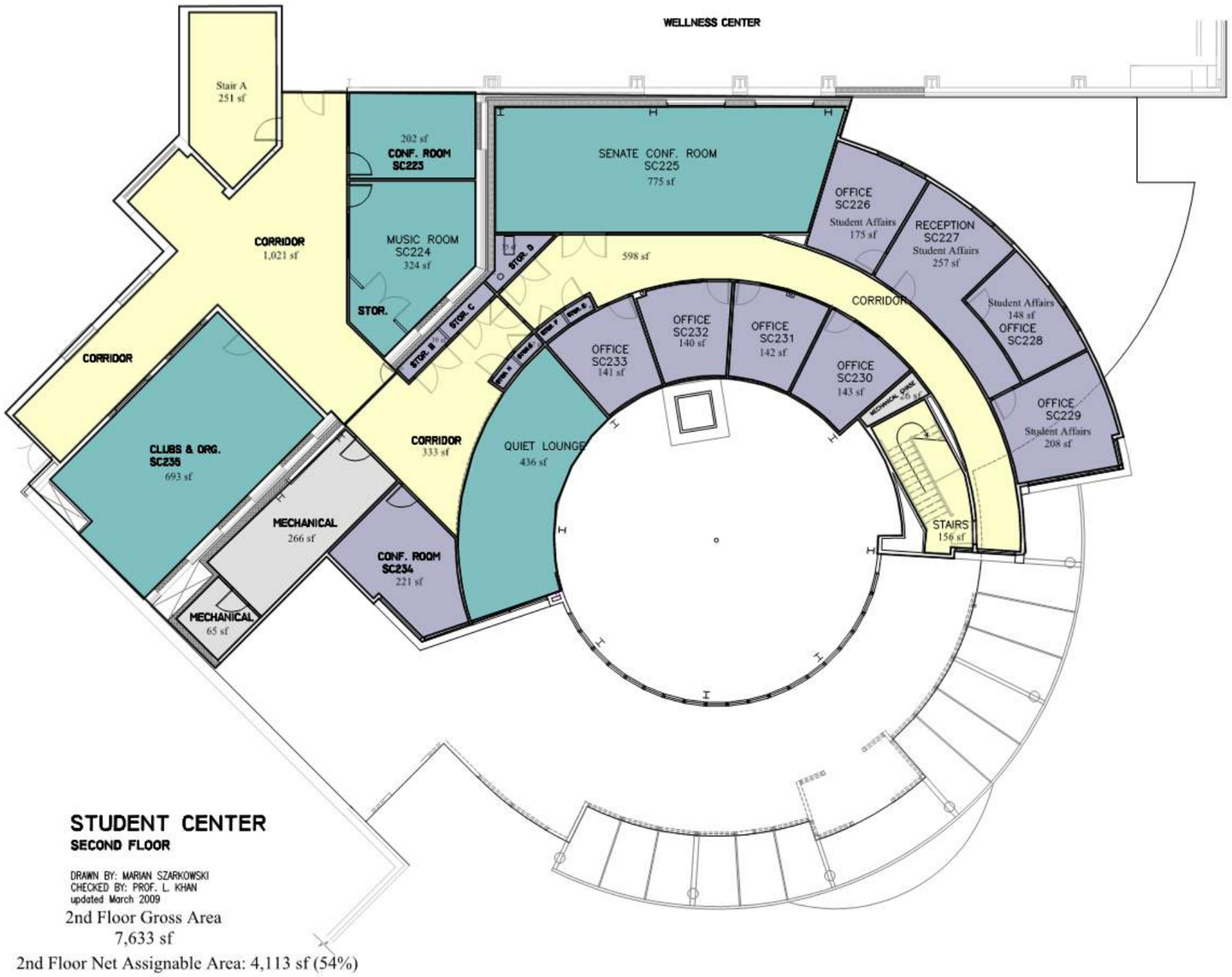
North Hall-2nd Floor

2nd Floor Gross Area
22,405 sf
2nd Floor Net Assignable Area:
15098 sf (67%)

By Department



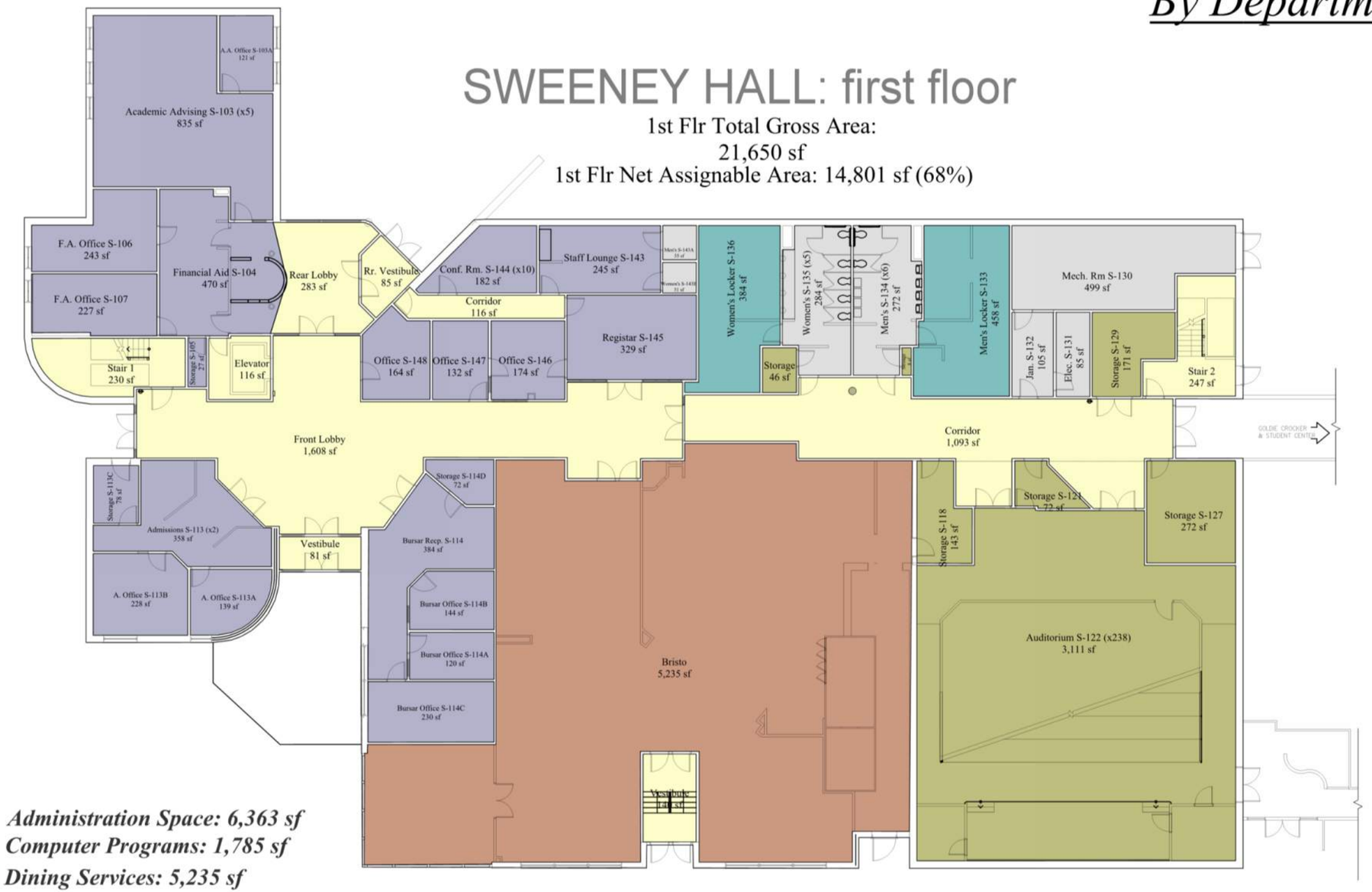
By Department



By Department

SWEENEY HALL: first floor

1st Flr Total Gross Area:
21,650 sf
1st Flr Net Assignable Area: 14,801 sf (68%)



Administration Space: 6,363 sf
Computer Programs: 1,785 sf
Dining Services: 5,235 sf
Education Programs: 893 sf
Shared Program Area: 16,803 sf
Student Area: 458 sf

Building Total Gross Area: 48,054 sf
Building Net Assignable Area: 32,041 sf (67%)

By Department

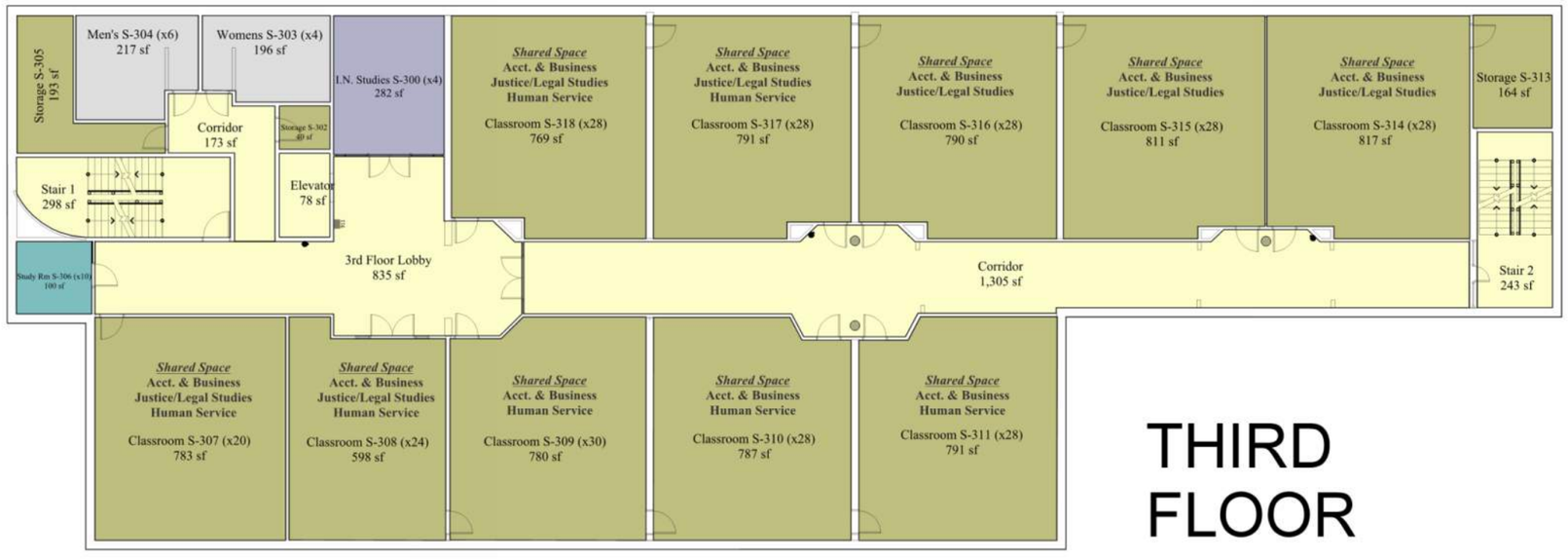
SWEENEY HALL

SECOND FLOOR

2nd Flr Total Gross Area
13,306 sf
2nd Flr Net Assignable Area: 8,744 sf (66%)

By Department

SWEENEY HALL



THIRD FLOOR

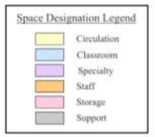
Total Area-3rd Flr
13,098 sf
Net Assignable Area: 8,496 sf (65%)

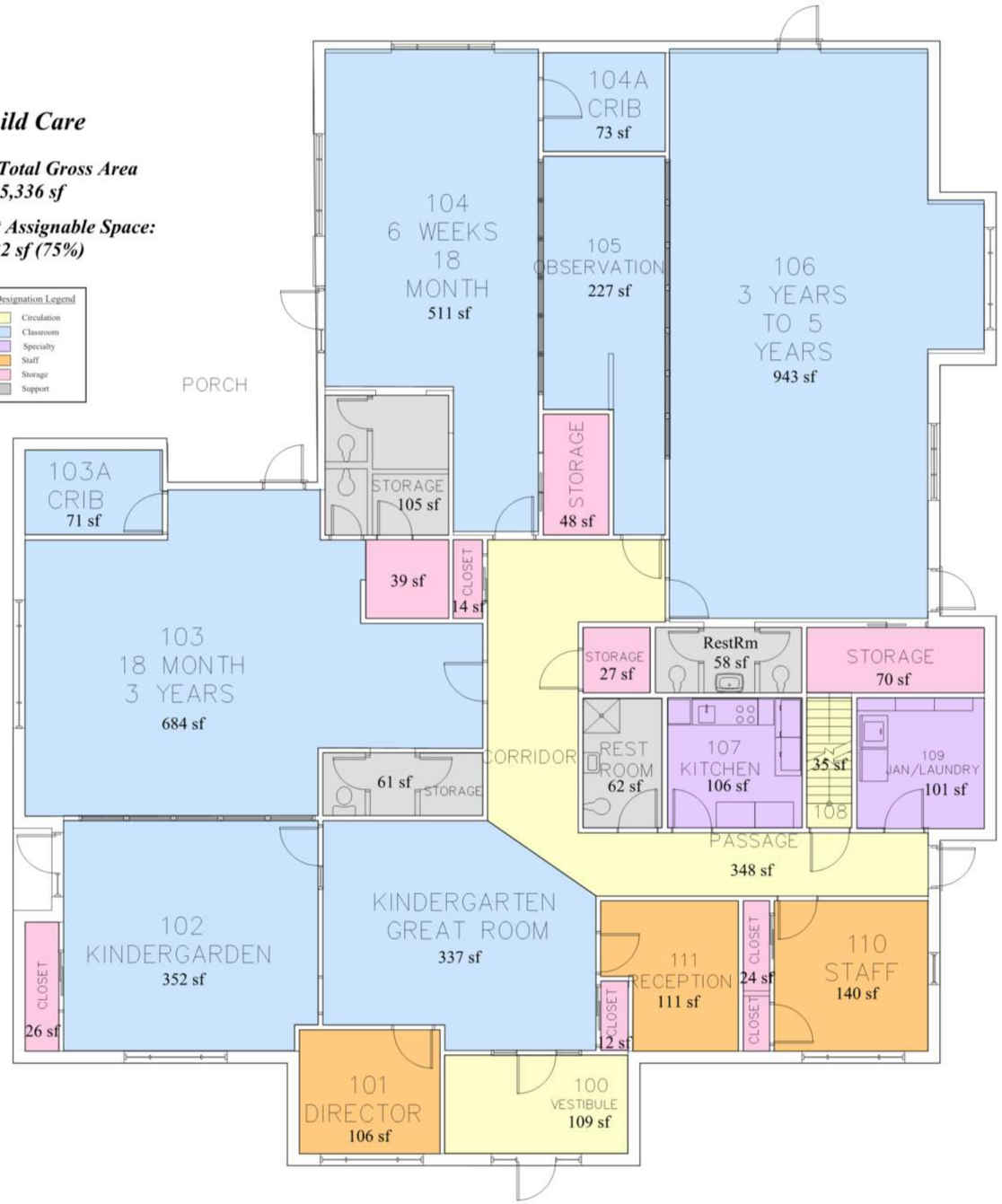
By Use

Child Care

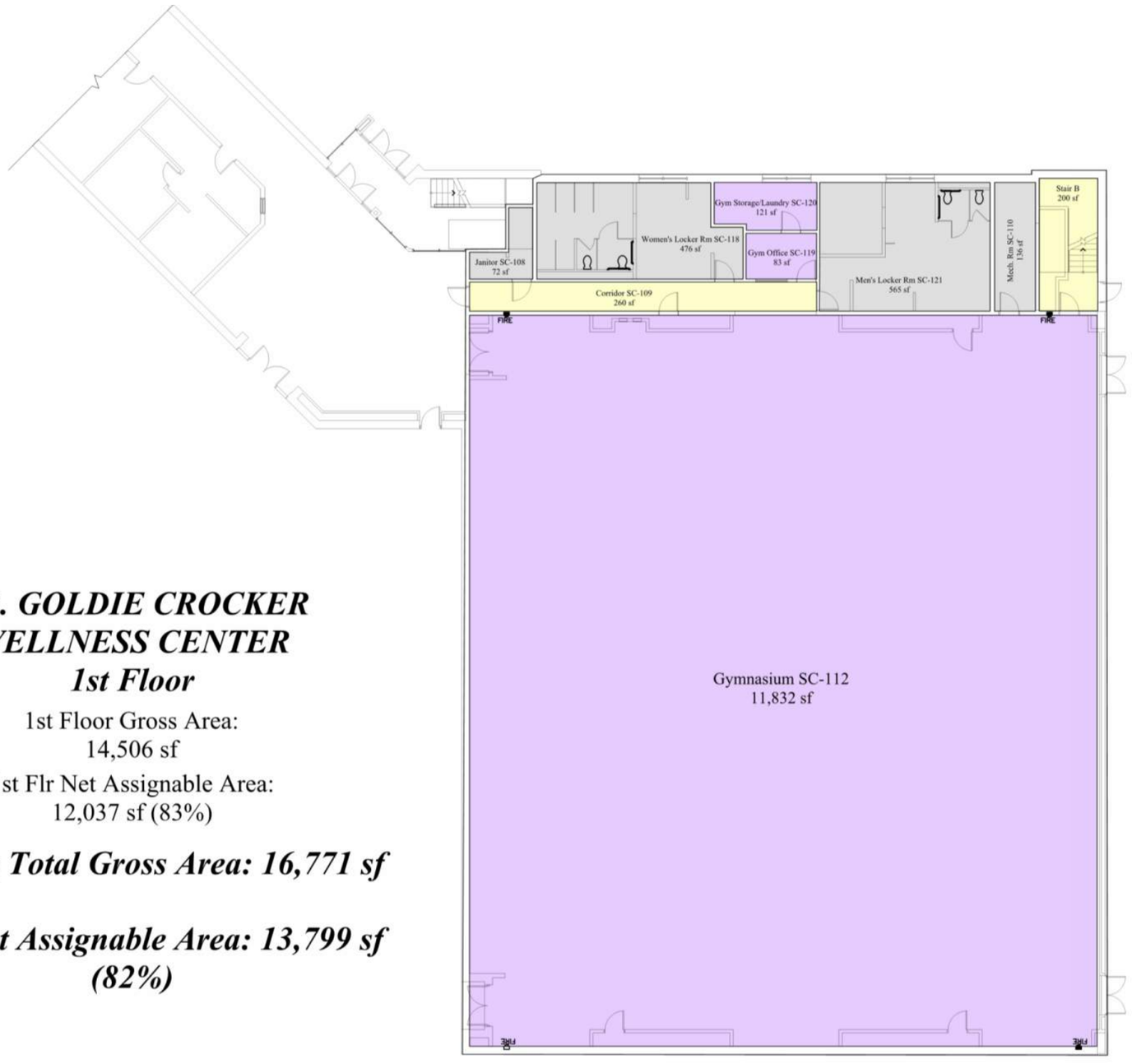
BuildingTotal Gross Area
5,336 sf

Building Net Assignable Space:
4,022 sf (75%)





By Use



DR. GOLDIE CROCKER WELLNESS CENTER
1st Floor

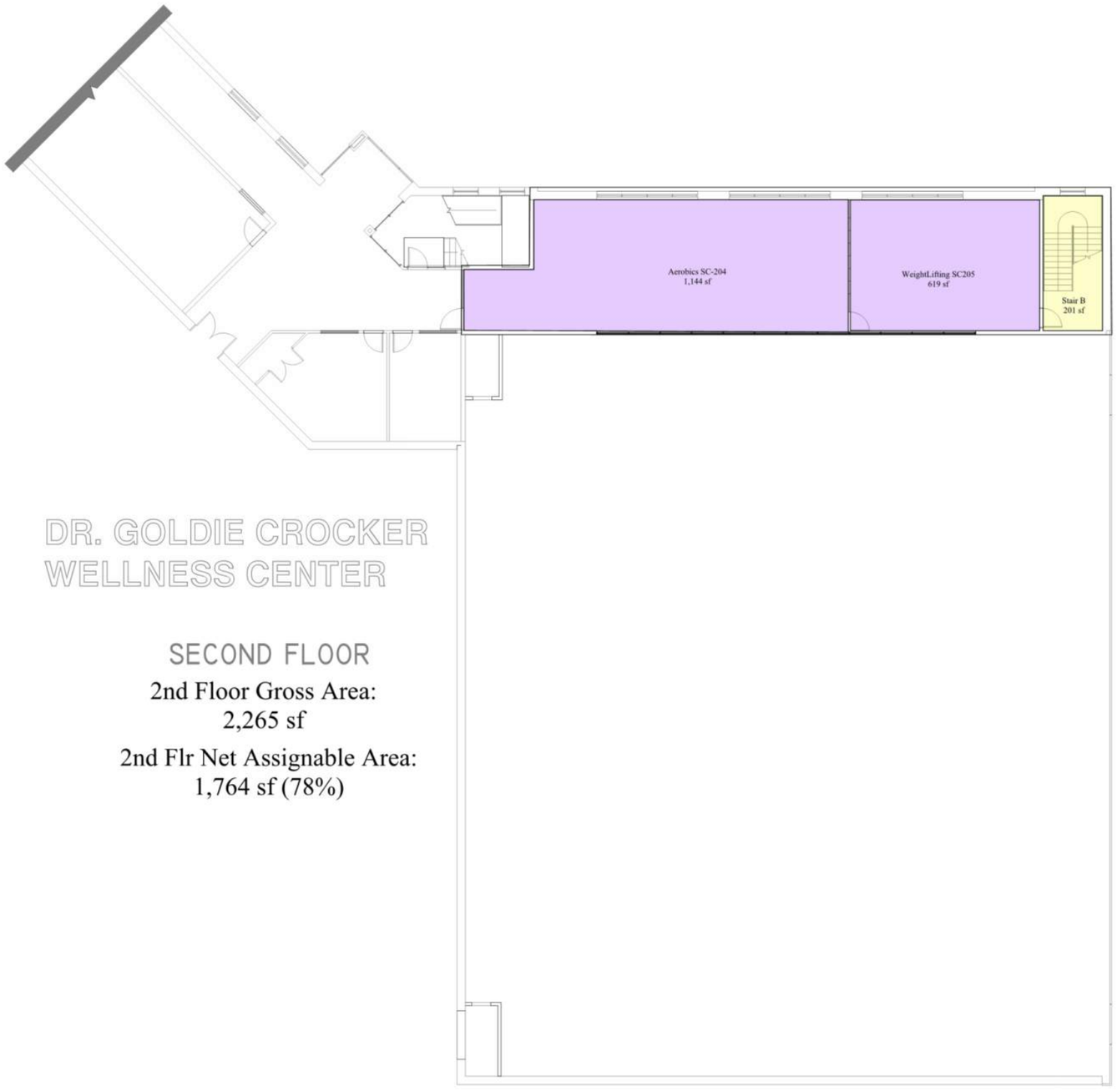
1st Floor Gross Area:
14,506 sf

1st Flr Net Assignable Area:
12,037 sf (83%)

Building Total Gross Area: 16,771 sf

Total Net Assignable Area: 13,799 sf (82%)

By Use



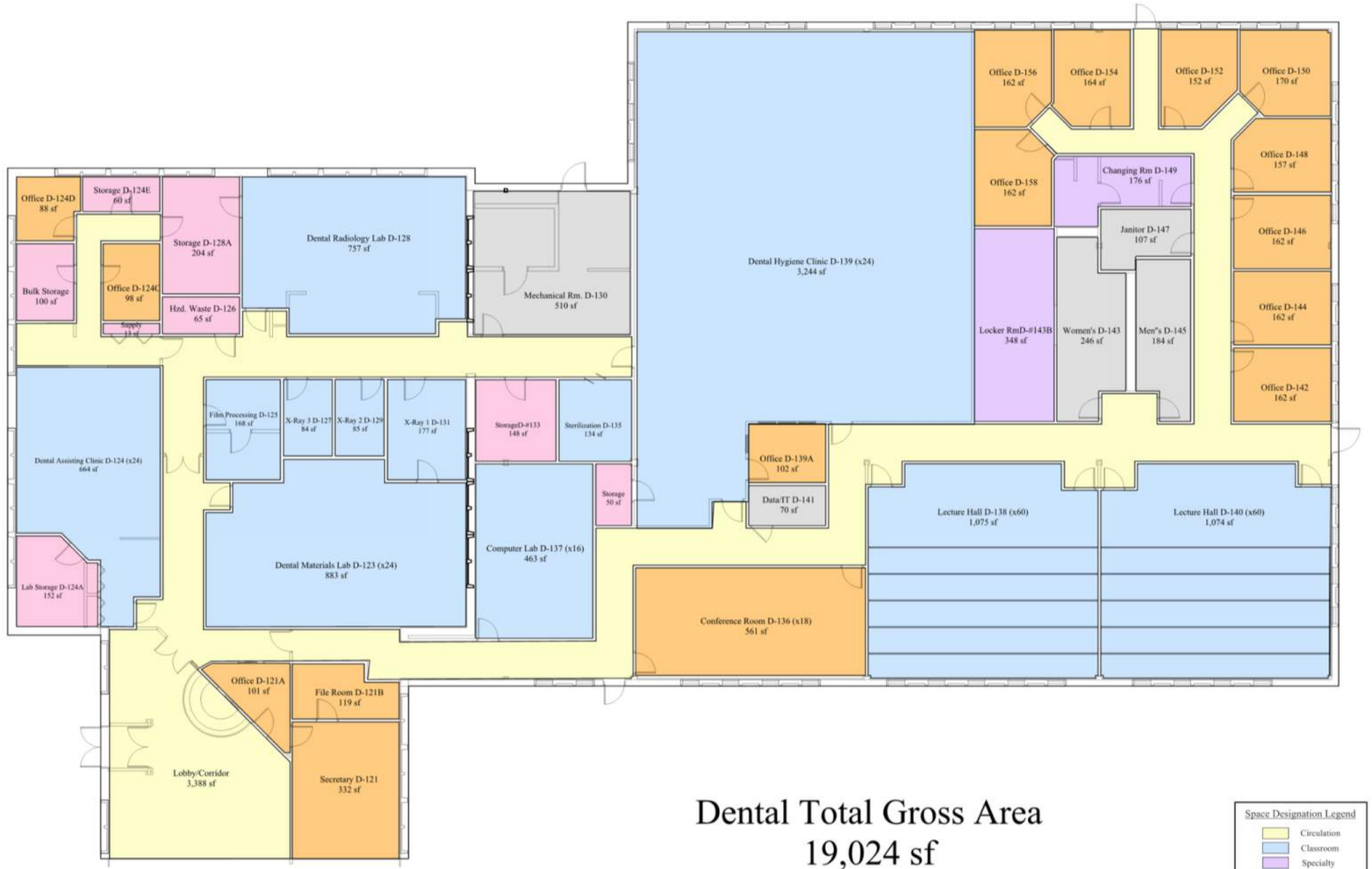
DR. GOLDIE CROCKER
WELLNESS CENTER

SECOND FLOOR

2nd Floor Gross Area:
2,265 sf

2nd Flr Net Assignable Area:
1,764 sf (78%)

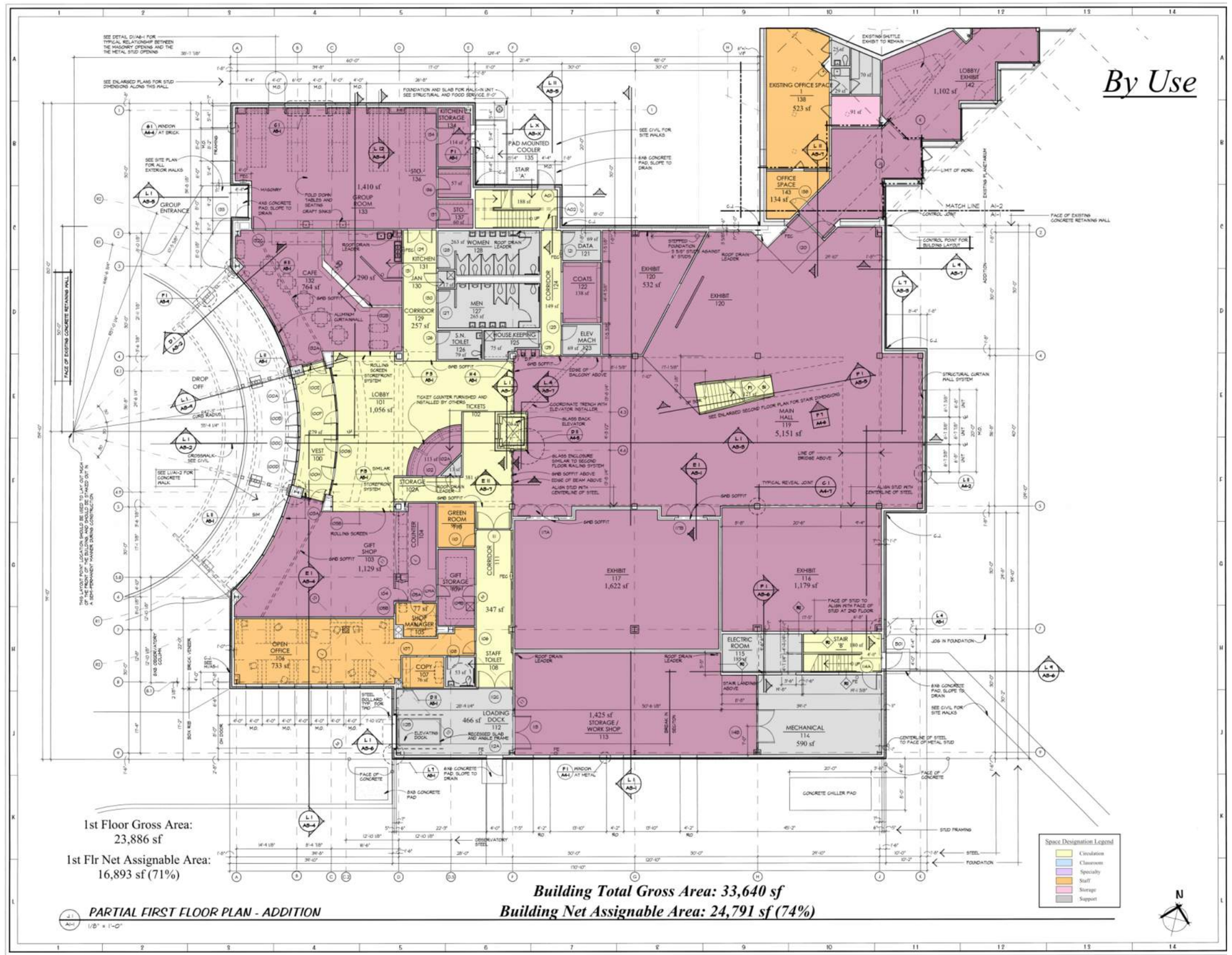
By Use



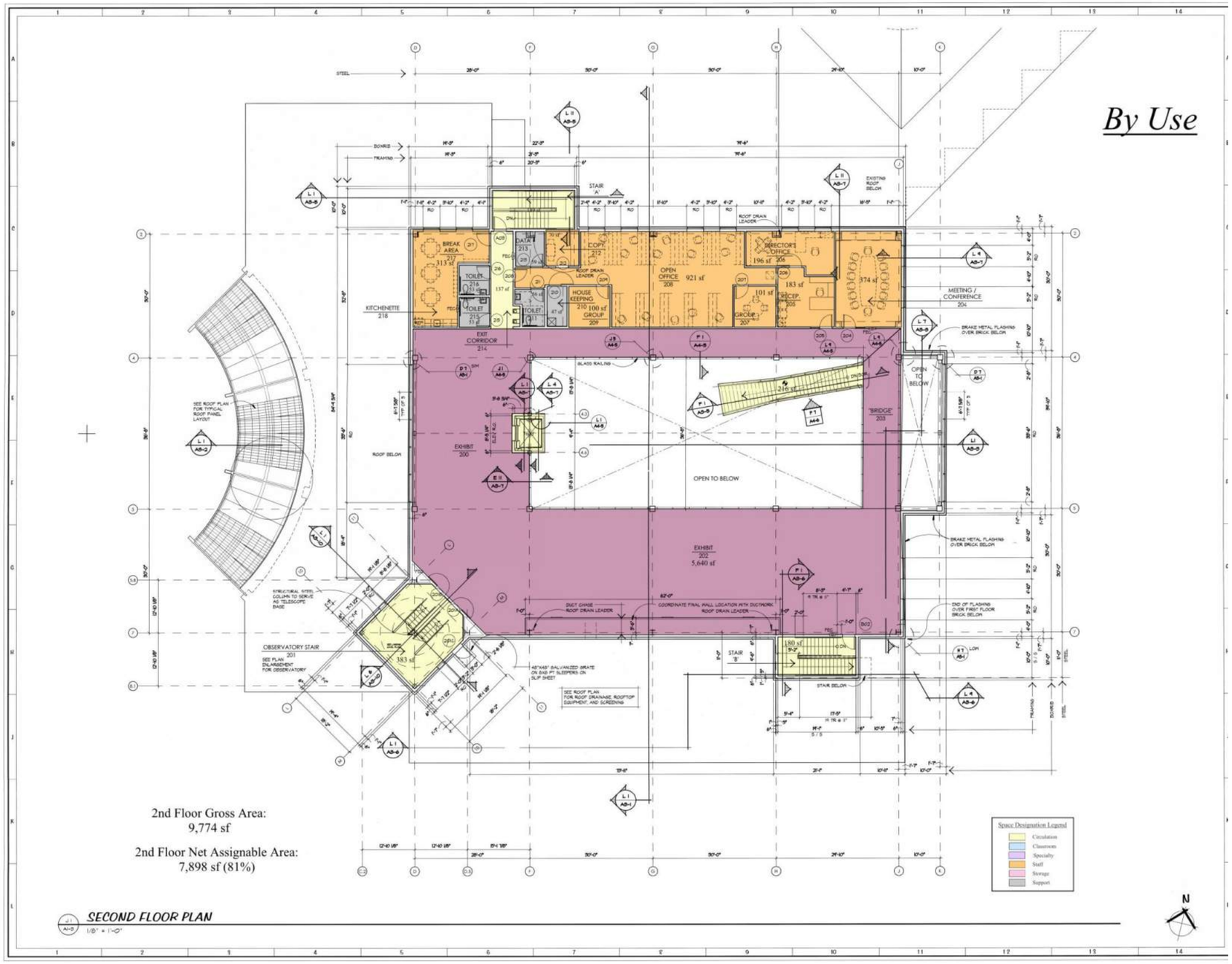
Dental Total Gross Area
19,024 sf

Net Assignable Area: 12,978 sf (68%)

Space Designation Legend
- Circulation
- Classroom
- Specialty
- Staff
- Storage
- Support


By Use
1st Floor Gross Area:
23,886 sf
1st Flr Net Assignable Area:
16,893 sf (71%)
Building Total Gross Area: 33,640 sf
Building Net Assignable Area: 24,791 sf (74%)
PARTIAL FIRST FLOOR PLAN - ADDITION
1/8" = 1'-0"
Space Designation Legend
Circulation
Classroom
Specialty
Staff
Storage
Support
N

By Use

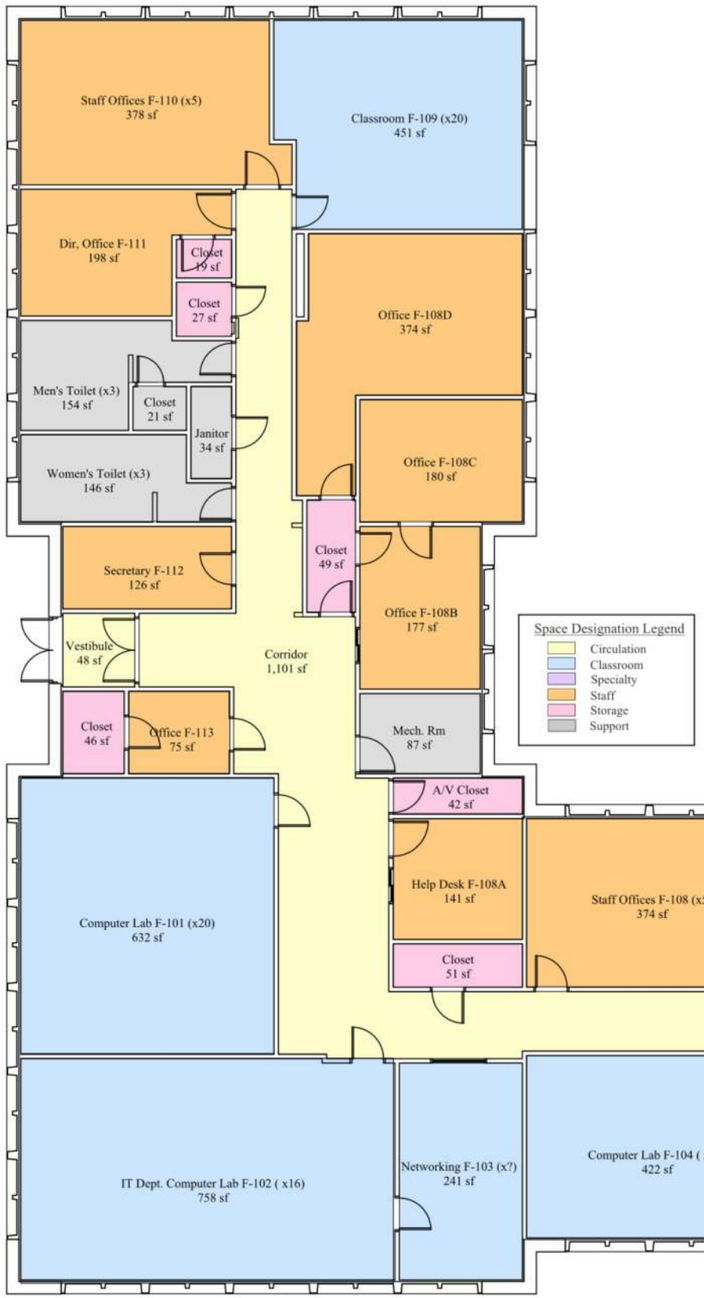


2nd Floor Gross Area:
9,774 sf

2nd Floor Net Assignable Area:
7,898 sf (81%)

SECOND FLOOR PLAN
1/8" = 1'-0"

By Use

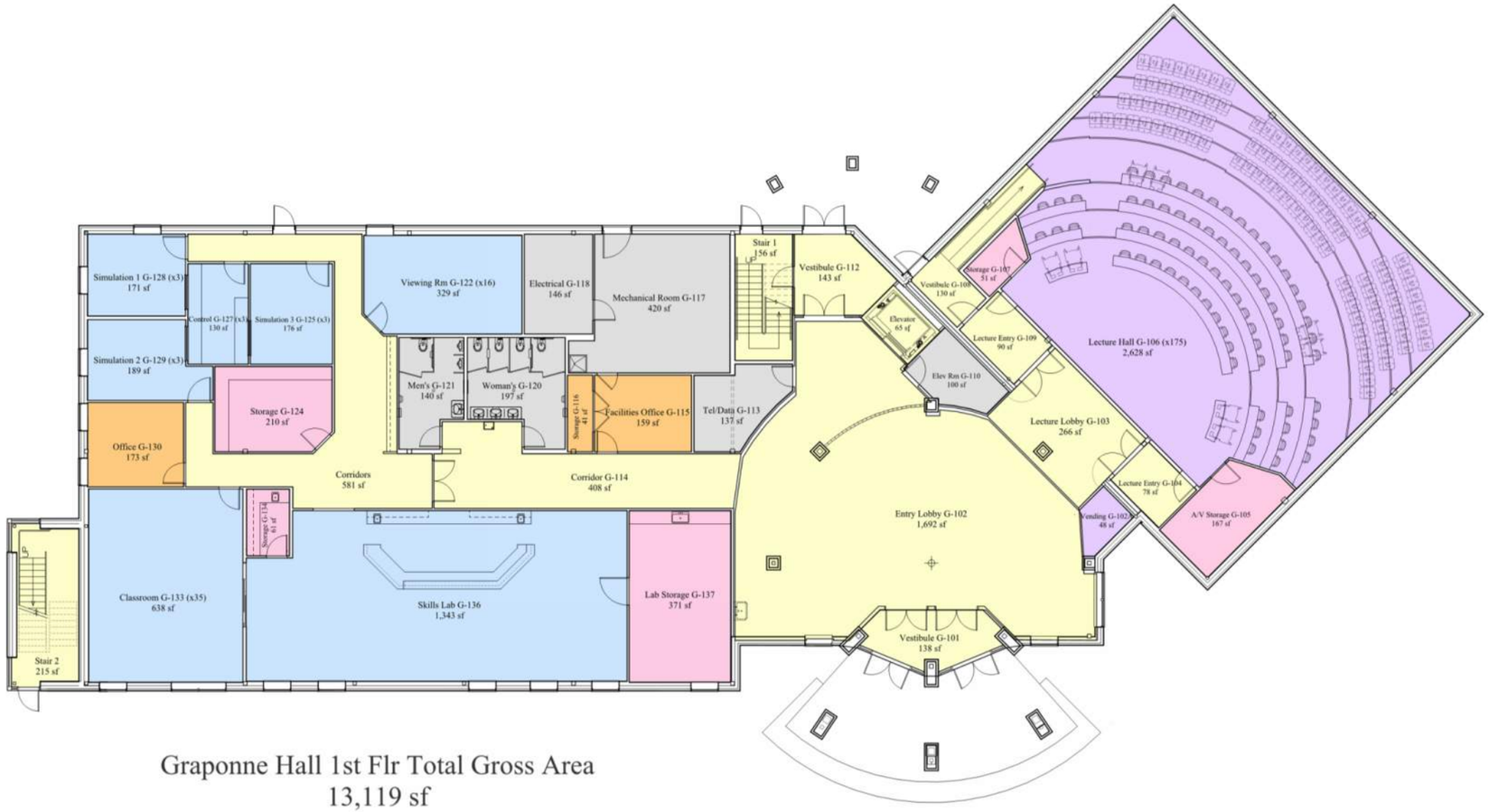


FARNUM HALL

Building Total Gross Area
9,444 sf

Net Assignable Area: 6,620 sf (70%)

By Use



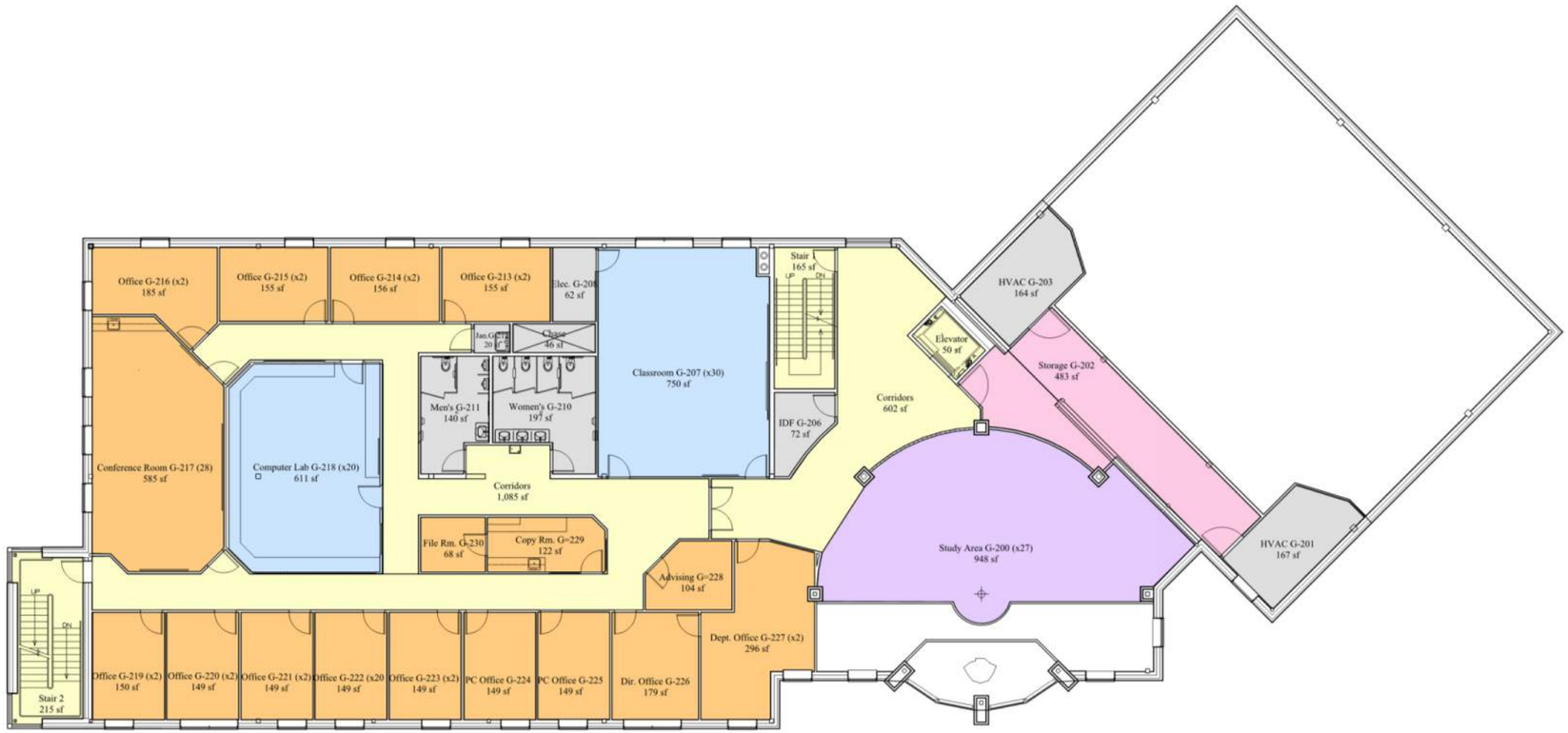
Graponne Hall 1st Flr Total Gross Area
13,119 sf

1st Flr Net Assignable Area: 6,886 sf (52%)

Building Total Gross Area: 32,817 sf

Building Net Assignable Area: 19,008 sf (58%)

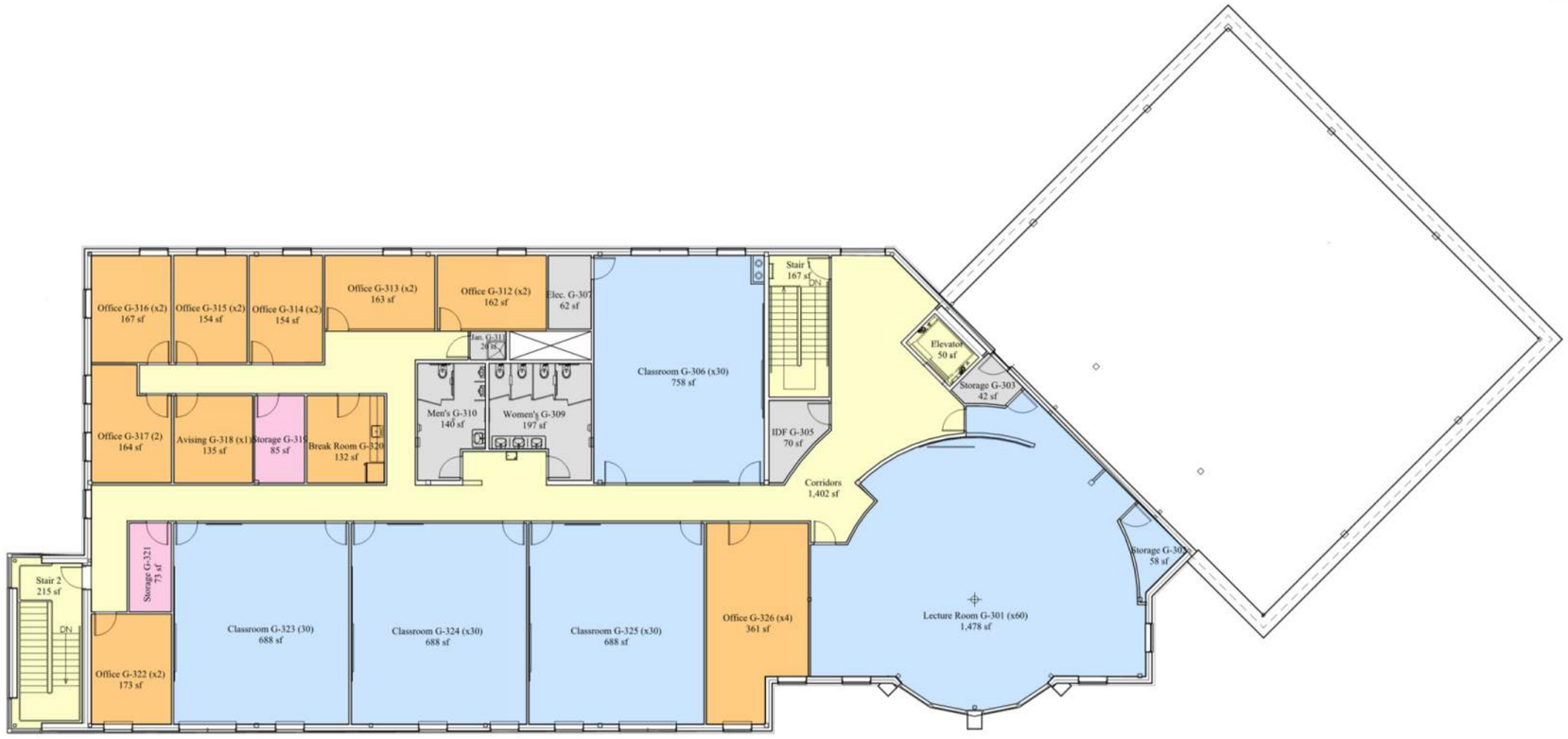
By Use



Graponne Hall 2nd Flr Total Gross Area
10,293 sf
2nd Flr Net Assignable Area: 5,840 sf (57%)

Space Designation Legend
- Circulation
- Classroom
- Specialty
- Staff
- Storage
- Support

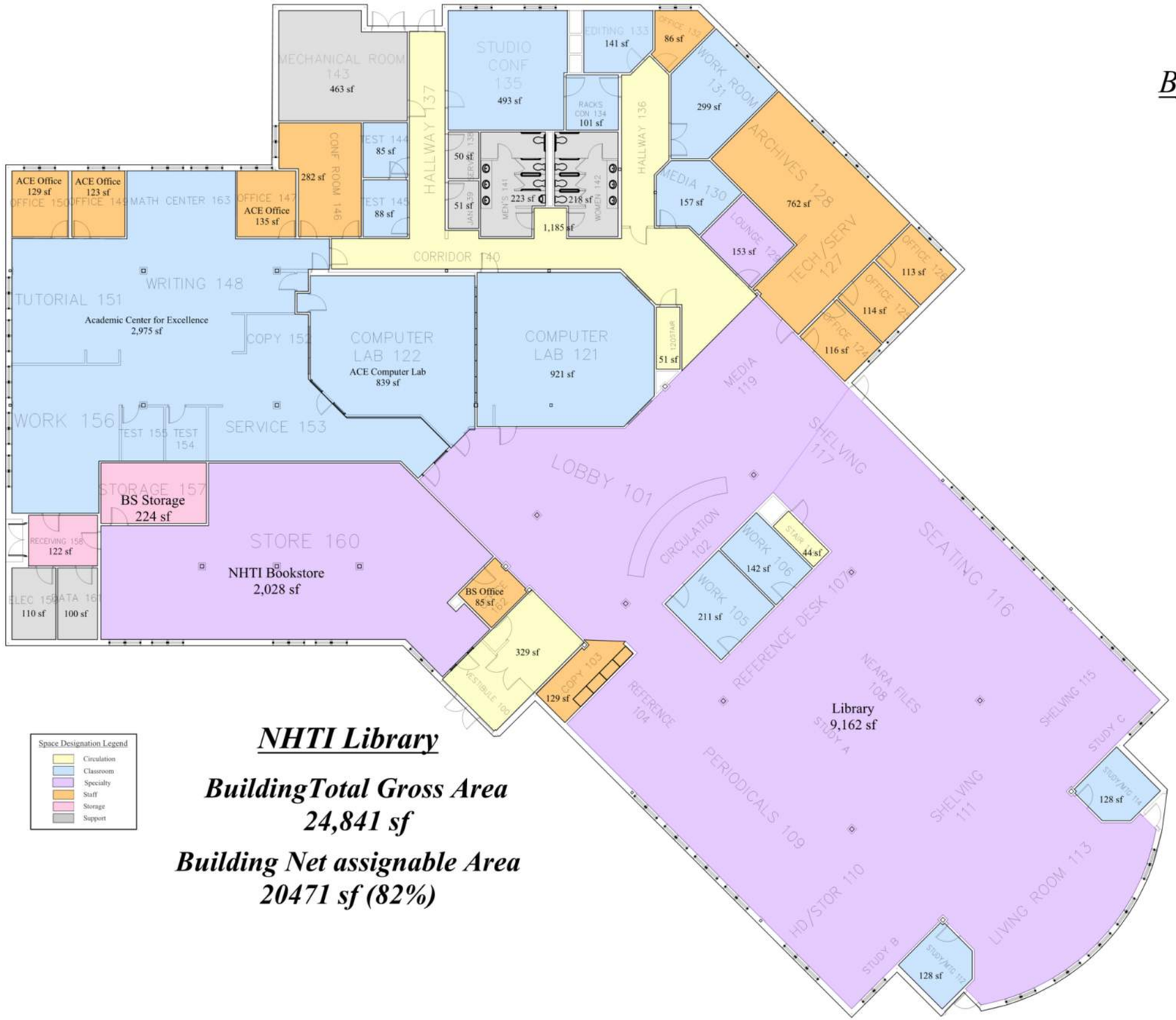
By Use



Graponne Hall 3rd Flr Total Gross Area
9,405 sf
3rd Flr Net Assignable Area: 6,282 sf (67%)

Space Designation Legend
- Circulation
- Classroom
- Specialty
- Staff
- Storage
- Support

By Use

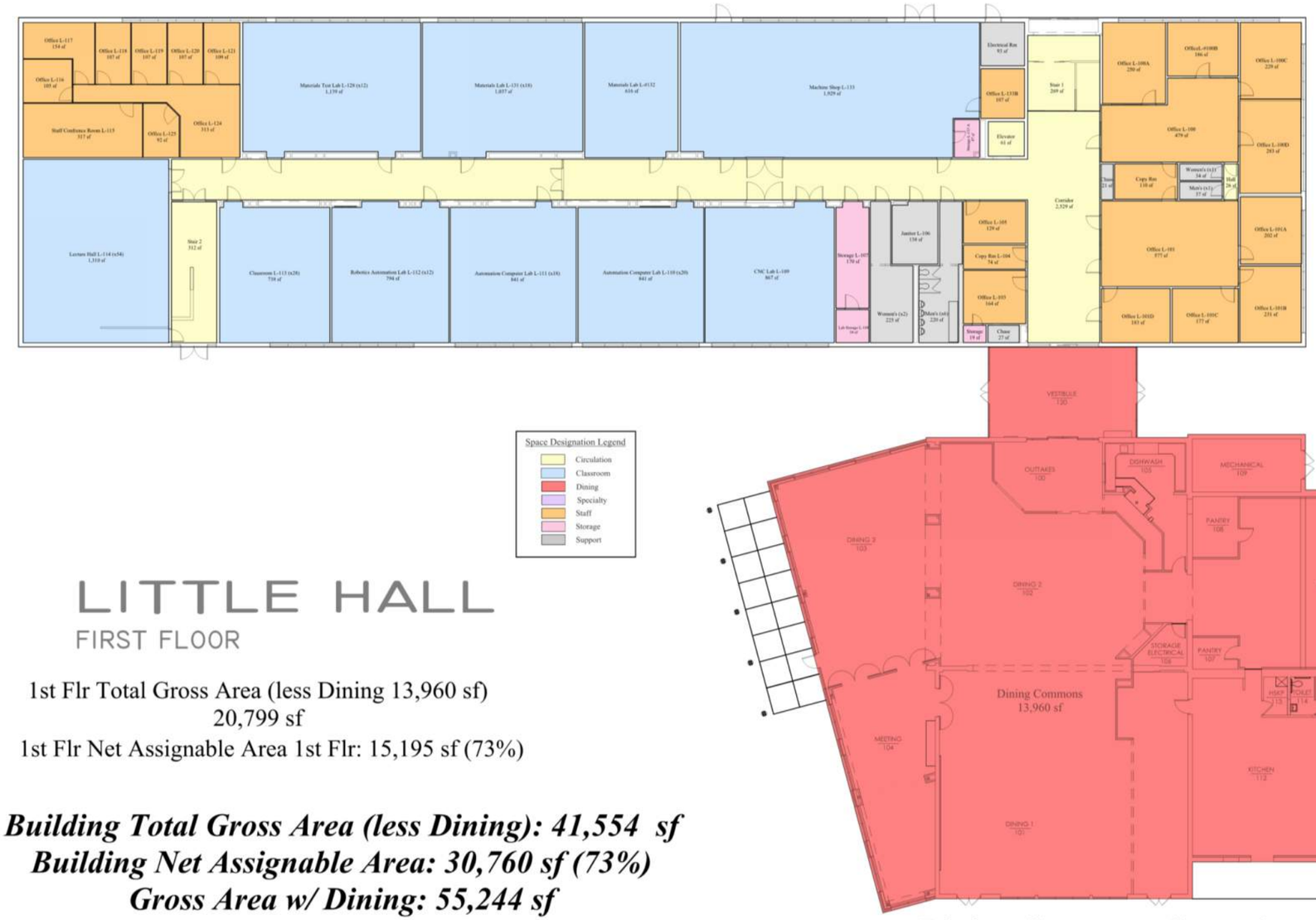


NHTI Library

BuildingTotal Gross Area
24,841 sf

Building Net assignable Area
20471 sf (82%)

By Use



LITTLE HALL

FIRST FLOOR

1st Flr Total Gross Area (less Dining 13,960 sf)
20,799 sf
1st Flr Net Assignable Area 1st Flr: 15,195 sf (73%)

Building Total Gross Area (less Dining): 41,554 sf
Building Net Assignable Area: 30,760 sf (73%)
Gross Area w/ Dining: 55,244 sf

Dining Commons Gross Area: 13960 sf
Net Assignable Area: 12065 sf (86%)

By Use

LITTLE HALL
SECOND FLOOR

2nd Flr Total Gross Area
20,755 sf

2nd Flr Net Assignable Area: 15,566 sf (75%)

Space Designation Legend
- Circulation
- Classroom
- Specialty
- Staff
- Storage
- Support

By Use

MacRury Hall-First Floor

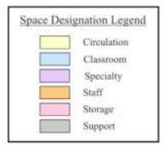
1st Flr Total Gross Area

11,452 sf

1st Flr Net Assignable Space: 7,282 sf (63%)

Building Total Gross Area: 23,040 sf

Building Net Assignable Area: 15,422 sf (67%)



By Use

MacRury Hall - Second Floor

2nd Flr Total Gross Area

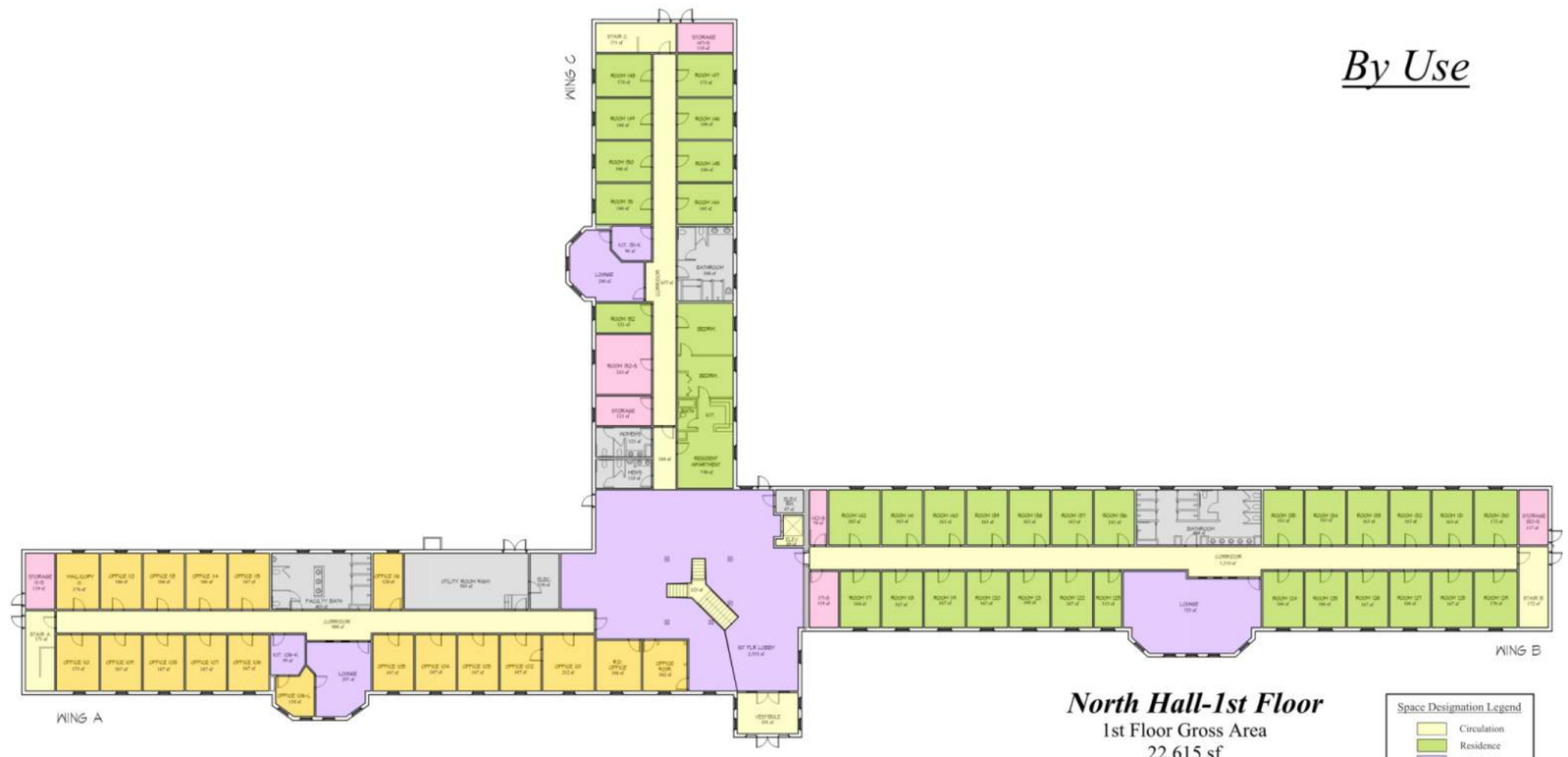
11,588 sf

2nd Flr Net Assignable Space: 8,140 sf (70%)

Space Designation Legend

- Circulation
- Classroom
- Specialty
- Staff
- Storage
- Support

By Use



North Hall-1st Floor

1st Floor Gross Area
22,615 sf

1st Floor Net Assignable Area:
14,710 sf (65%)

Space Designation Legend
- Circulation
- Residence
- Specialty
- Staff
- Storage
- Support

Building Total Gross Area: 45,020 sf
Building Net Assignable Area: 29,808 sf (66%)

By Use

North Hall-2nd Floor

2nd Floor Gross Area
22,405 sf
2nd Floor Net Assignable Area:
15098 sf (67%)

Space Designation Legend
- Circulation
- Residence
- Specialty
- Staff
- Storage
- Support

By Use

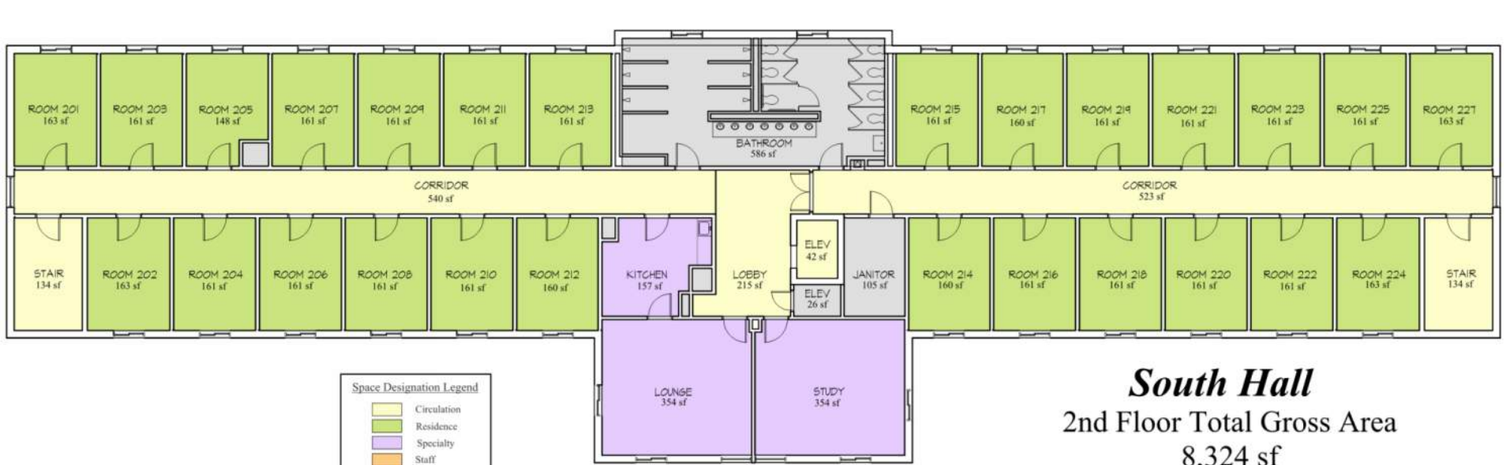
South Hall

1st Floor Total Gross Area
8,396 sf
1st Floor Net Assignable Area:
4,629 sf (55%)

Building Total Gross Area: 25,044 sf

Building Net Assignable Area: 14,727 sf (59%)

By Use



South Hall

2nd Floor Total Gross Area
8,324 sf

2nd Floor Net Assignable Area:
5.049 sf (61%)

By Use

South Hall

3rd Floor Total Gross Area
8,324 sf

3rd Floor Net Assignable Area:
5.049 sf (61%)

By Use

Strout Hall

1st Floor Gross Area
7,486 sf

1st Floor Net Assignable Area:
4,353 sf (58%)

Building Total Gross Area: 22,282 sf

Building Net Assignable Area: 13,925 sf (63%)

By Use

Space Designation Legend
- Circulation
- Residence
- Specialty
- Staff
- Storage
- Support

Strout Hall
2nd Floor Gross Area
7,398 sf

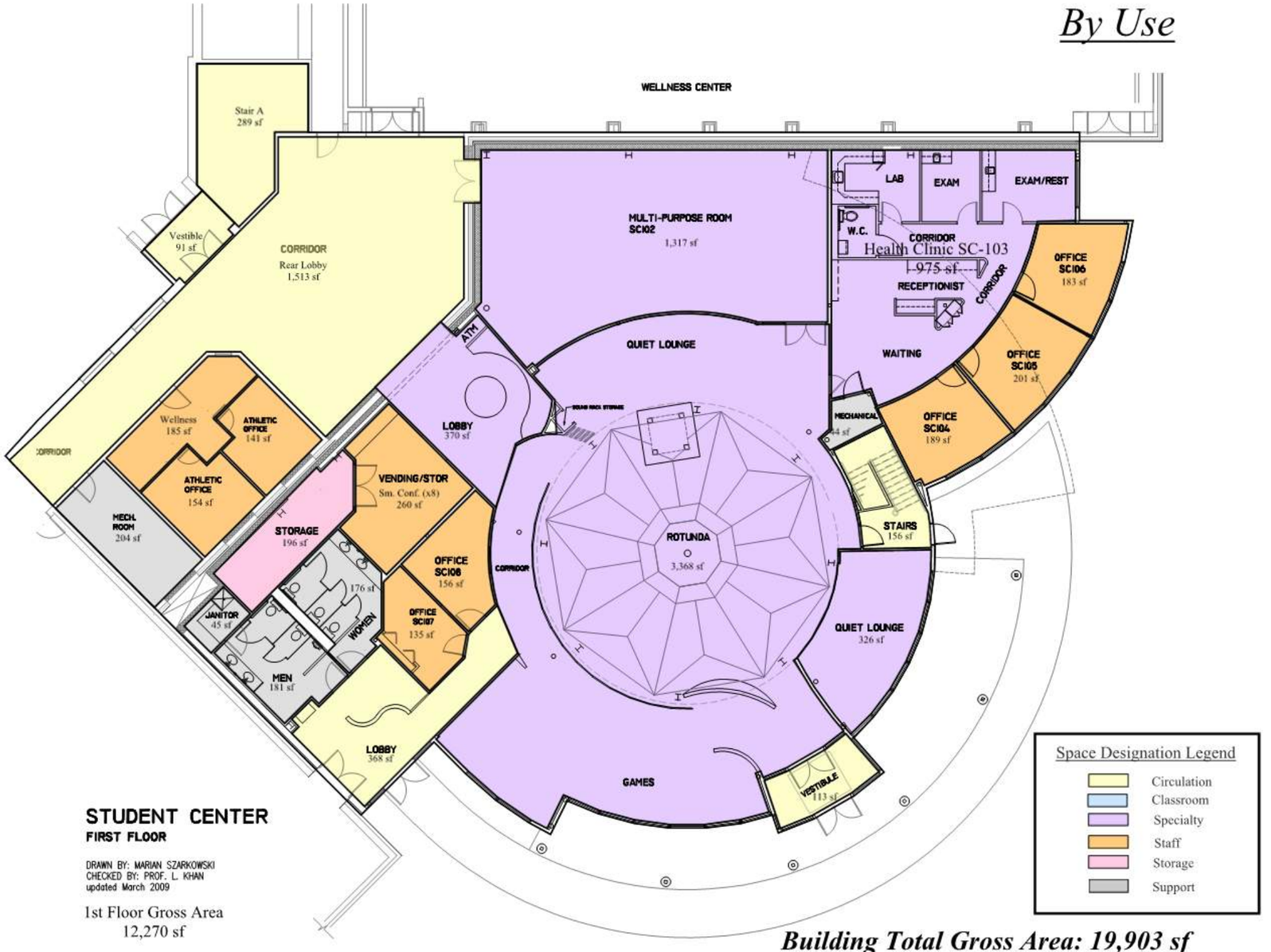
2nd Floor Net Assignable Area: 4,786 sf (65%)

By Use

Space Designation Legend
- Circulation
- Residence
- Specialty
- Staff
- Storage
- Support

Strout Hall
3rd Floor Gross Area
7,398 sf
3rd Floor Net Assignable Area:
4,786 sf (65%)

By Use



STUDENT CENTER
FIRST FLOOR

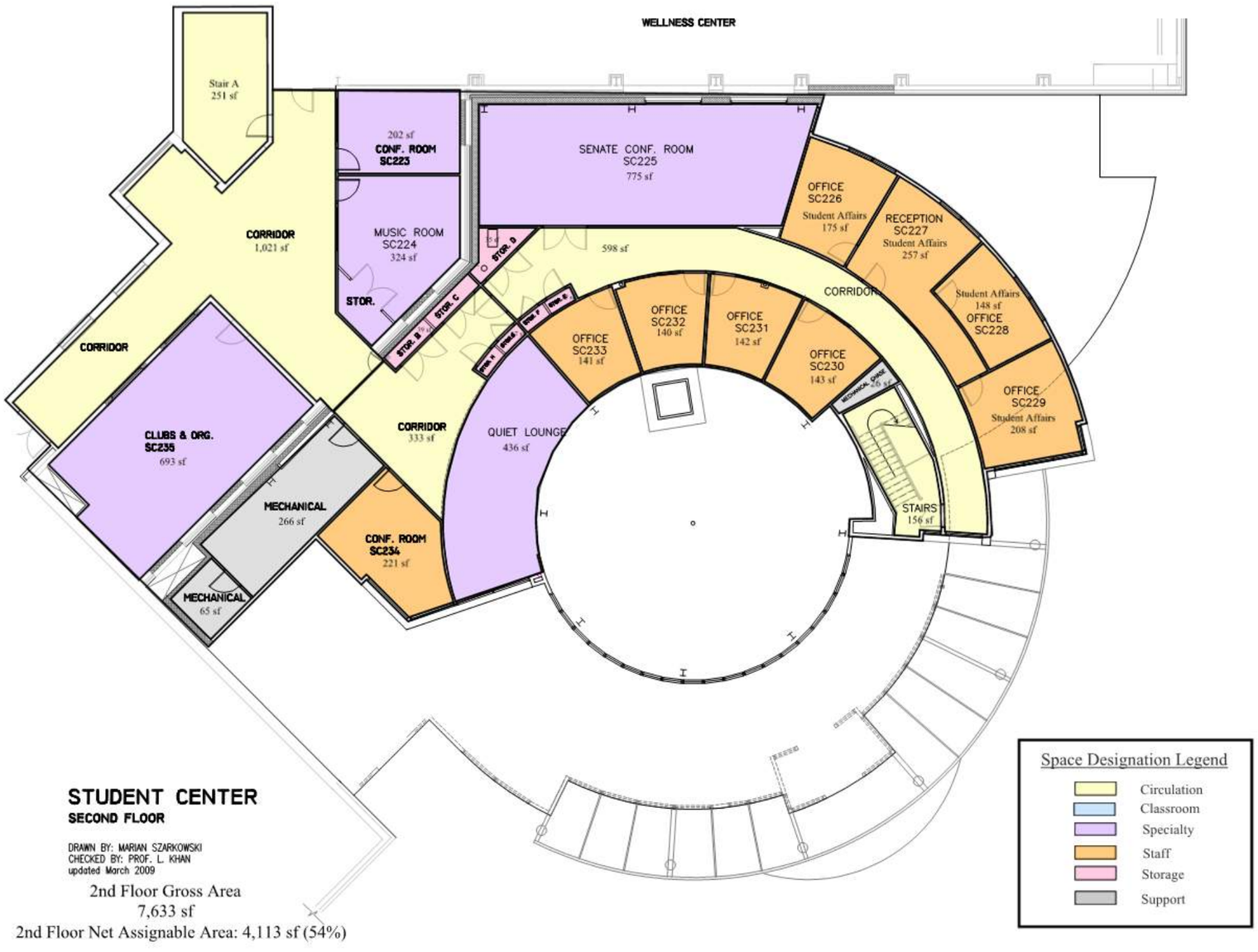
DRAWN BY: MARIAN SZARKOWSKI
CHECKED BY: PROF. L. KHAN
updated March 2009

1st Floor Gross Area
12,270 sf

1st Flr Net Assignable Area: 8,156 sf (66%)

Building Total Gross Area: 19,903 sf
Building Net Assignable Area: 12,269 sf (62%)

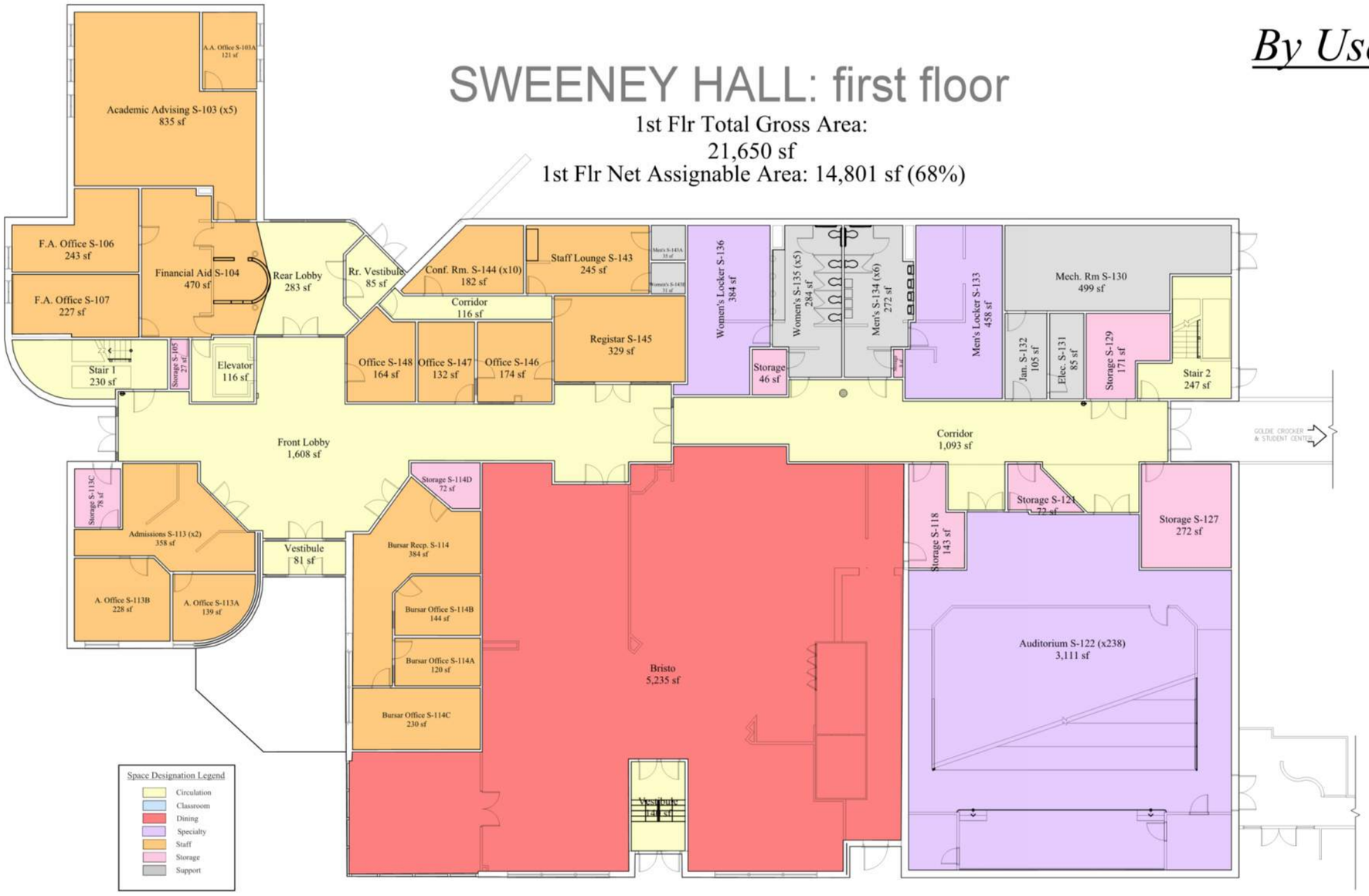
By Use


WELLNESS CENTER
Stair A
251 sf
CORRIDOR
1,021 sf
202 sf
CONF. ROOM
SC223
MUSIC ROOM
SC224
324 sf
STOR.
STOR. B
STOR. C
STOR. D
SENATE CONF. ROOM
SC225
775 sf
598 sf
CORRIDOR
OFFICE
SC226
Student Affairs
175 sf
RECEPTION
SC227
Student Affairs
257 sf
Student Affairs
148 sf
OFFICE
SC228
OFFICE
SC229
Student Affairs
208 sf
OFFICE
SC232
140 sf
OFFICE
SC231
142 sf
OFFICE
SC230
143 sf
OFFICE
SC233
141 sf
MECHANICAL CHASE
26 sf
STAIRS
156 sf
CORRIDOR
333 sf
QUIET LOUNGE
436 sf
CLUBS & ORG.
SC235
693 sf
MECHANICAL
266 sf
CONF. ROOM
SC234
221 sf
MECHANICAL
65 sf
STUDENT CENTER
SECOND FLOOR
DRAWN BY: MARIAN SZARKOWSKI
CHECKED BY: PROF. L. KHAN
updated March 2009
2nd Floor Gross Area
7,633 sf
2nd Floor Net Assignable Area: 4,113 sf (54%)
Space Designation Legend
Circulation
Classroom
Specialty
Staff
Storage
Support

By Use

SWEENEY HALL: first floor

1st Flr Total Gross Area:
21,650 sf
1st Flr Net Assignable Area: 14,801 sf (68%)



Building Total Gross Area: 48,054 sf
Building Net Assignable Area: 32,041 sf (67%)

By Use

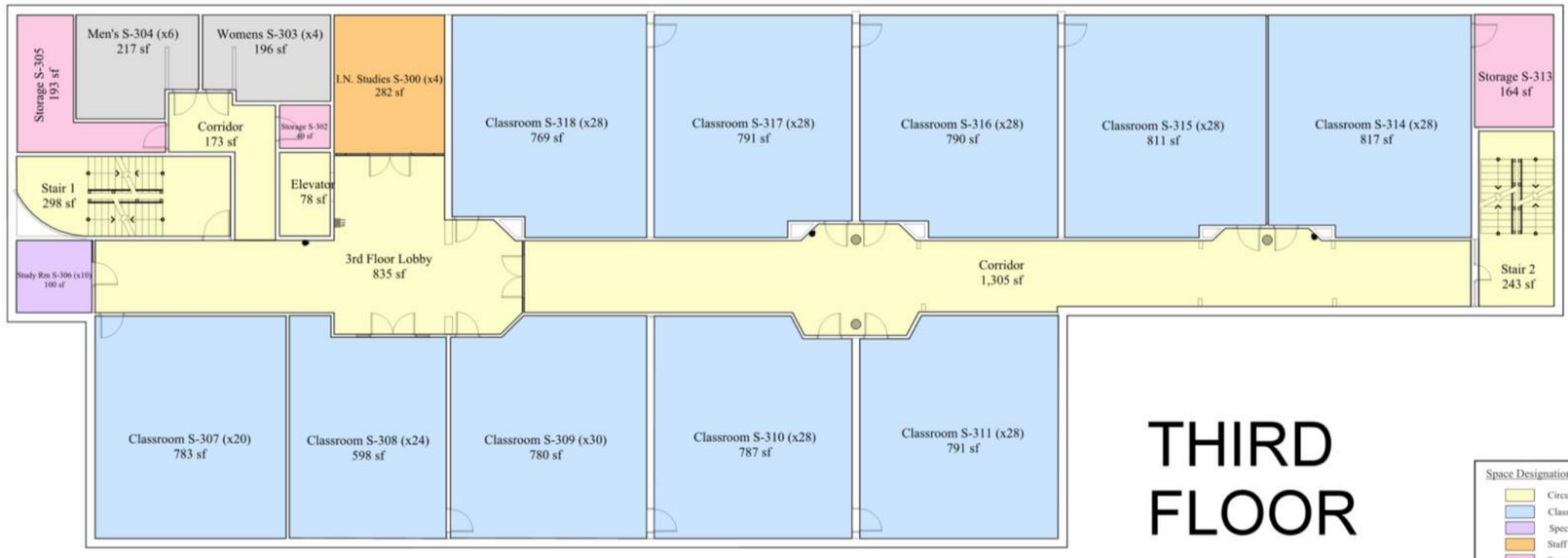
SWEENEY HALL

SECOND FLOOR

2nd Flr Total Gross Area
13,306 sf
2nd Flr Net Assignable Area: 8,744 sf (66%)

By Use

SWEENEY HALL



THIRD FLOOR

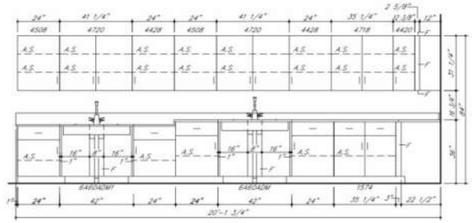
Total Area-3rd Flr
13,098 sf
Net Assignable Area: 8,496 sf (65%)

Space Designation Legend
- Circulation
- Classroom
- Specialty
- Staff
- Storage
- Support

Appendix

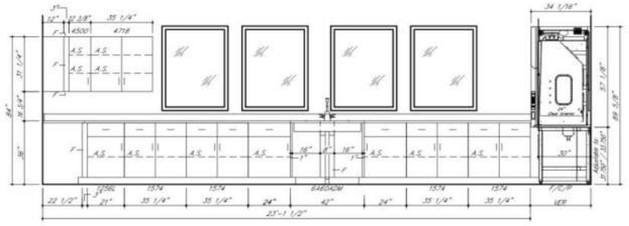
MacRury Hall – Proposed lab layout

1" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 225ARCH



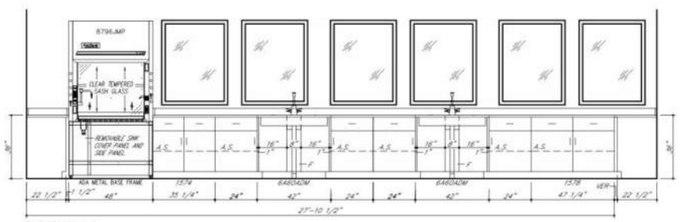
ELEVATION 1
QTY. 1 – ROOM 225ARCH

1" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 225ARCH



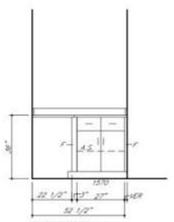
ELEVATION 2
QTY. 1 – ROOM 225ARCH

1 1/4" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 225ARCH



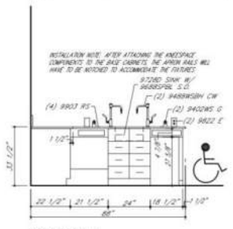
ELEVATION 3
QTY. 1 – ROOM 225ARCH

1" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 225ARCH



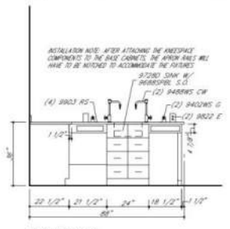
ELEVATION 4
QTY. 1 – ROOM 225ARCH

1" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 225ARCH
(1) ONE REQ'D. IN ROOM 201ARCH



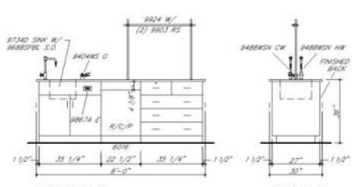
ELEVATION 5
QTY. 2 – ROOMS 225ARCH, 201ARCH

1" BLACK EPOXY RESIN TOP ASS'Y
(4) FOUR REQ'D. IN ROOM 225ARCH
(4) FOUR REQ'D. IN ROOM 201ARCH



ELEVATION 6
QTY. 8 – ROOMS 225ARCH, 201ARCH

1" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 225ARCH
(1) ONE REQ'D. IN ROOM 201ARCH

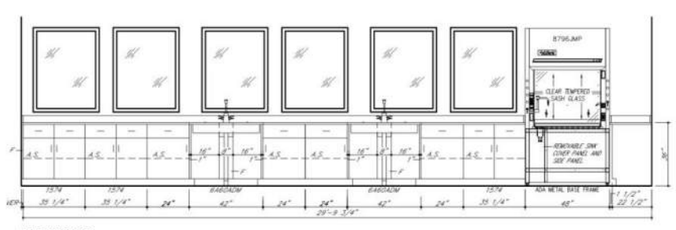


ELEVATION 7
QTY. 2 – ROOMS 225ARCH, 201ARCH

END VIEW

1" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 201ARCH

1 1/4" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 201ARCH



ELEVATION 8
QTY. 1 – ROOM 201ARCH

SYM	DATE	BY	REVISIONS

GENERAL NOTES FOR TOP LAYOUTS

1. ALL SINK CUTOUTS FOR UNDERCOUNTER SINKS TO BE FINISHED INSIDE.
2. ALL SINK CORNERS TO HAVE 1-1/2" RADIUS.
3. ALL NUMBERED CURBS TO BE SHIPPED LOOSE.
4. ALL CORNERS ON 1/2" [UNO] STAINLESS STEEL SINKS CAN BE CUT SQUARE OR UP TO 1/2" RADIUS.
5. ALL SINK CORNERS FOR "ELKAY" STAINLESS STEEL SINKS TO BE 1-1/2" RADIUS.
6. ALL CURBS TO BE 4" HIGH, UNLESS NOTED OTHERWISE.

TOP LAYOUT LEGEND

F – FINISH SURFACE AND RELIEVE EDGES.
R – RELIEVE CORNERS.
G – 7/8" DRILL FOR GAS COCK.
G2 – 3/4" DRILL FOR GAS COCK PANEL MOUNTED
A – 7/8" DRILL FOR AIR COCK.
A2 – 3/4" DRILL FOR AIR COCK PANEL MOUNTED
V – 7/8" DRILL FOR VACUUM COCK.
V2 – 3/4" DRILL FOR VACUUM COCK PANEL MOUNTED
E – 1-1/8" DRILL FOR PEDESTAL ELECTRIC
(2) – MARK EACH PIECE AS SHOWN
DW – 1 3/8" DRILL FOR BOTTOM SUP.
CW – 7/8" DRILL FOR COLD WATER FAUCET
CW2 – 7/8" DRILL FOR COLD WATER FAUCET
HW – 3/4" DRILL FOR HOT WATER FAUCET
HW2 – 7/8" DRILL FOR HOT WATER FAUCET
DW – 7/8" DRILL FOR DISTILLED WATER FAUCET
CX – SEE CX DETAIL
MX – 1-1/4" DRILL FOR HOT AND COLD WATER MIXING FAUCET
RS – 1-1/8" DRILL FOR ROD SOCKET
FP – SEE FLUSH PLATE DETAIL
HP – SEE HP DETAIL
VS – SEE VS DETAIL
SE – 3-5/8" X 3-5/8" CUTOUT FOR SINGLE ELECTRIC
DE – 3-5/8" X 4-3/8" CUTOUT FOR DOUBLE ELECTRIC
D – 7/8" DRILL FOR DEIONIZED WATER FIXTURE
BJ2 – BUTT JOINT
C.T.F. – CUT TO FIT AT JOBSITE.
IF MANUAL RESISTANT FIXTURES/FAUCETS ARE PROVIDED, REFERENCE DETAILS.

GENERAL NOTES FOR ROUGH-IN

1. SHADED AREA WITHIN EACH UNIT INDICATES THE AVAILABLE PLUMBING SPACE. ALL SERVICES MUST BE LOCATED WITHIN THIS AREA.
2. SEE ARCHITECT'S PLAN FOR SIZE AND TYPE OF ALL PIPE, WIRE, AND CONDUIT, AND FOR ANY VENTS OR REVENTS REQUIRED.
3. ALL WASTES ARE 1-1/2" UNLESS NOTED OTHERWISE.
4. ONLY ITEMS TO BE SUPPLIED BY Campbell Rhea ARE ROUGHED-IN.

IF TRAPS ARE TO BE FURNISHED BY Campbell Rhea

1. IF SERVICES STUB-OUT THROUGH WALL, WASTE SHOULD BE LOCATED DIRECTLY BEHIND THE SINK OUTLET. MINIMUM AND MAXIMUM HEIGHT OF WASTE STUB-OUT TO BE AS INDICATED AT EACH UNIT. HEIGHT OF ALL OTHER SERVICES TO BE APPROXIMATELY 18" ABOVE FINISHED FLOOR. ALL OTHER SERVICES SHOULD STUB-OUT APPROXIMATELY 3" ABOVE FINISHED FLOOR. ALL SERVICES MUST STUB-OUT WITHIN THE AVAILABLE PLUMBING SPACE.
2. IF SERVICES STUB-UP THROUGH FLOOR, WASTE SHOULD BE LOCATED 6" FROM SINK OUTLET. ALL OTHER SERVICES SHOULD STUB-UP APPROXIMATELY 18" ABOVE FINISHED FLOOR. ALL SERVICES MUST STUB-UP 3" ABOVE FINISHED FLOOR. ALL SERVICES MUST STUB-UP WITHIN THE AVAILABLE PLUMBING SPACE.
3. NOTE TYPE OF TRAP "P" OR "S" LISTED ON SHOP DRAWING ELEVATIONS. IF NO TRAP IS SPECIFIED, "P" TRAP WILL BE FURNISHED. UPON APPROVAL OF THESE DRAWINGS, EACH TYPE SPECIFIED WILL BE ASSUMED CORRECT UNLESS SPECIFICALLY NOTED OTHERWISE.

IF TRAPS ARE TO BE FURNISHED BY OTHERS

1. IF SERVICES STUB-OUT THROUGH WALL, LOCATION AND HEIGHT OF WASTE TO BE DETERMINED BY TRAP SUPPLIER. ALL OTHER SERVICES SHOULD STUB-OUT APPROXIMATELY 18" ABOVE FINISHED FLOOR. ALL SERVICES MUST STUB-OUT WITHIN THE AVAILABLE PLUMBING SPACE.
2. IF SERVICES STUB-UP THROUGH FLOOR, LOCATION OF WASTE TO BE DETERMINED BY TRAP SUPPLIER. ALL SERVICES SHOULD STUB-UP 3" ABOVE FINISHED FLOOR. ALL SERVICES MUST STUB-UP WITHIN THE AVAILABLE PLUMBING SPACE.
3. DIMENSION FOLLOWING DESIGNATION OF SINK OUTLET, INDICATES HEIGHT FROM FINISHED FLOOR TO BOTTOM OF SINK OUTLET OR TAILPIECE. REFER TO SHOP DRAWING ELEVATIONS OR SHOP DRAWING BROCHURE TO VERIFY WHICH IS APPLICABLE.

ROUGH-IN LEGEND

W – WASTE	V – VACUUM
CW – COLD WATER	A – AIR
HW – HOT WATER	E – 110 V.A.C. ELECTRIC
DW – DISTILLED WATER	E1 – 220 V.A.C. ELECTRIC
D – DEIONIZED WATER	S.O. – (Ø) SINK OUTLET
G – GAS	P.C. – PIPE CHASE
A – AIR	

ELEVATION LEGEND

A.S. – ADJUSTABLE SHELF	* – WATERMEYER LOCK
LTH – 3 PT. LATCHING HANDLE	F.S. – FIXED SHELF
LH4 – 5 PT. LOCKING HANDLE	R/C/P – REAR CLOSURE PANEL
RMS – REVOLVING METAL SHELF	F/C/P – FRONT CLOSURE PANEL
P.S. – PULL OUT SHELF	F – FILLER

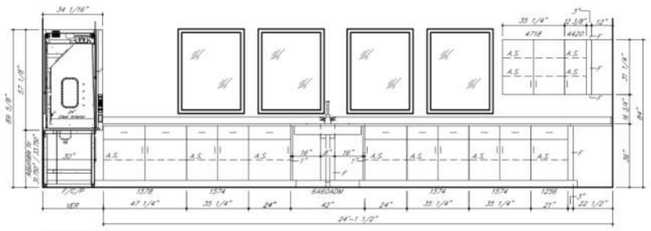
ROUGHING-IN DRAWINGS ARE OF AN ADVISORY NATURE. TO BE USED AS A GUIDE BY THE MECHANICAL CONTRACTOR TO LOCATE ROUGHING-IN. THEY SHOW BY WITH THE SIZING AND AREA RESTRICTIONS TO BE FURNISHED FOR THE CABINET TO ALLOW FOR ACCESS TO SHUT-OFFS, TRAPS, SERVICE LINES AND ELECTRIC JUNCTION BOXES. THESE ROUGH-IN DRAWINGS SHALL NOT BE CONSIDERED AS AN AUTHORITY TO MAKE ANY CHANGES IN MECHANICAL OR ELECTRICAL CONTRACTS OR SUB-CONTRACTS ALREADY HELD BY THOSE DOING WORK FOR THE OWNER. FURTHERMORE, ANY VARIATION FROM THESE DRAWINGS WHICH MAY BE NECESSARY TO CONFORM TO LOCAL BUILDING CONDITIONS SHALL IN NO WAY BE CONSIDERED A LIABILITY RESULTING FROM THE PREPARATION AND SUBMISSION OF THESE DRAWINGS.

INSTITUTIONAL CASEWORK INC.
1865 North Market Street
Paris, TN 38242
(731) 642-4251

EQUIP. ELEVATIONS & TOP L.O.
MACRURY HALL RENOVATION
CONCORD, NH

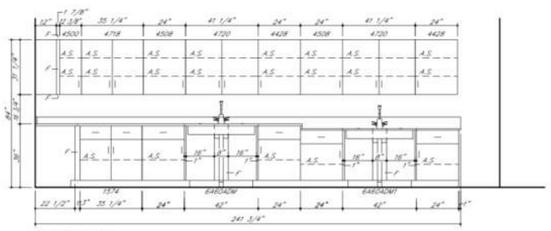
DIST. STEM SOLUTIONS	JOB NO. #14727
DRN. BY CF	CKD. BY
DATE 07/19/16	DWG. NO. #14727
SCALE 3/8" = 1'-0"	SHEET 2 OF 3

1" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 201ARCH



ELEVATION 9
QTY. 1 – ROOM 201ARCH

1" BLACK EPOXY RESIN TOP ASS'Y
(1) ONE REQ'D. IN ROOM 201ARCH



ELEVATION 10
QTY. 1 – ROOM 201ARCH

SYM	DATE	BY	REVISIONS

GENERAL NOTES FOR TOP LAYOUTS

1. ALL SINK CUTOUTS FOR UNDERCOUNTER SINKS TO BE FINISHED INSIDE.
2. ALL SINK CORNERS TO HAVE 1–1/2" RADIUS.
3. ALL NUMBERED CURBS TO BE SHIPPED LOOSE.
4. ALL CORNERS FOR "ELKAY" STAINLESS STEEL SINKS CAN BE CUT SQUARE OR RAD TO 1/2" RADIUS.
5. ALL SINK CORNERS FOR "ELKAY" STAINLESS STEEL SINKS TO BE 1–1/2" RADIUS.
6. ALL CURBS TO BE 4" HIGH, UNLESS NOTED OTHERWISE.

TOP LAYOUT LEGEND

V – FINISH SURFACE AND RELIEVE EDGES
R – RELIEVE CORNERS
G – 7/8" DRILL FOR GAS COCK
G2 – 3/4" DRILL FOR GAS COCK PANEL MOUNTED
A – 7/8" DRILL FOR AIR COCK
A2 – 3/4" DRILL FOR AIR COCK PANEL MOUNTED
V – 7/8" DRILL FOR VACUUM COCK
V2 – 3/4" DRILL FOR VACUUM COCK PANEL MOUNTED
E – 1–1/8" DRILL FOR PEDESTAL ELECTRIC
C – MARK EACH PIECE AS SHOWN
CH – DRIP GROOVE ON BOTTOM SIDE
DK – 3/4" DRILL FOR COLD WATER FAUCET
CWD – 7/8" DRILL FOR COLD WATER FAUCET
HW – 3/4" DRILL FOR HOT WATER FAUCET
HWD – 7/8" DRILL FOR HOT WATER FAUCET
DW – 7/8" DRILL FOR DISTILLED WATER FAUCET
CX – SEE CX DETAIL
MX – 1–1/4" DRILL FOR HOT AND COLD WATER MIXING FAUCET
RS – 1–1/8" DRILL FOR ROD SOCKET
FP – SEE FLUSH PLATE DETAIL
HX – SEE HX DETAIL
VS – SEE VS DETAIL
SE – 2–3/8" X 4–3/8" CUTOUT FOR SINGLE ELECTRIC
DE – 2–3/8" X 4–3/8" CUTOUT FOR DOUBLE ELECTRIC
DI – 7/8" DRILL FOR DEIONIZED WATER FIXTURE
B/J – BUTT JOINT
C.T.F. – CUT TO FIT AT JOBSITE
IF VANDAL RESISTANT FIXTURES/FAUCETS ARE PROVIDED, REFERENCE DETAILS.

GENERAL NOTES FOR ROUGH-IN

1. SHADED AREA WITHIN EACH UNIT INDICATES THE AVAILABLE PLUMBING SPACE. ALL SERVICES MUST BE LOCATED WITHIN THIS AREA.
2. SEE ARCHITECT'S PLAN FOR SIZE AND TYPE OF ALL PIPE, WIRE, AND CONDUIT, AND FOR ANY VENTS OR REVENTS REQUIRED.
3. ALL WASTES ARE 1–1/2" UNLESS NOTED OTHERWISE.
4. ONLY ITEMS TO BE SUPPLIED BY *Campbell Rhea* ARE ROUGHED–IN.

IF TRAPS ARE TO BE FURNISHED BY *Campbell Rhea*

1. IF SERVICES STUB–OUT THROUGH WALL, WASTE SHOULD BE LOCATED DIRECTLY BEHIND THE SINK OUTLET. MINIMUM AND MAXIMUM HEIGHT OF WASTE STUB–OUT TO BE, AS INDICATED AT EACH UNIT. HEIGHT OF ALL OTHER SERVICES TO BE APPROXIMATELY 18" ABOVE FINISHED FLOOR. ALL OTHER SERVICES SHOULD STUB–OUT APPROXIMATELY 3" APART. ALL SERVICES MUST STUB–OUT WITHIN THE AVAILABLE PLUMBING SPACE.
2. IF SERVICES STUB–UP THROUGH FLOOR, WASTE SHOULD BE LOCATED 6" FROM SINK OUTLET. ALL OTHER SERVICES SHOULD STUB–UP APPROXIMATELY 3" APART. HEIGHT OF ALL SERVICES TO BE 6" ABOVE FINISHED FLOOR. ALL SERVICES MUST STUB–UP WITHIN THE AVAILABLE PLUMBING SPACE.
3. NOTE TYPE OF TRAP ("S" OR "J") LISTED ON SHOP DRAWING ELEVATIONS OR SHOP DRAWING BROCHURE FOR EACH SINK UNIT. UPON APPROVAL OF THESE DRAWINGS, EACH TYPE SPECIFIED WILL BE ASSUMED CORRECT UNLESS SPECIFICALLY NOTED OTHERWISE.

IF TRAPS ARE TO BE FURNISHED BY OTHERS

1. IF SERVICES STUB–OUT THROUGH WALL, LOCATION AND HEIGHT OF WASTE TO BE DETERMINED BY TRAP SUPPLIER. ALL OTHER SERVICES SHOULD STUB–OUT APPROXIMATELY 18" ABOVE FINISHED FLOOR. ALL SERVICES MUST STUB–OUT WITHIN THE AVAILABLE PLUMBING SPACE.
2. IF SERVICES STUB–UP THROUGH FLOOR, LOCATION OF WASTE TO BE DETERMINED BY TRAP SUPPLIER. ALL SERVICES SHOULD STUB–UP 6" ABOVE FINISHED FLOOR. ALL SERVICES MUST STUB–UP WITHIN THE AVAILABLE PLUMBING SPACE.
3. DIMENSION FOLLOWING DESIGNATION OF SINK OUTLET INDICATES HEIGHT FROM FINISHED FLOOR TO BOTTOM OF SINK OUTLET OR TAILPIECE. REFER TO SHOP DRAWING ELEVATIONS OR SHOP DRAWING BROCHURES TO VERIFY WHICH IS APPLICABLE.

ROUGH–IN LEGEND

W – WASTE	V – VACUUM
CW – COLD WATER	S – STEAM
HW – HOT WATER	E1 – 115 V.A.C. ELECTRIC
DW – DISTILLED WATER	E2 – 230 V.A.C. ELECTRIC
DI – DEIONIZED WATER	S.O. – (@) SINK OUTLET
G – GAS	P.C. – PIPE CHASE
A – AIR	

ELEVATION LEGEND

A.S. – ADJUSTABLE SHELF	K – MASTERKEYED LOCK
LTH – 3 PT. LATCHING HANDLE	F.S. – FIXED SHELF
LKH – 3 PT. LOCKING HANDLE	R/C/P – REAR CLOSURE PANEL
RWS – REVOLVING METAL SHELF	F/C/P – FRONT CLOSURE PANEL
P.S. – PULL OUT SHELF	F – FILLER

ROUGHING–IN DRAWINGS ARE OF AN ADVISORY NATURE, TO BE USED AS A GUIDE BY THE MECHANICAL CONTRACTOR TO EFFECT ROUGHING–IN THAT WILL BE WITHIN THE SHADED AREA (REFERRED TO AS PLUMBING SPACE) OF EACH UNIT. THESE DRAWINGS DO NOT INCLUDE ANY PIPING, CONDUIT, WIRING, DUCTS AND ELECTRICAL JUNCTION BOXES. THESE ROUGH–IN DRAWINGS SHALL NOT BE CONSIDERED AS AN AUTHORITY TO MAKE ANY CHANGES IN MECHANICAL OR ELECTRICAL CONTRACTS OR SUB–CONTRACTS ALREADY HELD BY THOSE DOING WORK FOR THE OWNER. FURTHERMORE, ANY VARIATIONS FROM THE ROUGH–IN SHOWN MADE NECESSARY BY BEAMS OR OTHER BUILDING CONDITIONS SHALL IN NO WAY BE CONSIDERED AS LIABILITY RESULTING FROM THE PREPARATION AND SUBMISSION OF THESE DRAWINGS.

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EQUIP. ELEVATIONS & TOP L.O.
MACRURY HALL RENOVATION
CONCORD, NH

DIST. SBW SOLUTIONS	JOB NO. 09427
DRN. BY DF	CKD. BY
DATE 02/26/10	DWG. NO. 09427EQ
SCALE 3/8" = 1'-0"	SHEET 3 OF 3