UNIVERSITY OF WISCONSIN – LA CROSSE
RESIDENCE LIFE FACILITY ASSESSMENT

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DFD Project No. 15A1H

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1 EXECUTIVE SUMMARY

1.a PROBLEM, ORIGINATORS, DRIVERS

UW-La Crosse has eight residence halls that were constructed between 1962 and 1967. Envelopes, finishes, mechanical, electrical, and plumbing systems in these buildings are original. The halls are well maintained and structurally sound, but have high system maintenance costs associated with the aging equipment and infrastructure. In addition, there is overcrowding of spaces due to high demand for on-campus housing, so important study and community support spaces are being used as bedrooms.

UW-La Crosse desires to address these deficiencies, but has limited funds to do so. UW–La Crosse developed a revenue model that identified the limit of bonding capacity for the improvements, and then studied several combinations of alternatives and prioritized those that fit within the financial limits. The recommendations strive to balance the University's desire to provide safe, healthy, well-functioning, and welcoming spaces that meet the expectations of future students and their parents.

1.b CHALLENGES AND OPPORTUNITIES

Existing Housing Facilities that are 50+ years old

The 8 halls being studied were built between 1962 and 1967. None have had any major remodeling. All have original mechanical, electrical, and plumbing systems. All are configured with original "central bathrooms" including original fixtures. None have central air-conditioning that would allow marketing these halls for summer programs. None have automatic fire sprinklers. Only one has an elevator.

Maximize Utilization, Optimize Value, Growing Campus:

All of the residence halls are occupied at or in excess of design capacity. Students live in these on-campus halls because they are required to, not because the halls provide market driven attributes. None of the halls have debt service, all have a strong revenue stream. Not providing basic improvements to these halls risks losing market share of incoming students, which is contrary to this campus's growth strategies.

1.c CAMPUS PROFILE SUMMARY

UW-La Crosse is noted to programs in allied health and the sciences, international business, information systems, and education. As student applications have increase each year, the University has implemented a Growth, Quality, and Access plan and has experienced continued growth in enrollment.

1.d RELATIONSHIP TO CAMPUS MASTER PLAN

Campus Master Plan Overview: "One of the most important aspects of the campus experience as a student, faculty, staff or visitor is the quality of the campus environment. The physical setting of the campus at UW-La Crosse is intended to provide a safe, pedestrian-friendly and efficient environment in which students can learn, live and socialize. The quality of the physical campus environment also plays a major role in prospective students' decisions to attend UW-L. Students and their parents form their first impression of the university as they arrive on campus and this impression can play an important role in their decision to attend UW-L." Providing convenient, reliable, safe, clean

residence halls with the proper amount of space for the formation of community and studying is consistent with the overall campus master plan goals.

1.e SUMMARIZED ANALYSIS OF EXISTING CONDITIONS

Construction systems include concrete frame, concrete block partitions and low floor to floor heights. While these systems are durable, they are costly to modify.

None of these halls have modern, efficient heating systems.

None of the halls have central cooling that would make them marketable for revenue generating summer program rental.

All of these halls have small bedrooms, small bathrooms, and small study spaces compared to modern residence halls.

All of the halls are well maintained, but replacement/maintenance parts are increasingly hard to find.

Even though the Life Safety, accessibility and energy efficiency codes have changed considerably since these buildings were built, current codes are not retroactive so the code does not mandate that changes to these elements must be done to meet current codes. Only items modified during a renovation need to be compliant with current codes.

1.f SUMMARY OF OPTIONS CONSIDERED

1. Continue to use current facilities with no improvements. While this is certainly the lowest Capital Cost solution, it is inappropriate because it will cause harm to the quality and effectiveness of the Residence Life program and may impact enrollment growth.
2. Remodel and add-on to the existing facilities to address all of the buildings' shortcomings. This option was considered, but the cost per bed to do this approached the costs for new construction without adding revenue generating beds and therefore was financially infeasible.
3. Limit the scope of improvements to a bonding cost that could be afforded within the existing revenue model. Fund improvements that improve life safety and healthy environments via bonding. Pay for mechanical, electrical, plumbing and finish replacements through operations & maintenance funds. This is the approach that was selected.

1.g SUMMARIZED RECOMMENDATIONS

Several combinations of potential project scope and cost were studied. First priority was given to components that improved Life Safety and Healthy Environments, and the next priority was given to providing study and community spaces while maintaining targeted revenue generating bed counts. The following is a summary of selected project scope per residence hall at this time:

Laux Hall: Provide fire sprinklers; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Wentz Hall: Provide fire sprinklers; refurbish elevator; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Sanford Hall: Provide fire sprinklers; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Coate Hall: Provide fire sprinklers; provide compliant fire alarm system; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Hutchison Hall: Provide fire sprinklers; provide compliant fire alarm system; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator**.**

Angell Hall: Provide fire sprinklers; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Drake Hall: Provide fire sprinklers; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

White Hall: Provide fire sprinklers; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

1.h BUDGET AND IMPLEMENTATION PLAN SUMMARY

Due to the high demand for on-campus housing UW-La Crosse determined that only one hall could be offline at a time, work must be completed in less than 2 semester's time, and work can't begin until a new residence hall is built and occupied. The following implementation plan proposes undertaking one hall per year, and having the work completed in the spring semester and summer break of that year. Order of implementation is based on beginning with the smaller halls first in order to minimize the initial amount of beds offline at a time. Order of implementation may change based on evolving conditions and funding sources that may occur over time:

Laux Hall: Bid Date: July 2021
Construction Start/Finish: January 2022/July 2022
Project Budget: $3,016,915

Wentz Hall: Bid Date: July 2022
Construction Start/Finish: January 2023/July 2023
Project Budget: $2,778,480

Sanford Hall: Bid Date: July 2023
Construction Start/Finish: January 2024/July 2024
Project Budget: $3,393,700

Coate Hall: Bid Date: July 2024
Construction Start/Finish: January 2025/July 2025
Project Budget: $5,203,815

Hutchison Hall: Bid Date: July 2025
Construction Start/Finish: January 2026/August 2026
Project Budget: $5,963,495

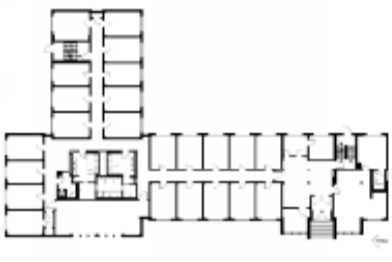
Angell Hall: Bid Date: July 2026
Construction Start/Finish: January 2027/July 2027
Project Budget: $5,651,365

Drake Hall: Bid Date: July 2027
Construction Start/Finish: January 2028/July 2028
Project Budget: $4,580,450

White Hall: Bid Date: July 2028
Demolition Start/Finish: January 2029/July 2029
Project Budget: $3,813,670

1.i Laux HALL – SUMMARY

Existing Conditions:



General:
Built: 1964
Area: 44,260 GSF
Occupancy: 257 beds
Typical room: 166 SF
Bath/Bed Ratio: 1 to 8.03

Systems:
No fire suppression system
Inadequate ventilation

Capital Improvements:
1998 – Tuckpointing
1999 – Windows replaced
2001 – Emergency generator
2006 – Updated fire alarm
2009 – Roof replaced

Recommendation:

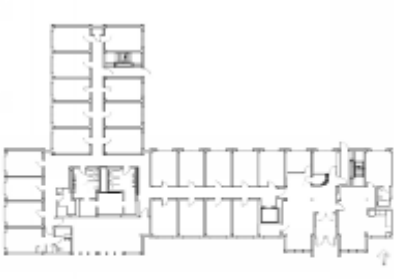
General:
Schedule: Bid on 07/01/2021
Area: 44,260 GSF
Occupancy: 226 beds
Toilet/Bed Ratio: 1 to 6.28
Shower/Bed Ratio: 1 to 6.28

Systems:
Provide fire sprinklers; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Cost Estimate:
Project Cost Total: $3,016,945
$/GSF: $68.16

1.i Wentz Hall – Summary

Existing Conditions:



General:
Built: 1964
Area: 44,295 GSF
Occupancy: 232 beds
Typical room: 166 SF
Bath/Bed Ratio: 1 to 7.25

Systems:
No fire suppression system
Inadequate ventilation
28 year old elevator

Capital Improvements:
1988 – Elevator addition,
Bathroom remodel
1998 – Tuckpointing
2002 – Lobby renovation
2004 – Windows replaced
2009 – Roof replaced,
Updated fire alarm

Recommendation:

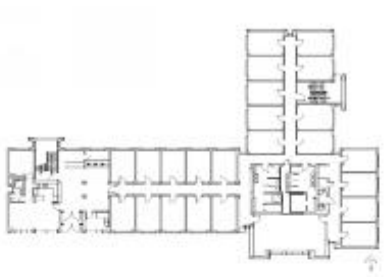
General:
Schedule: Bid on 07/01/2022
Area: 44,295 GSF
Occupancy: 218 Beds
Toilet/Bed Ratio: 1 to 7.79
Shower/Bed Ratio: 1 to 6.06

Systems:
Provide fire sprinklers; refurbish elevator; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Cost Estimate:
Project Cost Total: $2,778,479
$/GSF: $62.73

1.i Sanford HALL – SUMMARY

Existing Conditions:

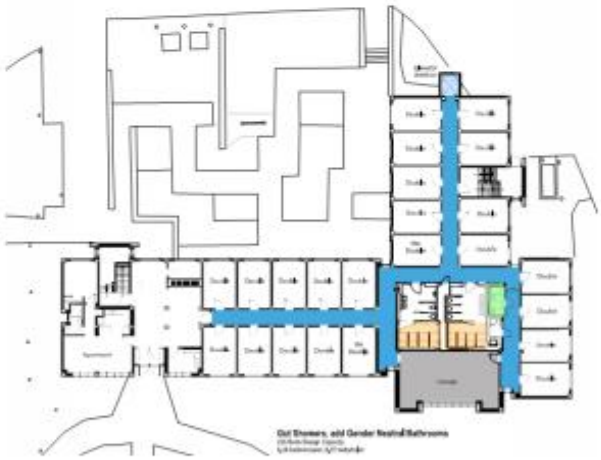


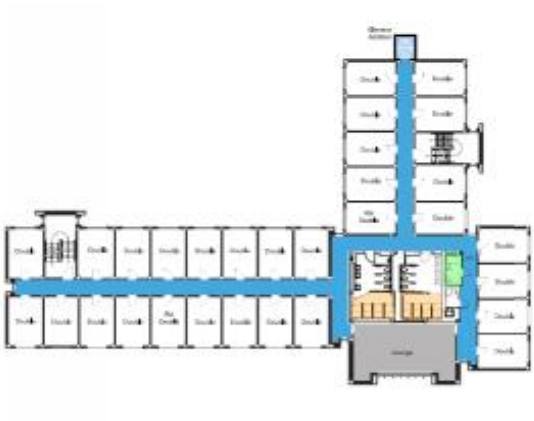
General:
Built: 1967
Area: 45,119 GSF
Occupancy: 246 beds
Typical Room: 166 SF
Bath/Bed Ratio: 1 to 7.69

Systems:
No fire suppression system
Inadequate ventilation

Capital Improvements:
1998 – Tuckpointing
2000 – Windows replaced
2001 – Emergency generator
2009 – Roof replaced,
Updated fire alar

Recommendation:





General:
Schedule: Bid on 07/01/2023
Area: 45,119 GSF
Occupancy: 226 beds
Toilet/Bed Ratio: 1 to 8.37
Shower/Bed Ratio: 1 to 6.28

Systems:
Provide fire sprinklers; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Cost Estimate:
Project Cost Total: $3,393,703
$/GSF: $75.22

1.i Coate HALL – SUMMARY

Existing Conditions:

General:
Built: 1966
Area: 76,274 GSF
Occupancy: 378 beds
Typical room: 166 SF
Bath/Bed Ratio: 1 to 7.88

Systems:
No fire suppression system
No code compliant fire alarm system
Inadequate ventilation

Capital Improvements:
1998 –Tuckpointing
2001 – Windows replaced, Emergency generator
2006 – Updated fire alarm
2009 – Roof replaced

Recommendation:

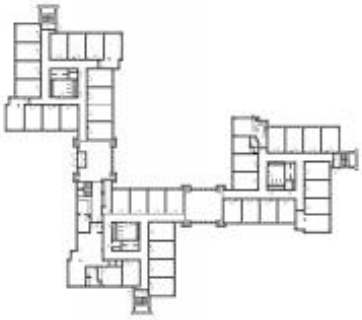
General:
Schedule: Bid on 07/01/2024
Area: 76,274 GSF
Occupancy: 391 beds
Toilet/Bed Ratio: 1 to 7.52
Shower/Bed Ratio: 1 to 7.52

Systems:
Provide fire sprinklers; provide compliant fire alarm system; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender ADA/Gender Neutral bathrooms, add elevator.

Cost Estimate:
Project Cost Total: $5,203,333
$/GSF: $68.21

1.i Hutchison Hall – Summary

Existing Conditions:



General:
Built: 1967
Area: 72,355 GSF
Occupancy: 389 beds
Typical Room: 166 SF
Bath/Bed Ratio: 1 to 8.10

Systems:
No fire suppression system
Inadequate ventilation

Capital Improvements:
1998 – Tuckpointing
2002 – Windows replaced
2004 – Updated fire alarms
2009 – Roof replaced,
Added exterior ramp

Recommendation:

General:
Schedule: Bid on 07/01/2025
Area: 72,355 GSF
Occupancy: 374 beds
Toilet/Bed Ratio: 1 to 7.19
Shower/Bed Ratio: 1 to 7.19

Systems:
Provide fire sprinklers; provide compliant fire alarm system; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Cost Estimate:
Project Cost Total: $5,963,493
$/GSF: $82.84

1.i Angell HALL – SUMMARY

Existing Conditions:

General:
Built: 1966
Area: 75,682 GSF
Occupancy: 406 beds
Typical room: 166 SF
Bath/Bed Ratio: 1 to 8.46

Systems Assessment:
No fire suppression system
Lack of ventilation

Capital Improvements:
1998 – Tuckpointing
2004 – Windows replaced
2006 – Updated fire alarm
2009 – Added exterior ramp,
Roof replaced

Recommendation:

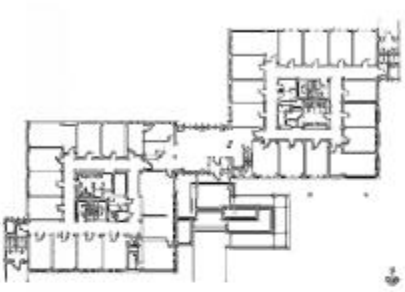
General:
Schedule: Bid on 07/01/2024
Area: 75,682 GSF
Occupancy: 391 beds
Toilet/Bed Ratio: 1 to 7.52
Shower/Bed Ratio: 1 to 7.52

Systems:
Provide fire sprinklers; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Cost Estimate:
Project Cost Total: $5,651,376
$/GSF: $74.67

1.i Drake HALL – SUMMARY

Existing Conditions:



General:
Built: 1966
Area: 50,008 GSF
Occupancy: 263 beds
Typical Room: 166 SF
Bath/Bed Ratio: 1 to 8.22

System:
No fire suppression system
Inadequate ventilation

Capital Improvements:
1996 – Shower reconfiguration
1998 – Tuckpointing
2000 – Windows replaced
2004 – Updated fire alarm
2009 – Roof replaced

Recommendation:

General:
Schedule: Bid on 07/01/2027
Area: 50,008 GSF
Occupancy: 261 beds
Toilet/Bed Ratio: 1 to 8.16
Shower/Bed Ratio: 1 to 7.25

Systems:
Provide fire sprinklers; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add elevator.

Cost Estimate:
Project Cost Total: $4,580,448
$/GSF: $91.59

1.i White Hall – SUMMARY

Existing Conditions:

General:
Built: 1962
Area: 39,399 GSF
Occupancy: 220 beds
Typical room: 166 SF
Bath/Bed Ratio: 1 to 9.17

Systems:
No fire suppression system
Inadequate ventilation

Capital Improvements:
1989 - Two Exhaust fans and air handling unit
1999 – Windows replaced
2001 – Emergency generator
2002 – Added exterior ramp
Lobby renovated
2009 – Updated fire alarm

Recommendation:

General:
Schedule: Bid on 07/01/2028
Area: 39,399 GSF
Occupancy: 208 Beds
Toilet/Bed Ratio: 1 to 7.43
Shower/Bed Ratio: 1 to 6.50

Systems:
Provide fire sprinklers; refurbish elevator; replace electrical power systems; refurbish bathroom exhaust systems; gut remodel showers, add ADA/Gender Neutral bathrooms, add

Cost Estimate:
Project Cost Total: $3,813,670
$/GSF: $96.94

2 GENERAL PROBLEM STATEMENT

2a Description of Problem, Originators and Drivers

This study is intended for UW-La Crosse Facilities Planning and Management and the Office of Residence Life. It describes in detail a renovation plan encompassing eight Residence Life Halls. The analysis and recommendations will allow UW-La Crosse the ability to affix monetary resources to deferred maintenance and renewal projects. This study also projects construction and renovation schedules, developed renovation plans and provides data to justify the decisions made regarding remodeling versus building new.

The problems facing UW-La Crosse FP&M and ORL regarding the eight halls are the age of the halls and their systems and the overcrowding of spaces due to high demand for on-campus housing. The eight halls included in this study were constructed between 1962 and 1967. The halls are well maintained and structurally sound, but have high system maintenance costs associated with the aging equipment and infrastructure. The ORL has a wait list for on-campus housing, so much so that most of the hall lounges are used as four to five bed resident rooms and the University has contracts with nearby hotels to house students.

The main driver for this study is to assist UW-La Crosse in allocating their limited funds in a way that will best serve the current and future residents. The recommendations strive to balance the University's desire to provide welcoming and community focused spaces that meet the expectations of modern students with the fact that there is wait list for out dated and inadequate housing spaces.

2b Previous Planning Efforts

A previous Residence Hall Study was conducted in 2001 for UW-La Crosse. This study included the assessment of the eight halls in this report and three additional halls built between 1957 and 1963. Four scenarios were presented. After the release of this study, the three additional halls, Reuter, Baird and Trowbridge were demolished and two new halls, Reuter and Eagle were constructed. This solution allowed the ORL to maintain and improve capacity and allow for more variety in their housing choices.

2c Major Goals and Objectives

During the course of discussions and planning options, the goals of UW-La Crosse FP&M and the ORL included:

- Provide fire sprinklers and upgrade fire alarm system in all halls
- Verify abatement needs
- Recommend an order for MEP system replacement
- Research costs and viability of adding air conditioning to some/all halls
- Reduction and ease of operation and maintenance
- "Future-proof" the buildings so they are ready for the infrastructure changes
- Maintain and/or increase bed count
- Provide more options for accessible spaces and rooms
- Desire for more privacy in the bathrooms
- Allow for lounges to resume function as lounges and gathering spaces
- Increase safety
- Ensure healthy environment for the occupants – indoor air quality and temperature control

- Increase sense of community
- Gender inclusive
- Keep the room rates affordable
- More diversity of buildings available for summer conferencing

Success for the project was defined as the following:

- A map to move forward and a guide for decision making
- Provide realistic information and recommendations
- All stakeholders are represented
- Is a result of collaboration for long-term use and buy-in
- Speaks to a wide audience; Chancellor, Admissions, Enrollment, Management, etc.
- Schedule and phasing options are realistic
- Budget presented in today's dollars

The schedule goals include providing this report to inform UW-La Crosse's budget request application in the spring of 2016.

2d Capital Budget or Schedule Considerations/Constraints

The overall budget available to ORL for existing hall improvements is about $19,250,000. This figure was determined by analyzing their bonding capacity and revenue projections with halls off-line during renovation. After much discussion and option considerations, UW-La Crosse Facilities Management and Planning and the Office of Residence Life decided it was in the best interests of the University to minimize the improvements made to the existing halls so there were funds available in the future for a new residence hall. Schedule considerations include minimizing the bed count reduction during construction and prioritizing and address the needs of those halls with systems that are closest to failure.

3 PEOPLE AND PROGRAM ANALYSIS

The residence halls are an important part of University of Wisconsin-La Crosse experience. Not only do they provide a home for students, but they provide learning communities, study groups, social opportunities and student employment. All of the halls studied here are traditional underclassmen halls with mostly double-occupancy rooms. The underclassmen are required to live in campus provided housing because of the above mentioned benefits and as part of the mission of the University. These buildings are desired by students in contrast to the more remote hotel locations as proven by the wait list and overcrowding in the lounge spaces.

Each hall also includes a small apartment for the Residence Life Hall Director and their family. An entry lobby with font desk and mail area is present on the first floor as well. The lower levels of most halls include some gathering space, hall kitchen, laundry, study rooms, storage and mechanical rooms. These lower level areas have varied success in terms of frequency of use and flexibility of spaces.

4 PHYSICAL ENVIRONMENT ANALYSIS

4a Summary of Hall Information

Hall	Year Built	Campus Location	Configuration	Size (GSF)
White	1962	East	Linear	39,339
Laux	1964	East	L-shaped	44,260
Wentz	1964	West	L-shaped	44,295
Angell	1966	West	3 Cube Cluster	75,682
Coate	1966	West	3 Cube Cluster	76,274
Drake	1966	West	2 Cube Cluster	50,008
Hutchison	1967	West	3 Cube Cluster	72,355
Sanford	1967	East	L-shaped	45,119

After the field survey of the buildings and study of the drawings and information provided, the hope was that there would be some indication from the data that would assist UW-La Crosse with decision making. Unfortunately, since the halls are so well maintained and built within five years of each other, there were few dissimilarities on which to base recommendations. None of the halls have a fire suppression system, adequate ventilation, updated plumbing, air conditioning or future-proofed electrical and data.

4b Summary Facility Condition Assessment Results

Our team completed the UW Systems Building Assessment tool (Appendix A) for each building. The following chart summarizes the results. With this tool, a couple of the halls stood out as buildings that should be addressed earlier rather than later. This included Coate and Hutchison due to their lack of a code compliant fire alarm system. Wentz became a more attractive hall to renovate earlier in the process since it is the only building with an elevator. The cost of refurbishing an elevator instead of adding a new one was attractive to the team.

	LEGEND
1	Good
2	Satisfactory
3	Fair
4	Poor
5	Unsatisfactory
6	Replace/Demolish
7	Abandonment
None	Not present

	WHITE	LAUX	WENTZ	ANGELL	COATE	DRAKE	HUTCHISON	SANFORD
Abatement	4	5	4	4	4	4	4	5
Structure	2	2	2	2	2	2	2	2
Shell	2	2	2	2	2	2	2	2
Exterior Walls	3	3	3	3	3	4	3	3
Exterior Windows	1	1	2	1	1	2	2	1
Exterior Doors	1	1	1	3	2	2	3	1
Exterior Grilles	4	3	4	3	3	4	3	4
Exterior Appurtenances	3	2	2	3	2	2	3	2
Roofing	1	1	1	2	1	1	2	1
Horizontal Openings	1	1	1	2	1	1	2	1
Overhangs/Soffits	3	2	2	2	2	2	2	2
Interiors								
Fixed Partitions	2	2	2	2	2	2	2	2
Closet Partitions	4	4	4	4	4	4	4	4
Doors, Windows & Grilles	3	3	3	2	3	3	4	2
Suspended Ceiling	3	4	3	4	3	4	4	4
Railings	2	2	2	2	2	2	2	2
Finishes								
Wall	1	1	1	3	1	1	2	4
Flooring	2	2	2	4	2	2	2	2
Stairs	2	3	2	3	3	3	3	3
Ceilings	2	3	2	3	4	2	3	3
Elevators	None	None	2	None	None	None	None	None
Plumbing								
Domestic Water Distrib.	5	4	4	4	4	4	4	4
Domestic Water Equip.	2	2	2	2	6	2	2	2
Domestic Water Piping	5	4	4	4	4	4	4	4
Plumbing Fixtures	5	5	5	5	5	5	5	5
Sanitary Drainage	6	6	6	5	5	5	5	5
Sanitary Sewerage Piping	6	6	6	5	5	5	5	5
Stormwater Piping	5	5	5	4	4	4	4	4
HVAC								
Heating Systems	5	5	5	5	6	5	5	5
Decentralized Heating Equip.	6	4	4	4	4	4	4	4
Central Cooling	None	None	None	None	None	None	None	None
Decentralized Cooling	6	6	6	6	6	6	2	2
Ventilation	6	6	6	6	6	6	6	6
HVAC Instrumentation & Controls	5	5	5	5	5	5	5	5

Fire Protection								
Fire Suppression	None	None	None	None	None	None	None	None
Water-based Fire-suppression	5	5	5	5	5	5	5	5
Fire-extinguishing	1	1	1	1	1	1	1	1
Electrical								
Emergency Generator	2	2	2	2	2	2	2	2
Electrical Service & Distribution	5	2	2	2	2	2	2	2
Electrical Service	3	3	3	3	3	3	3	3
Power Distribution	5	5	5	5	4	5	4	4
General Purpose Electrical Power	4	4	5	4	4	4	4	4
Lighting	3	3	3	3	3	3	3	3
Fire Alarm Systems	1	1	1	1	5	1	5	1
Furnishings	4	4	4	4	4	4	4	4

4c Narratives of Building Systems per Hall

WHITE HALL

Division 1 – Abatement

There is record of the asbestos containing pipe insulation and spray applied ceiling texture being abated in 1988. The latest WALMS report from 2007 states that there are some friable asbestos identified in the building that is not yet abated.

Division 3 – Concrete

Visual information is limited to areas where the superstructure is exposed. No finishes were removed to expose the structure. The existing White Hall building structural frame is constructed of cast-in-place concrete. The condition of the existing concrete frame (constructed in the 1960's) is in generally good structural condition. The visual portion of the structure shows no severe signs of significant structural damage during site visit.

The existing structural drawings provided live load criteria in the design specifications. The bedrooms are designed to 40 pounds per square foot (psf), the lounges, stairs and corridors designed to 80 psf, and the roof designed to 30 psf. This is nearly identical to what is required by current building codes. Public rooms and corridors serving them are required to be 100 psf, and the snow loads will be approximately 30 psf. There doesn't appear to be expansion joints per existing drawings.

Substructure: The basement level is partially exposed with the lower 4-feet 4 inches below grade and the upper 4-feet above grade. The exterior perimeter walls are 10-1/2" thick are supported by continuous wall footings. The column piers appear to be the same, dimensionally, to the columns above grade. Foundations are conventional spread footings. The typical interior footing size appears to be 5'-6" x 5'-6" based on the column footing schedule drawing. The structural drawings provided the design bearing pressure of 3,000 psf. The basement level has a 4-inch thick poured concrete slab-on-grade.

Superstructure: The existing floors are 6 inch thick two-way concrete flat plates. The floors are supported by perimeter edge beams and concrete columns. Along the slab edge, at the building perimeter there is a typical spandrel beam that is 14 inches deep and is 12 inches wide. The spandrel beams are supported by concrete columns at a regular interval and at the corners. There are concrete columns on both sides of the corridors in the dormitory. The typical interior column size is 10 inches by 12 inches.

Based on the age of the building, it is likely that an empirical approach was taken for the wall and lateral system design. The building has typical construction details for the 1960's. Concrete block masonry walls were built between concrete columns, from the floor to tight below the concrete floor slab. This creates a hybrid system where lateral shear forces are transferred by friction through the block, and the racking and overturning tension forces are resolved with the reinforced concrete columns. The building is heavy and the frequency of masonry walls is abundant. So, globally the building is stable, and it does not show evidence of movement by cracking.

Structural testing (destructive and non-destructive) may be required during the design phase to verify rebar qualities and concrete strength. Unknown conditions are more likely to cause needs for contingency funds during construction.

New openings in the existing floor slabs will need to be carefully planned in order to not compromise the structural integrity of the floor. For larger floor openings needed for ducts, the openings will likely require reinforcing by providing new load bearing CMU walls down to the foundation. During the design phase, the structural engineer will determine a limit for the amount of rebar that can be cut for the cored penetrations for piping. The concrete slabs will require scanning by the contractor during the construction phase to locate the rebar, prior to any cutting. The contractor may need to shift the core location to avoid rebar, and may cut rebar within the limit set by the structural engineer.

If additional loads will be added to the existing foundations beyond the original allowable bearing capacity, a geotechnical investigation will be needed to determine existing soil conditions under the existing building early in design phase. The investigation should include pressuremeter testing to justify increasing loads on the existing foundations.

The exterior overhangs at the door locations are in fair condition.

Division 4 – Masonry
Existing walls consist of CMU wall partitions. Load bearing CMU walls will be added to the existing building to support new openings in floor slabs.

The brick veneer is in fair condition and was tuckpointed in recent years. The brick size is nominal 3" x 12" and is laid in a 1/3 then 2/3 running bond. There are very few soft joints. The ledge angle locations are clearly seen from the exterior. Bricks were often replaced at the course directly below the ledge angles between the windows; assuming improper caulking at the angles at some point in the building life. The outside corners show signs of bowing and brick replacement near the floor levels. Small weeps are placed at the top of the foundation wall and spaced about every three feet.

There is a smooth limestone band at the building parapet. Approximate size of the stone slabs are 12" x 48". The main entrance lobby incorporates rough cut limestone laid in an ashlar pattern.

Division 5 – Metals
The interior stair railings are in good condition, but do not meet ADA requirements.

Division 6 – Wood and Plastics
The wood casework in the common areas are in fair condition.

Division 7 – Thermal and Moisture Protection
The roof was replaced within the last decade. It is a ballasted, loose laid EPDM membrane over tapered insulation. The insulation properly slopes to the drains. The roof drains and other penetrations are properly sealed. The coping and metal flashing are all in good condition. The flashing at the concrete overhangs were also replaced at the time of reroofing and appear to be sufficient.

According to the original construction drawings, the exterior walls have minimal insulation and do not meet the requirements of current energy codes.

Division 8 – Doors and Windows
Exterior doors and windows were replaced in 1999 with aluminum thermally broken windows and doors with insulated glass. All appear in good condition. The windows are fixed in common areas and sliding at the resident rooms and bathrooms. The window heads and sills were also replaced. Weep holes at the window head are not present consistently.

Some exterior grilles appear to be newer and in good condition. The original grilles are in poor condition.

Interior doors are solid wood, original and showing significant wear and tear. The existing door width does not meet ADA minimums. The louvers in the doors at the resident rooms appear newer and are in good condition. The louvers in the bathroom doors are in poor condition and are corroding. The few interior windows are satisfactory.

Division 9 – Finishes
Wall finishes include painted CMU in common spaces and resident rooms and glazed block in the stairs and bathrooms. All are in good condition. VCT in the lower level is well maintained. The broadloom carpet in the corridors and lower level is significantly worn. The stairs have tile treads and risers that are in good condition. The ceiling on the upper floors have a spray applied texture that is in fair condition. The ceiling grids in the lower level are good. There are some ceiling tiles that should be replaced due to sagging. The main lobby and office were renovated in 2002.

Division 10 – Specialties
There are fire extinguisher cabinets located throughout the building.

Division 12 – Furnishings
The resident room wood closet partitions and built-in desks are warping and many show significant wear.

Division 14 – Conveying Systems
There are no vertical conveying systems.

Division 21 – Fire Protection
There is no fire suppressions system in the building. Even if the hall is remodeled, the IEBC does not automatically require the addition of a sprinkler system. A/E recommends the addition of a system if this hall is remodeled due to the desire of the ORL to increase the safety for the residents. The existing water service is 4" in size and the meter bypass gauge indicated 65 psi static. There could be room for riser/backflow in mechanical room and the risers could be located in the janitor closets. Cap 1 ½" hose valves and demo pipe in the cabinets in the corridors. Locate FDC on the north side of the building. Fourth Floor to FDC Access = 28.79'.

Division 22 – Plumbing
The water service and infrastructure are nearing the end of their useful life and have signs of frequent repair. The semi-instantaneous water heaters are newer and in good working order. The plumbing fixtures are functional, but do not meet current water efficiency standards. The faucets and shower heads are especially nearing their end of life. Some water fountains have been replaced with newer models, however.

Division 23 – Mechanical
The building is served by campus steam. Part of the basement is served by heating only air handling units. The majority of the building is served by unit ventilators, fin-tube and cabinet unit heaters to provide heat in the building. The air handing units are in poor condition without belt guards and appear to have at least one recent coil failure. The pneumatic controls are nearing the end of their useful life and replacement parts are difficult to find.

There is no centralized cooling in the building. The apartment does have a split DX system for cooling. The MDF room does not have any cooling

Mechanical ventilation through air handling units and unit ventilators serve most of the basement and first floor. Operable windows provide ventilation for the residence rooms. Existing floor plans are difficult to read so toilet exhaust air-flows cannot be confirmed if they are code compliant. The building does have central exhaust with fans located on the roof for toilet and shower rooms. According to reports from maintenance and observed air movement, the system is pressurizing the building. The equipment and design are obsolete and not performing as intended. A/E recommends upgrading the bathroom system at a minimum in order to better control moisture and humidity.

Division 26 – Electrical
The emergency generator was installed in 2001 and is shared between White, Laux and Sanford Halls. The electrical service and distribution systems are nearing the end of their useful life and equipment clearances do not meet current code. There is limited space for additional circuits on the panelboards. Since resident rooms share circuits, significant work would need to be done to have more circuits available to the building. A code issue exists due to non-emergency loads connected to an emergency transfer switch.

The light fixtures are sufficient, but dated.

The fire alarm system is a Simplex 4100U and is code compliant.

Division 27 – Communications
The data and telecom infrastructure was updated in 1999. It is not sufficient for current demand and expectations.

Division 28 – Electronic Safety
The door security systems meets campus standards.

Division 32 – Exterior Improvements
The man entry path was upgraded in 2002 to include a ramp for better accessibility. The exterior railings are in good shape, but not ADA compliant.

LAUX HALL

Division 1 – Abatement

The latest WALMS report from 2010 states that there are some friable asbestos identified in the building that is not yet abated. It also notes that this may be a health hazard.

Division 3 – Concrete

Visual information is limited to areas where the superstructure is exposed. No finishes were removed to expose the structure. The existing Laux Hall building structural frame is constructed of cast-in-place concrete. The condition of the existing concrete frame (constructed in the 1960's) is in generally good structural condition. The visual portion of the structure shows no severe signs of significant structural damage during site visit. There is some spalling around windows at the foundation.

The existing structural drawings provided live load criteria in the design specifications. The bedrooms are designed to 40 pounds per square foot (psf), the lounges, stairs and corridors designed to 80 psf, and the roof designed to 30 psf. This is nearly identical to what is required by current building codes. Public rooms and corridors serving them are required to be 100 psf, and the snow loads will be approximately 30 psf. There are (2) expansion joints, full height.

Substructure: The basement level is partially exposed with the lower 4-feet 4 inches below grade and the upper 4-feet above grade. The exterior perimeter walls are 10-1/2" thick are supported by continuous wall footings. The column piers appear to be the same, dimensionally, to the columns above grade. Foundations are conventional spread footings. The typical interior footing size appears to be 5'-4" x 5'-4" based on the column footing schedule drawing. The structural drawings provided the design bearing pressure of 3,000 psf. The basement level has a 4-inch thick poured concrete slab-on-grade.

Superstructure: The existing floors are 6 inch thick two-way concrete flat plates. The floors are supported by perimeter edge beams and concrete columns. Along the slab edge, at the building perimeter there is a typical spandrel beam that is 14 inches deep and is 12 inches wide. The spandrel beams are supported by concrete columns at a regular interval and at the corners. There are concrete columns on both sides of the corridors in the dormitory. The typical interior column size is 10 inches by 12 inches.

Based on the age of the building, it is likely that an empirical approach was taken for the wall and lateral system design. The building has typical construction details for the 1960's. Concrete block masonry walls were built between concrete columns, from the floor to tight below the concrete floor slab. This creates a hybrid system where lateral shear forces are transferred by friction through the block, and the racking and overturning tension forces are resolved with the reinforced concrete columns. The building is heavy and the frequency of masonry walls is abundant. So, globally the building is stable, and it does not show evidence of movement by cracking. Structural testing (destructive and non-destructive) may be required during the design phase to verify rebar qualities and concrete strength. Unknown conditions are more likely to cause needs for contingency funds during construction.

New openings in the existing floor slabs will need to be carefully planned in order to not compromise the structural integrity of the floor. For larger floor openings needed for ducts, the openings will likely require reinforcing by providing new load bearing CMU walls down to the foundation. During the design phase, the structural engineer will determine a limit for the amount of rebar that can be cut for the cored penetrations for piping. The concrete slabs will require scanning by the contractor during the construction phase to locate the rebar, prior to any cutting. The contractor may need to shift the core location to avoid rebar, and may cut rebar within the limit set by the structural engineer.

If additional loads will be added to the existing foundations beyond the original allowable bearing capacity, a geotechnical investigation will be needed to determine existing soil conditions under the existing building early in design phase. The investigation should include pressuremeter testing to justify increasing loads on the existing foundations.

Division 4 – Masonry
Existing walls consist of CMU wall partitions. Load bearing CMU walls will be added to the existing building to support new openings in floor slabs.

The brick veneer is in good condition and was tuckpointed in 1998. The brick size is nominal 3" x 8" and is laid in a standard running bond. There are very few soft joints. The ledge angle locations are clearly seen from the exterior. Bricks were often replaced at the course directly below the ledge angles between the windows; assuming improper caulking at the angles at some point in the building life. The outside corners show signs of slight bowing near the floor levels. No weeps at the top of the foundation wall.

There are some vertical limestone bands at the inside corners, lounges and end of halls. The rough cut limestone is laid in an ashlar pattern.

Division 5 – Metals
The interior stair railings are in good condition, but do not meet ADA requirements.

Division 6 – Wood and Plastics
The wood casework in the common areas are in good condition.

Division 7 – Thermal and Moisture Protection
The roof was replaced in 2009. It is a ballasted, loose laid EPDM membrane over tapered insulation. The insulation properly slopes to the drains. The roof drains and other penetrations are properly sealed. The coping and metal flashing are all in good condition. The flashing at the concrete overhangs were also replaced at the time of reroofing and appear to be sufficient.

According to the original construction drawings, the exterior walls have minimal insulation and do not meet the requirements of current energy codes.

Division 8 – Doors and Windows
Exterior doors and windows were replaced in 1999 with aluminum thermally broken windows and doors with insulated glass. All appear in good condition. The windows are fixed in common areas and sliding at the resident rooms and bathrooms. The window heads and sills were also replaced. Weep holes at the window head are not present consistently.

Some exterior grilles appear to be newer and in good condition. The original grilles are in poor condition.

Interior doors are solid wood, original and showing significant wear and tear. The existing door width does not meet ADA minimums. The louvers in the doors at the resident rooms appear newer and are in good condition. The louvers in the bathroom doors are in poor condition and are corroding. The few interior windows are satisfactory.

Division 9 – Finishes
Wall finishes include painted CMU in common spaces and resident rooms and glazed block in the stairs and bathrooms. All are in good condition. VCT in the lower level is well maintained. The carpet in the corridors and lower level is in good condition. The stairs have quarry tile treads and risers that are in poor condition and are frequently chipped. The ceiling on the upper floors have a spray applied texture that is in fair condition. The ceiling grids in the lower level are good. There are some ceiling tiles that should be replaced due to sagging. The kitchen cabinets in the lower level were replaced in 1996.

Division 10 – Specialties
There are fire extinguisher cabinets located throughout the building.

Division 12 – Furnishings
The resident room wood closet partitions and built-in desks are warping and many show significant wear.

Division 14 – Conveying Systems
There are no vertical conveying systems.

Division 21 – Fire Protection
There is no fire suppressions system in the building. Even if the hall is remodeled, the IEBC does not automatically require the addition of a sprinkler system. A/E recommends the addition of a system if this hall is remodeled due to the desire of the ORL to increase the safety for the residents. The existing water service is 3" in size and the meter bypass gauge indicated 82 psi static. There could be room for riser/backflow in mechanical room and the risers could be located in the janitor closets. There is a 2" fire service off of domestic which is active. Locate FDC on the west side of the building and a hydrant will likely need to be added for service. Fourth Floor to FDC Access = 31'.

Division 22 – Plumbing
The water service and infrastructure are nearing the end of their useful life and have signs of frequent repair. The semi-instantaneous water heaters are newer and in good working order. The plumbing fixtures are functional, but do not meet current water efficiency standards. The faucets and shower heads are especially nearing their end of life.

Division 23 – Mechanical
The building is served by campus steam. The majority of the building is served by unit ventilators, fin-tube and cabinet unit heaters to provide heat in the building. The pneumatic controls are nearing the end of their useful life and replacement parts are difficult to find.

There is no centralized cooling in the building. The apartment does have a split DX system for cooling. The MDF room does not have any cooling

Mechanical ventilation through unit ventilators serve most of the basement and first floor. Operable windows provide ventilation for the residence rooms. Make up air for the toilet/shower rooms is provided by air handling units located in the basement. Air is ducted up the center core. Exhaust air flow rates are not compliant with current code. According to reports from maintenance and observed air movement, the system is pressurizing the building. The equipment and design are obsolete and not performing as intended. A/E recommends upgrading the bathroom system at a minimum in order to better control moisture and humidity.

Division 26 – Electrical
The emergency generator was installed in 2001 and is shared between White, Laux and Sanford Halls. The electrical service and distribution systems are nearing the end of their useful life.

The light fixtures are sufficient, but dated.

The fire alarm system is a Simplex 4100U and is code compliant.

Division 27 – Communications
The data and telecom infrastructure was updated in 1999. It is not sufficient for current demand and expectations.

Division 28 – Electronic Safety
The door security systems meets campus standards.

Division 32 – Exterior Improvements
The exterior railings are in good shape, but not ADA compliant.

WENTZ HALL

Division 1 – Abatement
The latest WALMS report from 2005 states that there are some friable asbestos identified in the building that is not yet abated.

Division 3 – Concrete
Visual information is limited to areas where the superstructure is exposed. No finishes were removed to expose the structure. The existing Wentz Hall building structural frame is constructed of cast-in-place concrete. The condition of the existing concrete frame (constructed in the 1960's) is in generally good structural condition. The visual portion of the structure shows no severe signs of significant structural damage during site visit.

The existing structural drawings provided live load criteria in the design specifications. The bedrooms are designed to 40 pounds per square foot (psf), the lounges, stairs and corridors designed to 80 psf, and the roof designed to 30 psf. This is nearly identical to what is required by current building codes. Public rooms and corridors serving them are required to be 100 psf, and the snow loads will be approximately 30 psf. There are (2) expansion joints, full height.

Substructure: The basement level is partially exposed with the lower 4-feet 4 inches below grade and the upper 4-feet above grade. The exterior perimeter walls are 10-1/2" thick are supported by continuous wall footings. The column piers appear to be the same, dimensionally, to the columns above grade. Foundations are conventional spread footings. The typical interior footing size appears to be 5'-4" x 5'-4" based on the column footing schedule drawing. The structural drawings provided the design bearing pressure of 3,000 psf. The basement level has a 4-inch thick poured concrete slab-on-grade.

Superstructure: The existing floors are 6 inch thick two-way concrete flat plates. The floors are supported by perimeter edge beams and concrete columns. Along the slab edge, at the building perimeter there is a typical spandrel beam that is 14 inches deep and is 12 inches wide. The spandrel beams are supported by concrete columns at a regular interval and at the corners. There are concrete columns on both sides of the corridors in the dormitory. The typical interior column size is 10 inches by 12 inches.

Based on the age of the building, it is likely that an empirical approach was taken for the wall and lateral system design. The building has typical construction details for the 1960's. Concrete block masonry walls were built between concrete columns, from the floor to tight below the concrete floor slab. This creates a hybrid system where lateral shear forces are transferred by friction through the block, and the racking and overturning tension forces are resolved with the reinforced concrete columns. The building is heavy and the frequency of masonry walls is abundant. So, globally the building is stable, and it does not show evidence of movement by cracking. Structural testing (destructive and non-destructive) may be required during the design phase to verify rebar qualities and concrete strength. Unknown conditions are more likely to cause needs for contingency funds during construction.

New openings in the existing floor slabs will need to be carefully planned in order to not compromise the structural integrity of the floor. For larger floor openings needed for ducts, the openings will likely require reinforcing by providing new load bearing CMU walls down to the foundation. During the design phase, the structural engineer will determine a limit for the amount of rebar that can be cut for the cored penetrations for piping. The concrete slabs will require scanning by the contractor during the construction phase to locate the rebar, prior to any cutting. The contractor may need to shift the core location to avoid rebar, and may cut rebar within the limit set by the structural engineer.

If additional loads will be added to the existing foundations beyond the original allowable bearing capacity, a geotechnical investigation will be needed to determine existing soil conditions under the existing building early in design phase. The investigation should include pressuremeter testing to justify increasing loads on the existing foundations.

Division 4 – Masonry

Existing walls consist of CMU wall partitions. Load bearing CMU walls will be added to the existing building to support new openings in floor slabs.

The brick veneer is in good condition and was tuckpointed in 1998. The brick size is nominal 3" x 8" and is laid in a standard running bond. There are very few soft joints. The ledge angle locations are clearly seen from the exterior. The outside corners show signs of slight bowing near the floor levels. No weeps at the top of the foundation wall.

There are some vertical limestone bands at the inside corners, lounges and end of halls. The rough cut limestone is laid in an ashlar pattern.

Division 5 – Metals
The interior stair railings are in good condition, but do not meet ADA requirements.

Division 6 – Wood and Plastics
The wood casework in the common areas are in good condition.

Division 7 – Thermal and Moisture Protection
The roof was replaced in 2009. It is a ballasted, loose laid EPDM membrane over tapered insulation. The insulation properly slopes to the drains. The roof drains and other penetrations are properly sealed. The coping and metal flashing are all in good condition. The flashing at the concrete overhangs were also replaced at the time of reroofing and appear to be sufficient.

According to the original construction drawings, the exterior walls have minimal insulation and do not meet the requirements of current energy codes.

Division 8 – Doors and Windows
Exterior doors and windows were replaced in 2004 with aluminum thermally broken windows and doors with insulated glass. All appear in good condition. The windows are fixed in common areas and sliding at the resident rooms and bathrooms. The window heads and sills were also replaced. Weep holes at the window head are not present consistently.

Some exterior grilles appear to be newer and in good condition. The original grilles are in poor condition.

Interior doors are solid wood, original and showing significant wear and tear. The existing door width does not meet ADA minimums. The louvers in the doors at the resident rooms appear newer and are in good condition. The louvers in the bathroom doors are in poor condition and are corroding. The few interior windows are satisfactory.

Division 9 – Finishes
Wall finishes include painted CMU in common spaces and resident rooms and glazed block in the stairs and bathrooms. All are in good condition. The carpet in the corridors and lower level is in good condition. The stairs have quarry tile treads and risers that are in poor condition and are frequently chipped. The ceiling on the upper floors have a spray applied texture that is in fair condition. The ceiling grids in the lower level are fair. There are many ceiling tiles that should be replaced due to sagging. The lobby and office areas were renovated in 2002.

Division 10 – Specialties
There are fire extinguisher cabinets located throughout the building.

Division 12 – Furnishings
The resident room wood closet partitions and built-in desks are warping and many show significant wear.

Division 14 – Conveying Systems
An elevator was added inside the building footprint in 1988. It is in good working condition, but we recommend refurbishment due to the age. The controls and other features could be brought up to current code at that time.

Division 21 – Fire Protection
There is no fire suppressions system in the building. Even if the hall is remodeled, the IEBC does not automatically require the addition of a sprinkler system. A/E recommends the addition of a system if this hall is remodeled due to the desire of the ORL to increase the safety for the residents. The existing water service is 4" in size and the meter bypass gauge indicated 84 psi static pressure. There is not adequate clearance in the stair towers for standpipes. Recommendation to look into adding risers at the incinerator room.

Division 22 – Plumbing
The water service and infrastructure are nearing the end of their useful life and have signs of frequent repair. The semi-instantaneous water heaters are newer and in good working order. The plumbing fixtures are functional, but do not meet current water efficiency standards. The faucets and shower heads are especially nearing their end of life.

Division 23 – Mechanical
The building is served by campus steam. The majority of the building is served by unit ventilators, fin-tube and cabinet unit heaters to provide heat in the building. The pneumatic controls are nearing the end of their useful life and replacement parts are difficult to find.

There is no centralized cooling in the building. The apartment does have a split DX system for cooling. The MDF room does not have any cooling

Mechanical ventilation through unit ventilators serve most of the basement and first floor. Operable windows provide ventilation for the residence rooms. Make up air for the toilet/shower rooms is provided by air handling units located in the basement. Air is ducted up the center core. Exhaust air flow rates are not compliant with current code. According to reports from maintenance and observed air movement, the system is pressurizing the building. The equipment and design are obsolete and not performing as intended. A/E recommends upgrading the bathroom system at a minimum in order to better control moisture and humidity.

Division 26 – Electrical
Wentz has its own exterior, natural gas powered emergency generator. The electrical service and distribution systems are nearing the end of their useful life. There is limited space for additional circuits on the panelboards. Since resident rooms share circuits, significant work would need to be done to have more circuits available to the building. A code issue exists due to non-emergency loads connected to an emergency transfer switch.

The light fixtures are sufficient, but dated.

The fire alarm system is a Simplex 4100U and is code compliant.

Division 27 – Communications
The data and telecom infrastructure was updated in 2000. It is not sufficient for current demand and expectations.

Division 28 – Electronic Safety
The door security systems meets campus standards.

Division 32 – Exterior Improvements
The exterior railings are in good shape, but not ADA compliant.

ANGELL HALL

Division 1 – Abatement
The latest WALMS report from 2005 states that there are some friable asbestos identified in the building that is not yet abated.

Division 3 – Concrete
Visual information is limited to areas where the superstructure is exposed. No finishes were removed to expose the structure. The Angell Hall existing building structural frame is constructed of cast-in-place concrete. The condition of the existing concrete frame (constructed in the 1960's) is in generally good structural condition. The visual portion of the structure shows no severe signs of significant structural damage during site visit.

The existing structural drawings provided live load criteria in the design specifications. The bedrooms are designed to 40 pounds per square foot (psf), the lounges, stairs and corridors designed to 80 psf, and the roof designed to 30 psf. This is nearly identical to what is required by current building codes. Public rooms and corridors serving them are required to be 100 psf, and the snow loads will be approximately 30 psf. There is a total of (4) expansion joints, full height.

Substructure: The basement level is partially exposed with the lower 4-feet 4 inches below grade and the upper 4-feet above grade. The exterior perimeter walls are 1-foot thick are supported by spread footings. The column piers appear to be the same, dimensionally, to the columns above grade. Foundations are conventional spread footings. The typical interior footing size appears to be 5'-6" x 5'-6" based on the column footing schedule drawing. The structural drawings provided the design bearing pressure of 3,000 psf. The basement level has a 4-inch thick poured concrete slab-on-grade.

Superstructure: The existing floors are 6 inch thick two-way concrete flat plates. The floors are supported by perimeter edge beams and concrete columns. Along the slab edge, at the building perimeter there is a typical spandrel beam that is 14 inches deep and is 8 inches wide. The stair stringer slabs and landings have a spandrel beam on all open sides that is 14 inches deep and is 12 inches wide. The spandrel beams are supported by concrete columns at a regular interval and at the corners. There are concrete columns on both sides of the corridors in the dormitory. The typical interior column size is 12 inches by 12 inches.

Based on the age of the building, it is likely that an empirical approach was taken for the wall and lateral system design. The building has typical construction details for the 1960's. Concrete block

masonry walls were built between concrete columns, from the floor to tight below the concrete floor slab. This creates a hybrid system where lateral shear forces are transferred by friction through the block, and the racking and overturning tension forces are resolved with the reinforced concrete columns. The building is heavy and the frequency of masonry walls is abundant. So, globally the building is stable, and it does not show evidence of movement by cracking.
Structural testing (destructive and non-destructive) may be required during the design phase to verify rebar qualities and concrete strength. Unknown conditions are more likely to cause needs for contingency funds during construction.
New openings in the existing floor slabs will need to be carefully planned in order to not compromise the structural integrity of the floor. For larger floor openings needed for ducts, the openings will likely require reinforcing by providing new load bearing CMU walls down to the foundation. During the design phase, the structural engineer will determine a limit for the amount of rebar that can be cut for the cored penetrations for piping. The concrete slabs will require scanning by the contractor during the construction phase to locate the rebar, prior to any cutting. The contractor may need to shift the core location to avoid rebar, and may cut rebar within the limit set by the structural engineer.

If additional loads will be added to the existing foundations beyond the original allowable bearing capacity, a geotechnical investigation will be needed to determine existing soil conditions under the existing building early in design phase. The investigation should include pressuremeter testing to justify increasing loads on the existing foundations.

Division 4 – Masonry
Existing walls consist of CMU wall partitions. Load bearing CMU walls will be added to the existing building to support new openings in floor slabs.

The brick veneer is in fair condition and was tuckpointed in 1998. The brick size is nominal 3” x 8” and is laid in a standard running bond between the windows and stacked ends between the window heads and sills. There are very few soft joints and cracks were noted at the outside corners. The ledge angle locations are clearly seen from the exterior.

There is a smooth limestone band at the parapet and limestone panels at the lounges.

Division 5 – Metals
The interior stair railings are in good condition, but do not meet ADA requirements.

Division 6 – Wood and Plastics
The wood casework in the common areas are in good condition.

Division 7 – Thermal and Moisture Protection
The roof was replaced in 2009. It is a ballasted, loose laid EPDM membrane over tapered insulation. The insulation properly slopes to the drains. The roof drains and other penetrations are properly sealed. The coping and metal flashing are all in good condition. The flashing at the concrete overhangs were also replaced at the time of reroofing and appear to be sufficient.

According to the original construction drawings, the exterior walls have minimal insulation and do not meet the requirements of current energy codes.

Division 8 – Doors and Windows
Exterior doors and windows were replaced in 2004 with aluminum thermally broken windows and doors with insulated glass. All appear in good condition. The windows are fixed or awning in common areas and sliding at the resident rooms and bathrooms. The window heads and sills were also replaced. Weep holes at the window head are not present consistently. There is an exception for the fixed windows at the center lounges. Those remain ¼" non-insulated glass, no frame, set directly into the limestone which serves as the head, jamb and sill.

Some exterior grilles appear to be newer and in good condition. The original grilles are in poor condition.

Interior doors are solid wood, original and showing significant wear and tear. The existing door width does not meet ADA minimums. The louvers in the doors at the resident rooms appear newer and are in good condition. The louvers in the bathroom doors are in poor condition and are corroding. The few interior windows are satisfactory.

Division 9 – Finishes
Wall finishes include painted CMU in common spaces and resident rooms and glazed block in the stairs and bathrooms. All are in good condition. The carpet in the corridors and lower level is in poor condition and showing significant wear. The stairs have quarry tile treads and risers that are in poor condition and are frequently chipped. The ceiling on the upper floors have a spray applied texture that is in fair condition. The ceiling grids in the lower level are fair. There are many ceiling tiles that should be replaced due to sagging.

Division 10 – Specialties
There are fire extinguisher cabinets located throughout the building.

Division 12 – Furnishings
The resident room wood closet partitions and built-in desks are warping and many show significant wear.

Division 14 – Conveying Systems
There are no vertical conveying systems.

Division 21 – Fire Protection
There is no fire suppressions system in the building. Even if the hall is remodeled, the IEBC does not automatically require the addition of a sprinkler system. A/E recommends the addition of a system if this hall is remodeled due to the desire of the ORL to increase the safety for the residents. The existing water service is 4" in size and the meter bypass gauge indicated 65 psi static pressure. Risers in the center core location appear to be feasible. Cap existing 1 ½" hose valve in the corridor closets. There is a 2 ½" valved fire service off of the domestic water serving the corridor closets. Locate FDC on north or south side for FD access. Standpipes may not have adequate clearance in the existing stairs. Fourth floor to FD access = 30'.

Division 22 – Plumbing
The water service and infrastructure are nearing the end of their useful life and have signs of frequent repair. The semi-instantaneous water heaters are newer and in good working order. The

plumbing fixtures are functional, but do not meet current water efficiency standards. The faucets and shower heads are especially nearing their end of life.

Division 23 – Mechanical
The building is served by campus steam. The majority of the building is served by unit ventilators, fin-tube and cabinet unit heaters to provide heat in the building. The pneumatic controls are nearing the end of their useful life and replacement parts are difficult to find.

There is no centralized cooling in the building. The apartment does have a split DX system for cooling. The MDF room does not have any cooling

Mechanical ventilation through unit ventilators serve most of the basement and first floor. Operable windows provide ventilation for the residence rooms. Make up air for the toilet/shower rooms is provided by air handling units located in the basement. Air is ducted up the center core. Exhaust air flow rates are not compliant with current code. According to reports from maintenance and observed air movement, the system is pressurizing the building. The equipment and design are obsolete and not performing as intended. A/E recommends upgrading the bathroom system at a minimum in order to better control moisture and humidity.

Division 26 – Electrical
Angell has its own interior natural gas powered emergency generator. The electrical service and distribution systems are nearing the end of their useful life. There is limited space for additional circuits on the panelboards. Since resident rooms share circuits, significant work would need to be done to have more circuits available to the building. A code issue exists due to non-emergency loads connected to an emergency transfer switch.

The light fixtures are sufficient, but dated.

The fire alarm system is a Simplex 4100U and is code compliant.

Division 27 – Communications
The data and telecom infrastructure was updated in 2001. It is not sufficient for current demand and expectations.

Division 28 – Electronic Safety
The door security systems meets campus standards.

Division 32 – Exterior Improvements
The exterior railings are in good shape, but not ADA compliant.

COATE HALL

Division 1 – Abatement

The latest WALMS report from 2010 states that there are some friable asbestos identified in the building that is not yet abated.

Division 3 – Concrete

Visual information is limited to areas where the superstructure is exposed. No finishes were removed to expose the structure. The Coate Hall existing building structural frame is constructed of cast-in-place concrete. The condition of the existing concrete frame (constructed in the 1960's) is in generally good structural condition. The visual portion of the structure shows no severe signs of significant structural damage during site visit. There is a visible crack approximately 24" long in the exterior wall foundation. This crack can be repaired during a future renovation project.

The existing structural drawings provided live load criteria in the design specifications. The bedrooms are designed to 40 pounds per square foot (psf), the lounges, stairs and corridors designed to 80 psf, and the roof designed to 30 psf. This is nearly identical to what is required by current building codes. Public rooms and corridors serving them are required to be 100 psf, and the snow loads will be approximately 30 psf. There is a total of (4) expansion joints, full height.

Substructure: The basement level is partially exposed with the lower 4-feet 4 inches below grade and the upper 4-feet above grade. The exterior perimeter walls are 1-foot thick are supported by spread footings. The column piers appear to be the same, dimensionally, to the columns above grade. Foundations are conventional spread footings. The typical interior footing size appears to be 5'-6" x 5'-6" based on the column footing schedule drawing. The structural drawings provided the design bearing pressure of 3,000 psf. The basement level has a 4-inch thick poured concrete slab-on-grade.

Superstructure: The existing floors are 6 inch thick two-way concrete flat plates. The floors are supported by perimeter edge beams and concrete columns. Along the slab edge, at the building perimeter there is a typical spandrel beam that is 14 inches deep and is 8 inches wide. The stair stringer slabs and landings have a spandrel beam on all open sides that is 14 inches deep and is 12 inches wide. The spandrel beams are supported by concrete columns at a regular interval and at the corners. There are concrete columns on both sides of the corridors in the dormitory. The typical interior column size is 12 inches by 12 inches.

Based on the age of the building, it is likely that an empirical approach was taken for the wall and lateral system design. The building has typical construction details for the 1960's. Concrete block masonry walls were built between concrete columns, from the floor to tight below the concrete floor slab. This creates a hybrid system where lateral shear forces are transferred by friction through the block, and the racking and overturning tension forces are resolved with the reinforced concrete columns. The building is heavy and the frequency of masonry walls is abundant. So, globally the building is stable, and it does not show evidence of movement by cracking.

Structural testing (destructive and non-destructive) may be required during the design phase to verify rebar qualities and concrete strength. Unknown conditions are more likely to cause needs for contingency funds during construction.

New openings in the existing floor slabs will need to be carefully planned in order to not compromise the structural integrity of the floor. For larger floor openings needed for ducts, the openings will likely require reinforcing by providing new load bearing CMU walls down to the

foundation. During the design phase, the structural engineer will determine a limit for the amount of rebar that can be cut for the cored penetrations for piping. The concrete slabs will require scanning by the contractor during the construction phase to locate the rebar, prior to any cutting. The contractor may need to shift the core location to avoid rebar, and may cut rebar within the limit set by the structural engineer.

If additional loads will be added to the existing foundations beyond the original allowable bearing capacity, a geotechnical investigation will be needed to determine existing soil conditions under the existing building early in design phase. The investigation should include pressuremeter testing to justify increasing loads on the existing foundations.

Division 4 – Masonry
Existing walls consist of CMU wall partitions. Load bearing CMU walls will be added to the existing building to support new openings in floor slabs.

The brick veneer is in fair condition and was tuckpointed in 1998. The brick size is nominal 3" x 8" and is laid in a standard running bond between the windows and stacked ends between the window heads and sills. There are very few soft joints and cracks were noted at the outside corners. The ledge angle locations are clearly seen from the exterior.

There is a smooth limestone band at the parapet and limestone panels at the lounges.

Division 5 – Metals
The interior stair railings are in good condition, but do not meet ADA requirements.

Division 6 – Wood and Plastics
The wood casework in the common areas are in good condition.

Division 7 – Thermal and Moisture Protection
The roof was replaced in 2009. It is a ballasted, loose laid EPDM membrane over tapered insulation. The insulation properly slopes to the drains. The roof drains and other penetrations are properly sealed. The coping and metal flashing are all in good condition. The flashing at the concrete overhangs were also replaced at the time of reroofing and appear to be sufficient.

According to the original construction drawings, the exterior walls have minimal insulation and do not meet the requirements of current energy codes.

Division 8 – Doors and Windows
Exterior doors and windows were replaced in 2001 with aluminum thermally broken windows and doors with insulated glass. All appear in good condition. The windows are fixed or awning in common areas and sliding at the resident rooms and bathrooms. The window heads and sills were also replaced. Weep holes at the window head are present. There is an exception for the fixed windows at the entry lobby. Those remain ¼" non-insulated glass, no frame, set directly into the limestone which serves as the head, jamb and sill.

Some exterior grilles appear to be newer and in good condition. The original grilles are in poor condition.

Interior doors are solid wood, original and showing significant wear and tear. The existing door width does not meet ADA minimums. The louvers in the doors at the resident rooms appear newer and are in good condition. The louvers in the bathroom doors are in poor condition and are corroding. The few interior windows are satisfactory.

Division 9 – Finishes
Wall finishes include painted CMU in common spaces and resident rooms and glazed block in the stairs and bathrooms. All are in good condition. The carpet in the corridors and lower level is in fair condition and showing wear. The stairs have quarry tile treads and risers that are in fair condition and are frequently chipped. The ceiling on the upper floors have a spray applied texture that is in poor condition. The ceiling grids in the lower level are poor. There are many ceiling tiles that should be replaced due to sagging.

Division 10 – Specialties
There are fire extinguisher cabinets located throughout the building.

Division 12 – Furnishings
The resident room wood closet partitions and built-in desks are warping and many show significant wear.

Division 14 – Conveying Systems
There are no vertical conveying systems.

Division 21 – Fire Protection
There is no fire suppressions system in the building. Even if the hall is remodeled, the IEBC does not automatically require the addition of a sprinkler system. A/E recommends the addition of a system if this hall is remodeled due to the desire of the ORL to increase the safety for the residents. The existing water service is 4" in size. Recommend relocation of the EXV to allow for backflow preventer install riser in old incinerator room. Capped existing 1 ½" hose valve in the corridor closets. There is a 2 ½" valved fire service off of the domestic water serving the corridor closets. Standpipes should have adequate clearance in the existing stairs. Fourth floor to FD access = 31'.

Division 22 – Plumbing
The water service and infrastructure are nearing the end of their useful life and have signs of frequent repair. The steam water heaters are obsolete. The plumbing fixtures are functional, but do not meet current water efficiency standards. The faucets and shower heads are especially nearing their end of life.

Division 23 – Mechanical
The building is served by campus steam. The distribution system is past its useful life expectancy. The majority of the building is served by unit ventilators, fin-tube and cabinet unit heaters to provide heat in the building. The pneumatic controls are nearing the end of their useful life and replacement parts are difficult to find.

There is no centralized cooling in the building. The MDF room does not have any cooling

Mechanical ventilation through unit ventilators serve most of the basement and first floor. Operable windows provide ventilation for the residence rooms. Make up air for the toilet/shower

rooms is provided by air handling units located in the basement. Air is ducted up the center core of each building cube. Exhaust air flow rates are not compliant with current code. According to reports from maintenance and observed air movement, the system is pressurizing the building. The equipment and design are obsolete and not performing as intended. A/E recommends upgrading the bathroom system at a minimum in order to better control moisture and humidity.

Division 26 – Electrical
Coate has its own interior natural gas powered emergency generator. The electrical service and distribution systems are in fair condition. There is limited space for additional circuits on the panelboards. Since resident rooms share circuits, significant work would need to be done to have more circuits available to the building.

The light fixtures are sufficient, but dated.

The fire alarm system is an Edwards EST 3X. This system is not to current code.

Division 27 – Communications
The data and telecom infrastructure was updated in 2002. It is not sufficient for current demand and expectations.

Division 28 – Electronic Safety
The door security systems meets campus standards.

Division 32 – Exterior Improvements
The exterior railings are in good shape, but not ADA compliant.

DRAKE HALL

Division 1 – Abatement
The latest WALMS report from 2010 states that there are some friable asbestos identified in the building that is not yet abated.

Division 3 – Concrete
Visual information is limited to areas where the superstructure is exposed. No finishes were removed to expose the structure. The Drake Hall existing building structural frame is constructed of cast-in-place concrete. The condition of the existing concrete frame (constructed in the 1960's) is in generally good structural condition. The visual portion of the structure shows no severe signs of significant structural damage during site visit. It should be noted that Drake Hall had a fire that originated in the basement in early 2012.

The existing structural drawings provided live load criteria in the design specifications. The bedrooms are designed to 40 pounds per square foot (psf), the lounges, stairs and corridors designed to 80 psf, and the roof designed to 30 psf. This is nearly identical to what is required by current building codes. Public rooms and corridors serving them are required to be 100 psf, and the snow loads will be approximately 30 psf. There is a total of (2) expansion joints, full height.

Substructure: The basement level is partially exposed with the lower 4-feet 4 inches below grade and the upper 4-feet above grade. The exterior perimeter walls are 1-foot thick are supported by

spread footings. The column piers appear to be the same, dimensionally, to the columns above grade. Foundations are conventional spread footings. The typical interior footing size appears to be 5'-6" x 5'-6" based on the column footing schedule drawing. The structural drawings provided the design bearing pressure of 3,000 psf. The basement level has a 4-inch thick poured concrete slab-on-grade.

Superstructure: The existing floors are 6 inch thick two-way concrete flat plates. The floors are supported by perimeter edge beams and concrete columns. Along the slab edge, at the building perimeter there is a typical spandrel beam that is 14 inches deep and is 8 inches wide. The stair stringer slabs and landings have a spandrel beam on all open sides that is 14 inches deep and is 12 inches wide. The spandrel beams are supported by concrete columns at a regular interval and at the corners. There are concrete columns on both sides of the corridors in the dormitory. The typical interior column size is 12 inches by 12 inches.

Based on the age of the building, it is likely that an empirical approach was taken for the wall and lateral system design. The building has typical construction details for the 1960's. Concrete block masonry walls were built between concrete columns, from the floor to tight below the concrete floor slab. This creates a hybrid system where lateral shear forces are transferred by friction through the block, and the racking and overturning tension forces are resolved with the reinforced concrete columns. The building is heavy and the frequency of masonry walls is abundant. So, globally the building is stable, and it does not show evidence of movement by cracking.
Structural testing (destructive and non-destructive) may be required during the design phase to verify rebar qualities and concrete strength. Unknown conditions are more likely to cause needs for contingency funds during construction.

New openings in the existing floor slabs will need to be carefully planned in order to not compromise the structural integrity of the floor. For larger floor openings needed for ducts, the openings will likely require reinforcing by providing new load bearing CMU walls down to the foundation. During the design phase, the structural engineer will determine a limit for the amount of rebar that can be cut for the cored penetrations for piping. The concrete slabs will require scanning by the contractor during the construction phase to locate the rebar, prior to any cutting. The contractor may need to shift the core location to avoid rebar, and may cut rebar within the limit set by the structural engineer.
If additional loads will be added to the existing foundations beyond the original allowable bearing capacity, a geotechnical investigation will be needed to determine existing soil conditions under the existing building early in design phase. The investigation should include pressuremeter testing to justify increasing loads on the existing foundations.

Division 4 – Masonry
Existing walls consist of CMU wall partitions. Load bearing CMU walls will be added to the existing building to support new openings in floor slabs.

The brick veneer is in fair condition and was tuckpointed in 1998. The brick size is nominal 3" x 8" and is laid in a standard running bond between the windows and stacked ends between the window heads and sills. There are very few soft joints and cracks were noted at the outside corners. Weeps were not seen at the top of the foundation wall. The ledge angle locations are clearly seen from the exterior.

There is a smooth limestone band at the parapet and limestone panels at the lounges.

Division 5 – Metals
The interior stair railings are in good condition, but do not meet ADA requirements.

Division 6 – Wood and Plastics
The wood casework in the common areas are in good condition.

Division 7 – Thermal and Moisture Protection
The roof was replaced in 2009. It is a ballasted, loose laid EPDM membrane over tapered insulation. The insulation properly slopes to the drains. The roof drains and other penetrations are properly sealed. The coping and metal flashing are all in good condition. The flashing at the concrete overhangs were also replaced at the time of reroofing and appear to be sufficient.

According to the original construction drawings, the exterior walls have minimal insulation and do not meet the requirements of current energy codes.

Division 8 – Doors and Windows
Exterior doors and windows were replaced in 2001 with aluminum thermally broken windows and doors with insulated glass. All appear in good condition. The windows are fixed or awning in common areas and sliding at the resident rooms and bathrooms. The window heads and sills were also replaced. Weep holes at the window head are present. There is an exception for the fixed windows at the entry lobby. Those remain ¼" non-insulated glass, no frame, set directly into the limestone which serves as the head, jamb and sill.

Some exterior grilles appear to be newer and in good condition. The original grilles are in poor condition.

Interior doors are solid wood, original and showing significant wear and tear. The existing door width does not meet ADA minimums. The louvers in the doors at the resident rooms appear newer and are in good condition. The louvers in the bathroom doors are in poor condition and are corroding. The few interior windows are satisfactory.

Division 9 – Finishes
Wall finishes include painted CMU in common spaces and resident rooms and glazed block in the stairs and bathrooms. All are in good condition. The carpet in the corridors and lower level is in fair condition and showing wear. The stairs have quarry tile treads and risers that are in fair condition and are frequently chipped. The ceiling on the upper floors have a spray applied texture that is in poor condition. The ceiling grids in the lower level are poor. There are many ceiling tiles that should be replaced due to sagging.

Division 10 – Specialties
There are fire extinguisher cabinets located throughout the building.

Division 12 – Furnishings
The resident room wood closet partitions and built-in desks are warping and many show significant wear.

Division 14 – Conveying Systems
There are no vertical conveying systems.

Division 21 – Fire Protection
There is no fire suppressions system in the building. Even if the hall is remodeled, the IEBC does not automatically require the addition of a sprinkler system. A/E recommends the addition of a system if this hall is remodeled due to the desire of the ORL to increase the safety for the residents. The existing water service is 4" in size and meter bypass gauge indicated 82 psi static pressure. May be able to locate backflow alongside condensate pump with disconnect relocation in the mechanical room. Recommend locating riser in incinerator room. Standpipes should have adequate clearance in the existing stairs. Locate FDC on the north side of the building. Fourth floor to FD access = 30'.

Division 22 – Plumbing
The water service and infrastructure are nearing the end of their useful life and have signs of frequent repair. The semi-instantaneous water heaters are newer and in good working order. The plumbing fixtures are functional, but do not meet current water efficiency standards. The faucets and shower heads are especially nearing their end of life.

Division 23 – Mechanical
The building is served by campus steam. The distribution system is past its useful life expectancy. The majority of the building is served by unit ventilators, fin-tube and cabinet unit heaters to provide heat in the building. The pneumatic controls are nearing the end of their useful life and replacement parts are difficult to find.

There is no centralized cooling in the building. The apartment has a DX split system for cooling. The MDF room does not have any cooling.

Mechanical ventilation through unit ventilators serve most of the basement and first floor. Operable windows provide ventilation for the residence rooms. Make up air for the toilet/shower rooms is provided by air handling units located in the basement. Air is ducted up the center core of each building cube. Exhaust air flow rates are not compliant with current code. According to reports from maintenance and observed air movement, the system is pressurizing the building. The equipment and design are obsolete and not performing as intended. A/E recommends upgrading the bathroom system at a minimum in order to better control moisture and humidity.

Division 26 – Electrical
Drake has its own interior natural gas powered emergency generator. The electrical service and distribution systems are nearing the end of their useful life. There is limited space for additional circuits on the panelboards. Since resident rooms share circuits, significant work would need to be done to have more circuits available to the building. A code issue exists due to non-emergency loads connected to an emergency transfer switch.

The light fixtures are sufficient, but dated.

The fire alarm system is a Simplex 4100ES and is code compliant.

Division 27 – Communications
The data and telecom infrastructure was updated in 2001. It is not sufficient for current demand and expectations.

Division 28 – Electronic Safety
The door security systems meets campus standards.

Division 32 – Exterior Improvements
The exterior railings are in good shape, but not ADA compliant.

HUTCHISON HALL

Division 1 – Abatement
The latest WALMS report from 2008 states that there are some friable asbestos identified in the building that is not yet abated.

Division 3 – Concrete
Visual information is limited to areas where the superstructure is exposed. No finishes were removed to expose the structure. The Hutchison Hall existing building structural frame is constructed of cast-in-place concrete. The condition of the existing concrete frame (constructed in the 1960's) is in generally good structural condition. The visual portion of the structure shows no severe signs of significant structural damage during site visit. Some minor concrete spalling was visible at foundation windows.
The existing structural drawings provided live load criteria in the design specifications. The bedrooms are designed to 40 pounds per square foot (psf), the lounges, stairs and corridors designed to 80 psf, and the roof designed to 30 psf. This is nearly identical to what is required by current building codes. Public rooms and corridors serving them are required to be 100 psf, and the snow loads will be approximately 30 psf. There is (4) expansion joints, full height.

Substructure: The basement level is partially exposed with the lower 4-feet 4 inches below grade and the upper 4-feet above grade. The exterior perimeter walls are mainly 10" thick are supported by spread footings and wall footings. The column piers appear to be the same, dimensionally, to the columns above grade. Foundations are conventional spread footings. The typical interior footing size appears to be 6'-6" x 12'-10" combined footings based on the east building column footing schedule drawing. The typical west building interior footing is a 5'-10" square spread footing, 15" thick. The structural drawings provided the design bearing pressure of 2,000 psf. The basement level has a 4-inch thick poured concrete slab-on-grade.

Superstructure: The existing floors are 6 inch thick two-way concrete flat plates. The floors are supported by perimeter edge beams and concrete columns. Along the slab edge, at the building perimeter there is a typical spandrel beam that is 14 inches deep and is 10 inches wide. The stair stringer slabs and landings have a spandrel beam on all open sides that is min 12 inches deep and is 12 inches wide. The spandrel beams are supported by concrete columns at a regular interval and at the corners. There are concrete columns on both sides of the corridors in the dormitory. The typical interior column size is 10 inches by 12 inches.

Based on the age of the building, it is likely that an empirical approach was taken for the wall and lateral system design. The building has typical construction details for the 1960's. Concrete block

masonry walls were built between concrete columns, from the floor to tight below the concrete floor slab. This creates a hybrid system where lateral shear forces are transferred by friction through the block, and the racking and overturning tension forces are resolved with the reinforced concrete columns. The building is heavy and the frequency of masonry walls is abundant. So, globally the building is stable, and it does not show evidence of movement by cracking. Structural testing (destructive and non-destructive) may be required during the design phase to verify rebar qualities and concrete strength. Unknown conditions are more likely to cause needs for contingency funds during construction.

New openings in the existing floor slabs will need to be carefully planned in order to not compromise the structural integrity of the floor. For larger floor openings needed for ducts, the openings will likely require reinforcing by providing new load bearing CMU walls down to the foundation. During the design phase, the structural engineer will determine a limit for the amount of rebar that can be cut for the cored penetrations for piping. The concrete slabs will require scanning by the contractor during the construction phase to locate the rebar, prior to any cutting. The contractor may need to shift the core location to avoid rebar, and may cut rebar within the limit set by the structural engineer.

If additional loads will be added to the existing foundations beyond the original allowable bearing capacity, a geotechnical investigation will be needed to determine existing soil conditions under the existing building early in design phase. The investigation should include pressuremeter testing to justify increasing loads on the existing foundations.

Division 4 – Masonry
Existing walls consist of CMU wall partitions. Load bearing CMU walls will be added to the existing building to support new openings in floor slabs.

The brick veneer is in fair condition and was tuckpointed in 1998. The brick size is nominal 3” x 8” and is laid in a standard running bond between the windows and stacked ends between the window heads and sills. There are very few soft joints and cracks were noted at the outside corners. The ledge angle locations are clearly seen from the exterior.

There is a smooth limestone band at the parapet and limestone panels at the lounges.

Division 5 – Metals
The interior stair railings are in good condition, but do not meet ADA requirements.

Division 6 – Wood and Plastics
The wood casework in the common areas are in fair condition.

Division 7 – Thermal and Moisture Protection
The roof was replaced in 2009. It is a ballasted, loose laid EPDM membrane over tapered insulation. The insulation properly slopes to the drains. The roof drains and other penetrations are properly sealed. The coping and metal flashing are all in good condition. The flashing at the concrete overhangs were also replaced at the time of reroofing and appear to be sufficient.

According to the original construction drawings, the exterior walls have minimal insulation and do not meet the requirements of current energy codes.

Division 8 – Doors and Windows
Exterior doors and windows were replaced in 2002 with aluminum thermally broken windows and doors with insulated glass. All appear in good condition. The windows are fixed or awning in common areas and sliding at the resident rooms and bathrooms. The window heads and sills were also replaced. Weep holes at the window head are present. There is an exception for the fixed windows at the entry lobby. Those remain ¼" non-insulated glass, no frame, set directly into the limestone which serves as the head, jamb and sill.

Some exterior grilles appear to be newer and in good condition. The original grilles are in poor condition.

Interior doors are solid wood, original and showing significant wear and tear. The existing door width does not meet ADA minimums. The louvers in the doors at the resident rooms appear newer and are in good condition. The louvers in the bathroom doors are in poor condition and are corroding. The few interior windows are satisfactory.

Division 9 – Finishes
Wall finishes include painted CMU in common spaces and resident rooms and glazed block in the stairs and bathrooms. All are in good condition. The carpet in the corridors and lower level is in fair condition and showing wear. The stairs have quarry tile treads and risers that are in fair condition and are frequently chipped. The ceiling on the upper floors have a spray applied texture that is in poor condition. The ceiling grids in the lower level are poor. There are many ceiling tiles that should be replaced due to sagging.

Division 10 – Specialties
There are fire extinguisher cabinets located throughout the building.

Division 12 – Furnishings
The resident room wood closet partitions and built-in desks are warping and many show significant wear.

Division 14 – Conveying Systems
There are no vertical conveying systems.

Division 21 – Fire Protection
There is no fire suppressions system in the building. Even if the hall is remodeled, the IEBC does not automatically require the addition of a sprinkler system. A/E recommends the addition of a system if this hall is remodeled due to the desire of the ORL to increase the safety for the residents. The existing water service is 4" in size and meter bypass gauge indicated 80 psi static pressure. Recommend locating riser in janitor closet. Standpipes may have clearance in the existing stairs. Locate FDC on the south side of the building. Fourth floor to FD access = 30'-2".

Division 22 – Plumbing
The water service and infrastructure are nearing the end of their useful life and have signs of frequent repair. The semi-instantaneous water heaters are newer and in good working order. The plumbing fixtures are functional, but do not meet current water efficiency standards. The faucets and shower heads are especially nearing their end of life.

Division 23 – Mechanical
The building is served by campus steam. The distribution system is past its useful life expectancy. The majority of the building is served by unit ventilators, fin-tube and cabinet unit heaters to provide heat in the building. The pneumatic controls are nearing the end of their useful life and replacement parts are difficult to find.

There is no centralized cooling in the building. The apartment has a DX split system for cooling. The MDF room has a wall mounted mini-split system.

Mechanical ventilation through unit ventilators serve most of the basement and first floor. Operable windows provide ventilation for the residence rooms. Make up air for the toilet/shower rooms is provided by air handling units located in the basement. Air is ducted up the center core of each building cube. Exhaust air flow rates are not compliant with current code. According to reports from maintenance and observed air movement, the system is pressurizing the building. The equipment and design are obsolete and not performing as intended. A/E recommends upgrading the bathroom system at a minimum in order to better control moisture and humidity.

Division 26 – Electrical
Hutchison has its own interior natural gas powered emergency generator. The electrical service and distribution systems are in fair condition. There is limited space for additional circuits on the panelboards. Since resident rooms share circuits, significant work would need to be done to have more circuits available to the building.

The light fixtures are sufficient, but dated.

The fire alarm system is an Edwards EST 3X and is not code compliant.

Division 27 – Communications
The data and telecom infrastructure was updated in 2001. It is not sufficient for current demand and expectations.

Division 28 – Electronic Safety
The door security systems meets campus standards.

Division 32 – Exterior Improvements
The exterior railings are in good shape, but not ADA compliant.

SANFORD HALL

Division 1 – Abatement
The latest WALMS report from 2010 states that there are some friable asbestos identified in the building that is not yet abated.

Division 3 – Concrete
Visual information is limited to areas where the superstructure is exposed. No finishes were removed to expose the structure. The existing Sanford Hall building structural frame is constructed of cast-in-place concrete. The condition of the existing concrete frame (constructed in the 1960's) is

in generally good structural condition. The visual portion of the structure shows no severe signs of significant structural damage during site visit. Some minor spalling was visible at foundation wall windows.

The existing structural drawings provided live load criteria in the design specifications. The bedrooms are designed to 40 pounds per square foot (psf), the lounges, stairs and corridors designed to 80 psf, and the roof designed to 30 psf. This is nearly identical to what is required by current building codes. Public rooms and corridors serving them are required to be 100 psf, and the snow loads will be approximately 30 psf. There are (2) expansion joints, full height.

Substructure: The basement level is partially exposed with the lower 4-feet 4 inches below grade and the upper 4-feet above grade. The exterior perimeter walls are mainly 10" thick are supported by spread footings and wall footings. The column piers appear to be the same, dimensionally, to the columns above grade. Foundations are conventional spread footings. The typical interior footing size appears to be 6'-6" x 12'-10" combined footings based on the east building column footing schedule drawing. The typical west building interior footing is a 5'-10" square spread footing, 15" thick. The structural drawings provided the design bearing pressure of 2,000 psf. The basement level has a 4-inch thick poured concrete slab-on-grade.

Superstructure: The existing floors are 6 inch thick two-way concrete flat plates. The floors are supported by perimeter edge beams and concrete columns. Along the slab edge, at the building perimeter there is a typical spandrel beam that is 14 inches deep and is 10 inches wide. The stair stringer slabs and landings have a spandrel beam on all open sides that is min 12 inches deep and is 12 inches wide. The spandrel beams are supported by concrete columns at a regular interval and at the corners. There are concrete columns on both sides of the corridors in the dormitory. The typical interior column size is 10 inches by 12 inches.

Based on the age of the building, it is likely that an empirical approach was taken for the wall and lateral system design. The building has typical construction details for the 1960's. Concrete block masonry walls were built between concrete columns, from the floor to tight below the concrete floor slab. This creates a hybrid system where lateral shear forces are transferred by friction through the block, and the racking and overturning tension forces are resolved with the reinforced concrete columns. The building is heavy and the frequency of masonry walls is abundant. So, globally the building is stable, and it does not show evidence of movement by cracking. Structural testing (destructive and non-destructive) may be required during the design phase to verify rebar qualities and concrete strength. Unknown conditions are more likely to cause needs for contingency funds during construction.

New openings in the existing floor slabs will need to be carefully planned in order to not compromise the structural integrity of the floor. For larger floor openings needed for ducts, the openings will likely require reinforcing by providing new load bearing CMU walls down to the foundation. During the design phase, the structural engineer will determine a limit for the amount of rebar that can be cut for the cored penetrations for piping. The concrete slabs will require scanning by the contractor during the construction phase to locate the rebar, prior to any cutting. The contractor may need to shift the core location to avoid rebar, and may cut rebar within the limit set by the structural engineer.

If additional loads will be added to the existing foundations beyond the original allowable bearing capacity, a geotechnical investigation will be needed to determine existing soil conditions under the existing building early in design phase. The investigation should include pressuremeter testing to justify increasing loads on the existing foundations.

Division 4 – Masonry

Existing walls consist of CMU wall partitions. Load bearing CMU walls will be added to the existing building to support new openings in floor slabs.

The brick veneer is in fair condition and was tuckpointed in 1998. The brick size is nominal 3" x 8" and is laid in a standard running bond. There are very few soft joints and weeps are lacking at the top of the foundation wall. The ledge angle locations are seen from the exterior.

There is a smooth limestone band at the parapet and limestone panels at the lounges.

Division 5 – Metals

The interior stair railings are in good condition, but do not meet ADA requirements.

Division 6 – Wood and Plastics

The wood casework in the common areas are in poor condition.

Division 7 – Thermal and Moisture Protection

The roof was replaced in 2009. It is a ballasted, loose laid EPDM membrane over tapered insulation. The insulation properly slopes to the drains. The roof drains and other penetrations are properly sealed. The coping and metal flashing are all in good condition. The flashing at the concrete overhangs were also replaced at the time of reroofing and appear to be sufficient.

According to the original construction drawings, the exterior walls have minimal insulation and do not meet the requirements of current energy codes.

Division 8 – Doors and Windows

Exterior doors and windows were replaced in 2000 with aluminum thermally broken windows and doors with insulated glass. All appear in good condition. The windows are fixed or awning in common areas and sliding at the resident rooms and bathrooms. The window heads and sills were also replaced. Weep holes at the window head are present.

Some exterior grilles appear to be newer and in good condition. The original grilles are in poor condition.

Interior doors are solid wood, original and showing significant wear and tear. The existing door width does not meet ADA minimums. The louvers in the doors at the resident rooms appear newer and are in good condition. The louvers in the bathroom doors are in poor condition and are corroding. The few interior windows are satisfactory.

Division 9 – Finishes

Wall finishes include painted CMU in common spaces and resident rooms and glazed block in the stairs and bathrooms. All are in good condition. The carpet in the corridors and lower level is in fair condition and showing wear. The stairs have quarry tile treads and risers that are in fair condition and are frequently chipped. The ceiling on the upper floors have a spray applied texture that is in

fair condition. The ceiling grids in the lower level are poor. There are many ceiling tiles that should be replaced due to sagging.

Division 10 – Specialties
There are fire extinguisher cabinets located throughout the building.

Division 12 – Furnishings
The resident room wood closet partitions and built-in desks are warping and many show significant wear.

Division 14 – Conveying Systems
There are no vertical conveying systems.

Division 21 – Fire Protection
There is no fire suppressions system in the building. Even if the hall is remodeled, the IEBC does not automatically require the addition of a sprinkler system. A/E recommends the addition of a system if this hall is remodeled due to the desire of the ORL to increase the safety for the residents. The existing water service is 4" in size and meter bypass gauge indicated 82 psi static pressure. Fire service has been demolished. Recommend locating riser in northeast stair. Standpipes may have clearance in the existing stairs. Fourth floor to FD access = 31'-2".

Division 22 – Plumbing
The water service and infrastructure are nearing the end of their useful life and have signs of frequent repair. The semi-instantaneous water heaters are newer and in good working order. The plumbing fixtures are functional, but do not meet current water efficiency standards. The faucets and shower heads are especially nearing their end of life.

Division 23 – Mechanical
The building is served by campus steam. The distribution system is nearing the end of its useful life expectancy. The majority of the building is served by unit ventilators, fin-tube and cabinet unit heaters to provide heat in the building. The pneumatic controls are nearing the end of their useful life and replacement parts are difficult to find.

There is no centralized cooling in the building. The apartment has a DX split system for cooling. The MDF room has a wall mounted mini-split system.

Mechanical ventilation through unit ventilators serve most of the basement and first floor. Operable windows provide ventilation for the residence rooms. Make up air for the toilet/shower rooms is provided by air handling units located in the basement. Air is ducted up the center core to the resident corridors. Exhaust air flow rates are not compliant with current code. According to reports from maintenance and observed air movement, the system is pressurizing the building. The equipment and design are obsolete and not performing as intended. A/E recommends upgrading the bathroom system at a minimum in order to better control moisture and humidity.

Division 26 – Electrical
Sanford has its own exterior natural gas powered emergency generator. The electrical service and distribution systems are in fair condition. There is limited space for additional circuits on the

panelboards. Since resident rooms share circuits, significant work would need to be done to have more circuits available to the building.

The light fixtures are sufficient, but dated.

The fire alarm system is a Simplex 4100U and is code compliant.

Division 27 – Communications
The data and telecom infrastructure was updated around 2000. It is not sufficient for current demand and expectations.

Division 28 – Electronic Safety
The door security systems meets campus standards.

Division 32 – Exterior Improvements
The exterior railings are in good shape, but not ADA compliant.

5 EXPECTED OR PLANNED CHANGES AND PROJECTIONS

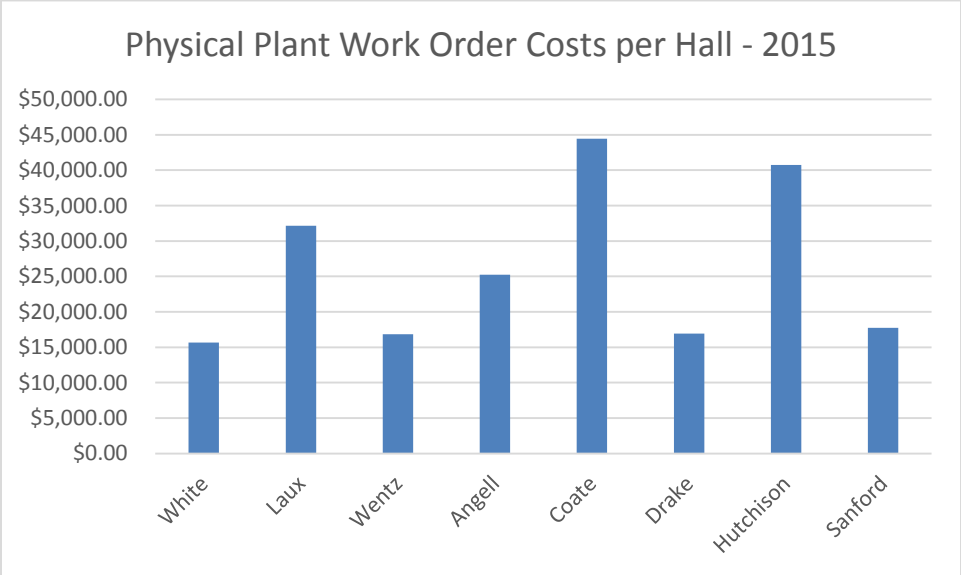
The University of La Crosse continues to grow in terms of enrollment and diversity. They expect this trend to continue. This study is a result of the Office of Residence Life responding proactively to the growing demand and need for on campus housing and the services that current and future students will expect from University Housing. Their goals for this study align with their mission to provide adequate space for living, learning and socializing. The ORL wants to build on their success using their existing housing stock and build new housing in anticipation of future needs to the best of their ability.

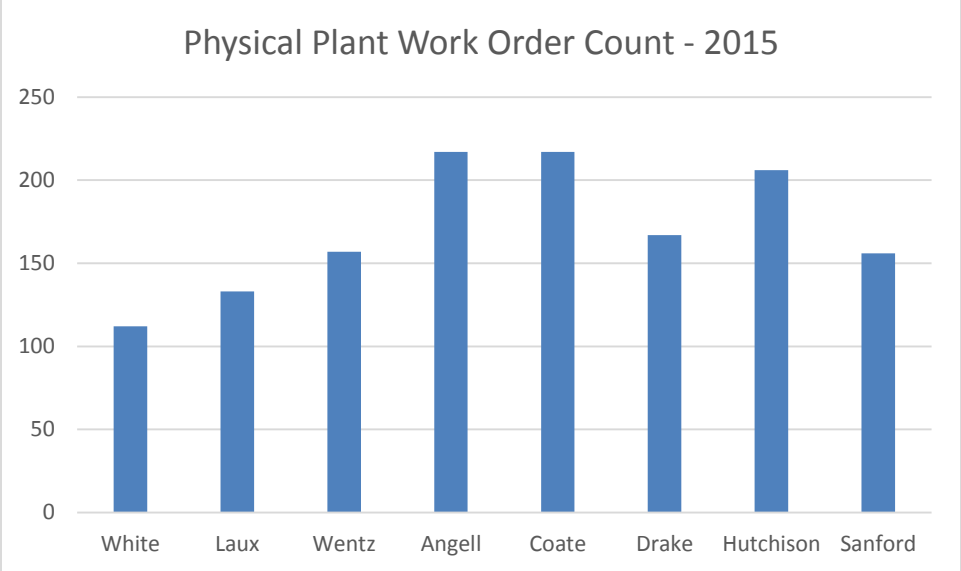
6 SYNTHESIS AND OPTIONS COMPARISON

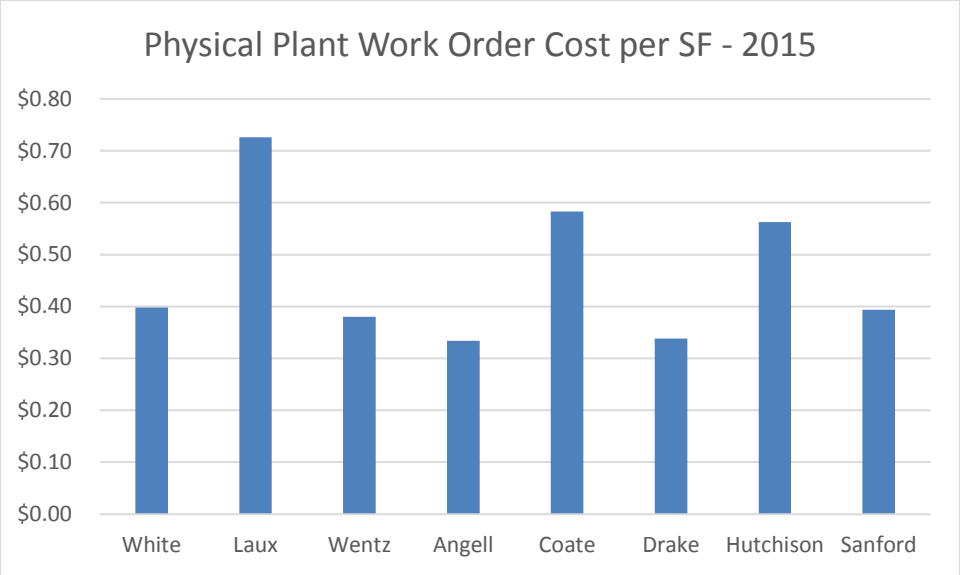
Since the team did not find a clear path forward solely based on physical condition of the buildings, the following areas of need and consideration were also explored.

Summary of Maintenance Needs

Another metric used to compare and examine the halls was tracking the operation and maintenance calls and costs per building. This information helped inform order of renovation and was used as a tool to rank the expected life of existing equipment. The date range used in the graphics below was from October 2015 to October 2016.







Bed Count and Revenue Considerations

A major driver for the Office of Residence Life is to return the lounge spaces from resident rooms to community gathering spaces. Especially in the L-shaped and linear halls, there are no spaces in which residents on the upper floors can socialize outside of their private rooms. These common spaces are important to the mission of ORL and to the social and academic development of the residents. This study examined how the reduction in beds by removing them from the lounge spaces would impact the financial model for ORL. This balance is examined through the options presented in Appendix B.

The team worked together to set up metrics for the bed count change as a result of work at the halls. We compared how the Office of Residence Life calculates the bed count in terms of percent of occupancy versus maximum occupancy. ORL also determined the minimum number of beds required to meet their financial needs and goals. The bed counts were examined while options were being considered to be assured that long term economic goals of ORL are not being compromised.

Budget Considerations

The team developed an extensive spreadsheet to assist in decision making in terms of construction budgets. The spreadsheet listed options for remodeling, updating, replacing systems per hall and associated costs with each. The user is able to select a remodel or addition option per hall and immediately see the cost implications of that decision. This tool was extremely useful in team discussions and utilized the real time cost estimate as meeting discussions progressed. Examples of these spreadsheets can be found in Appendix B.

This process made it clear that a decision would have to be made on whether or not the University would pursue building a new residence hall in the foreseeable future. The desire for a new hall is clear, but that goal would have to be reconciled with the needs versus wants of the existing halls due to the limited funds available. The options became:

1. Do we allocate funds for a new hall and do the minimum to the existing halls to keep them operational? Or,

2. Can we invest all our funds into these existing halls to bring them up to our current and future expectations?

The options were explored further by creating a wish list and a bare minimum list for each hall. The bare minimum list focused on life safety issues, code minimum system upgrades and more privacy in the bathrooms. The wish list included the minimums plus upgrades such as elevators, air conditioning, larger lobbies and additions to the buildings. These additions could be for additional beds, more bathroom square footage (for more fixtures and more privacy) and/or more usable common spaces. After this exercise, the decision was made to reserve funds for a new residence hall due to the discovery that the cost per bed to upgrade the existing halls to the wish list status was comparable to the cost to build a new hall. This allocation of funds was not in line with the mission of the University or ORL.

In order to maintain revenue and displace as few residents as possible, it was determined that not more than one hall should be taken off line at one time. The most convenient timing for construction for UW-La Crosse is beginning in the spring semester with completion the following summer. The recommended order of implementation of the renovation plans is based on the research listed above but can be flexible if unforeseen needs arise: Hutchison, Coate, Wentz, Laux, White (demolish after new residence hall constructed), Sanford, Drake and Angell.

Appendix B contains minutes, diagrams and spreadsheets from meetings for this study. It compares the explored options in more detail and explains the decisions made.

7 RECOMMENDED SPACE DESCRIPTION

Space Type Narrative and Building Recommendations

The recommendation of the team is for UW-La Crosse to bond up to $19,250,000 for the renovation and/or demolition of their existing eight traditional halls. This budget allows for the following renovations to seven halls which include:

- Addition of a code compliant fire suppression system
- Gut and remodel of the shower areas of the resident bathrooms to provide more safety
- Addition of shower partitions in the resident bathrooms to provide more privacy
- Addition of a gender neutral/ADA compliant bathroom
- Adding elevators to building that done' presently have them

Some additional work is recommended at some halls including:

- Coate Hall and Hutchison Hall to have fire alarm system upgraded to meet current code and campus standards
- Wentz Hall to have the existing elevator refurbished and outfitted with compliant controls and safety features.
- White Hall to be demolished after a new residence hall is completed.

Bed Count Tabulation of Existing and Proposed

Hall	Existing Min. Bed Count per Financials (Hall)	Existing Design Capacity Bed Count (Hall)	Order of Phases	Net Total Bed Count of these 8 halls at Start of Phase	Net Total Bed Count of these 8 halls at End of Phase - Min. Required per Financials	Net Total Bed Count at End of Phase of these 8 halls - Design Capacity	Revenue Generating Bed Count at End of Phase of these 8 halls - Available Beyond Base Financial Need
Laux	217	226	1	2,303	2,217	2,303	86
Wentz	207	218	2	2,303	2,217	2,303	86
Sanford	217	226	2	2,303	2,217	2,303	86
Coate	378	391	4	2,303	2,217	2,303	86
Hutchison	369	374	5	2,217	2,217	2,295	78
Angell	378	391	6	2,217	2,217	2,295	78
Drake	252	261	7	2,217	2,217	2,295	78
White	199	208	8	2,217	2,018	2,087	78

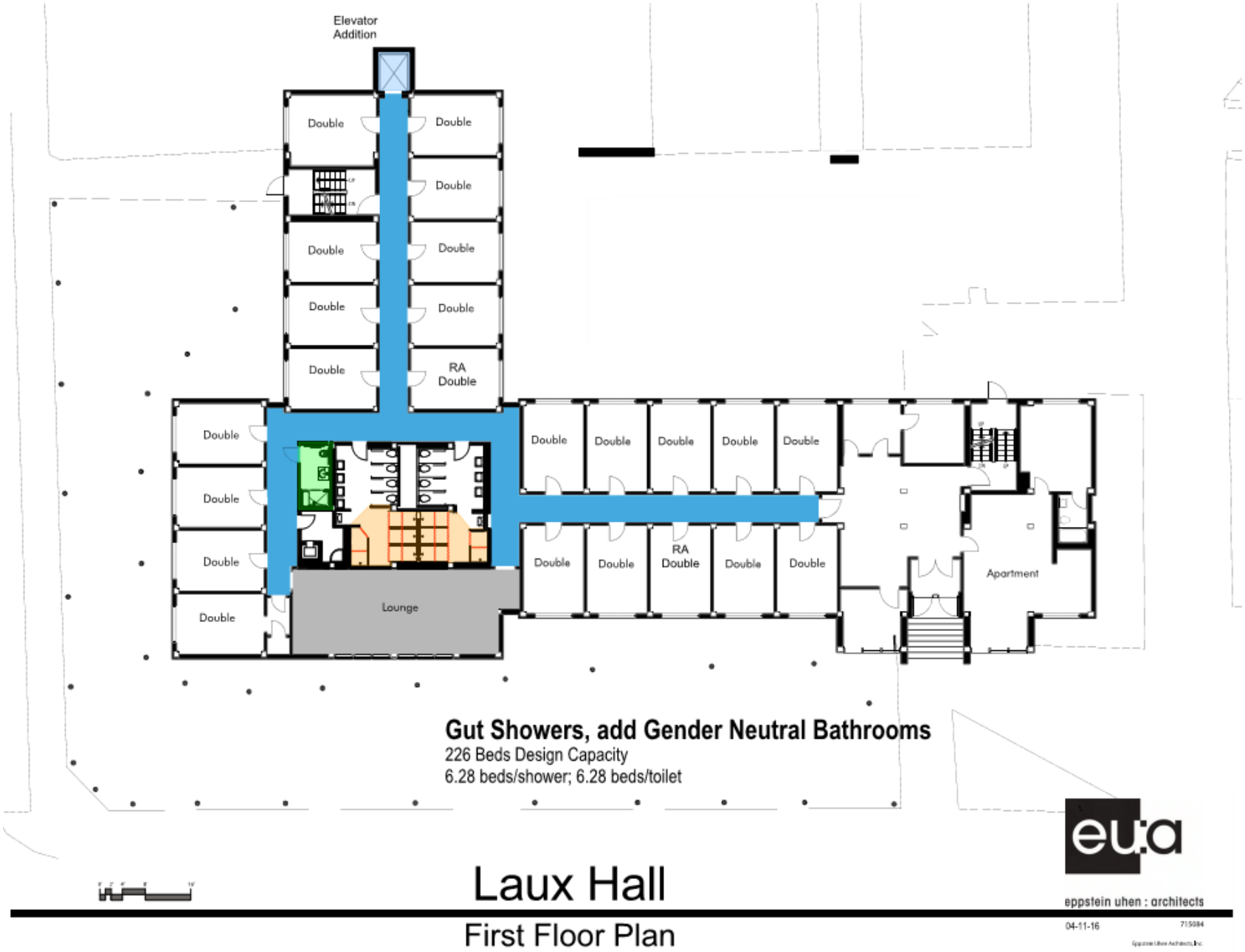
8 Recommended Building Concepts

8a. Conceptual Building Plans and System Descriptions

Laux Hall

It is recommended to renovate Laux Hall. The target bid date is January 1, 2020 with construction occurring January 2020 to July 2020. The renovation shall include:

- Provide fire sprinklers
- Replace electrical power systems
- Refurbish bathroom exhaust systems
- Gut remodel showers
- Add ADA/Gender Neutral bathrooms
- Add elevator


Elevator Addition
Double
RA Double
Lounge
Apartment
Gut Showers, add Gender Neutral Bathrooms
226 Beds Design Capacity
6.28 beds/shower; 6.28 beds/toilet
Laux Hall
First Floor Plan
eppstein uhen : architects
04-11-16

Gut Showers, add Gender Neutral Bathrooms
226 Beds Design Capacity
6.28 beds/shower; 6.28 beds/toilet

Laux Hall

Upper Floor Plans 2, 3, and 4

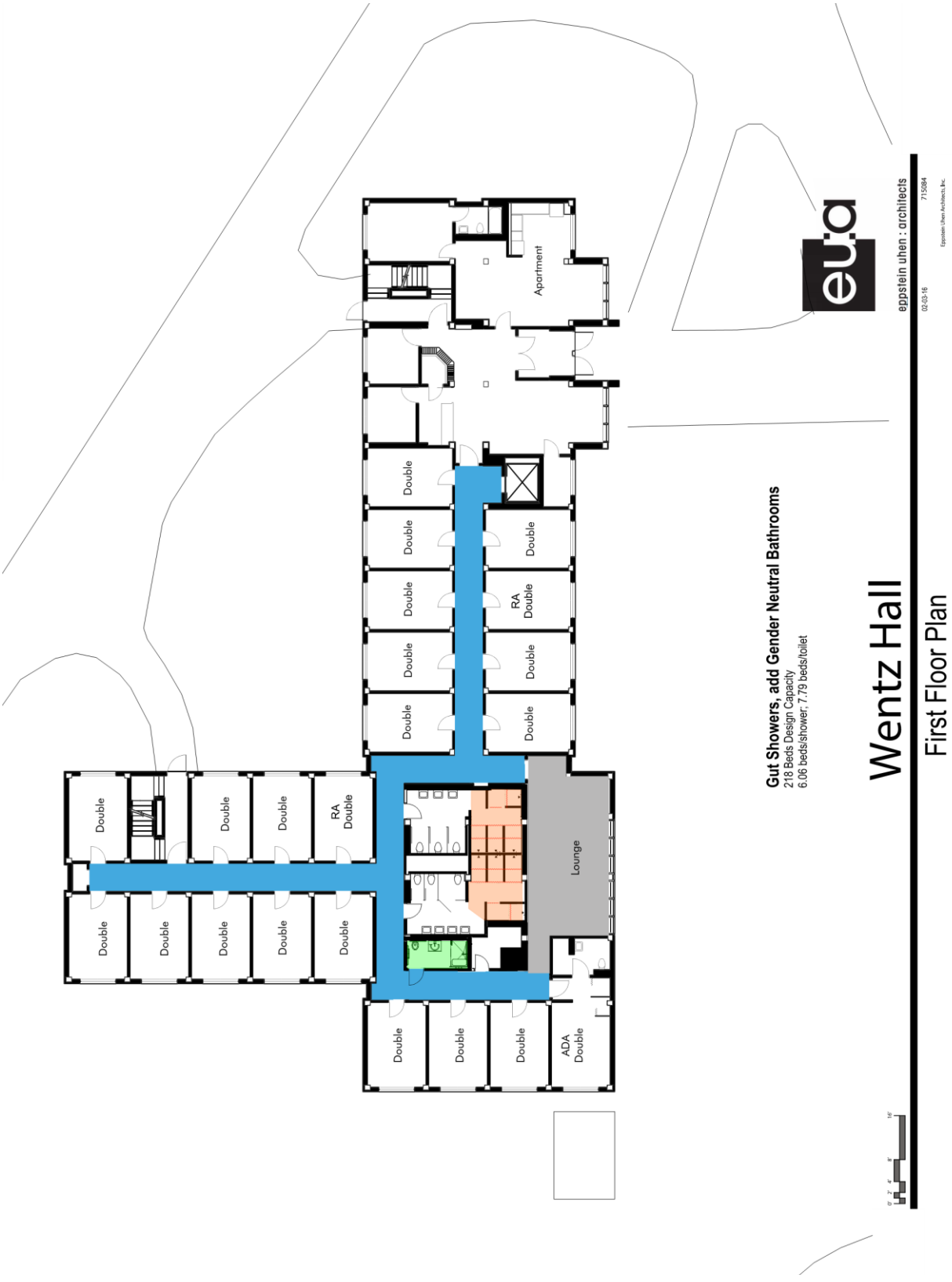
eppstein uhen : architects
04-11-16

8 RECOMMENDED BUILDING CONCEPTS

WENTZ HALL

It is recommended to renovate Wentz Hall. The target bid date is January 1, 2019 with construction occurring January 2019 to July 2019. The renovation shall include:

- Provide fire sprinklers
- Replace electrical power systems
- Refurbish bathroom exhaust systems
- Gut remodel showers
- Add ADA/Gender Neutral bathrooms
- Refurbish existing elevator


Apartment
Double
RA Double
Lounge
ADA Double
Gut Showers, add Gender Neutral Bathrooms
218 Beds Design Capacity
6.06 beds/shower, 7.79 beds/toilet
Wentz Hall
First Floor Plan
eppstein uhen : architects
02-03-16
715084

Gut Showers, add Gender Neutral Bathrooms
218 Beds Design Capacity
6.06 beds/shower; 7.79 beds/toilet

Wentz Hall

Second, Third & Fourth Floor Plan

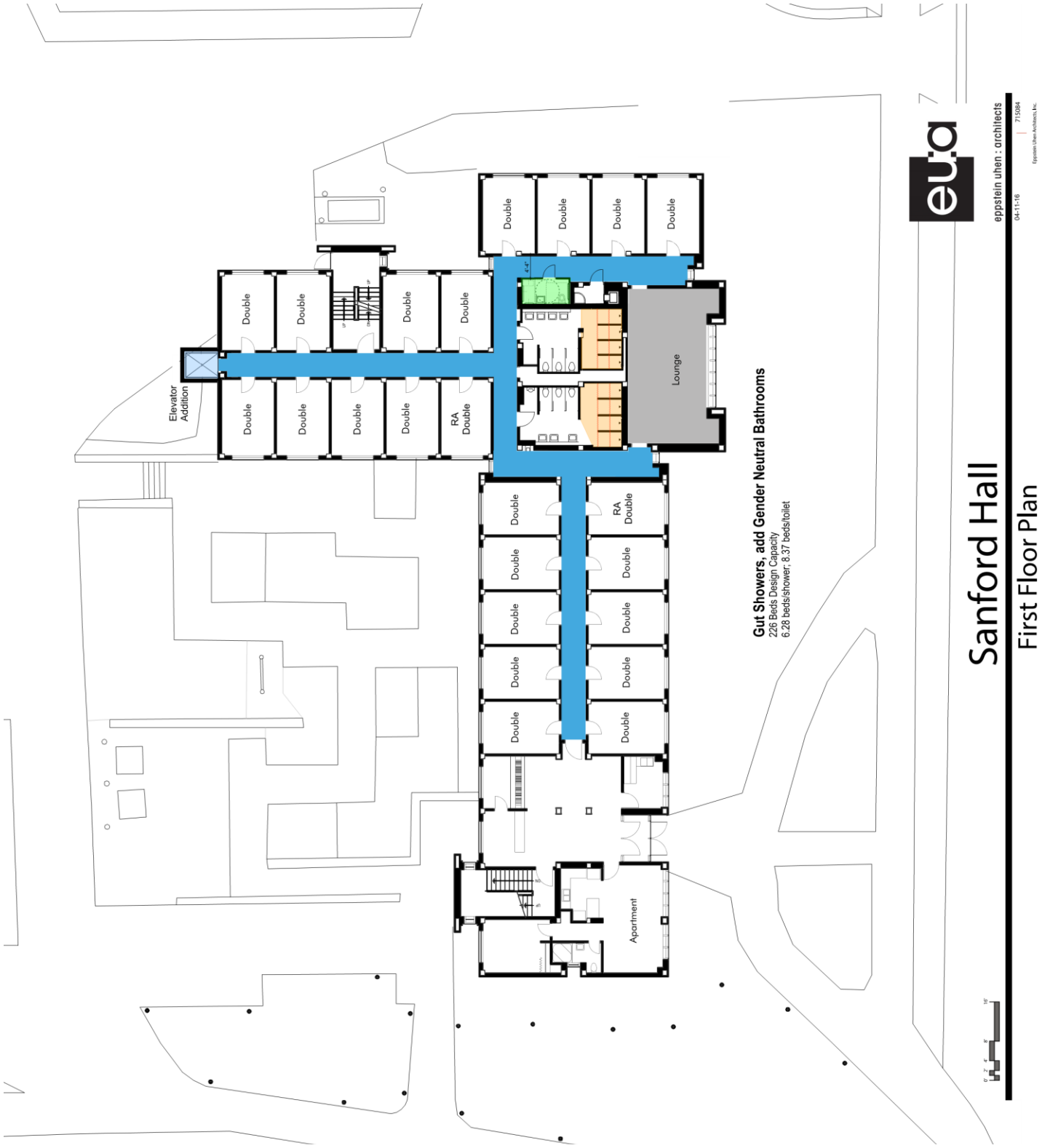
eppstein uhen : architects
02-03-16
715084
Eppstein Uhen Architects, Inc.

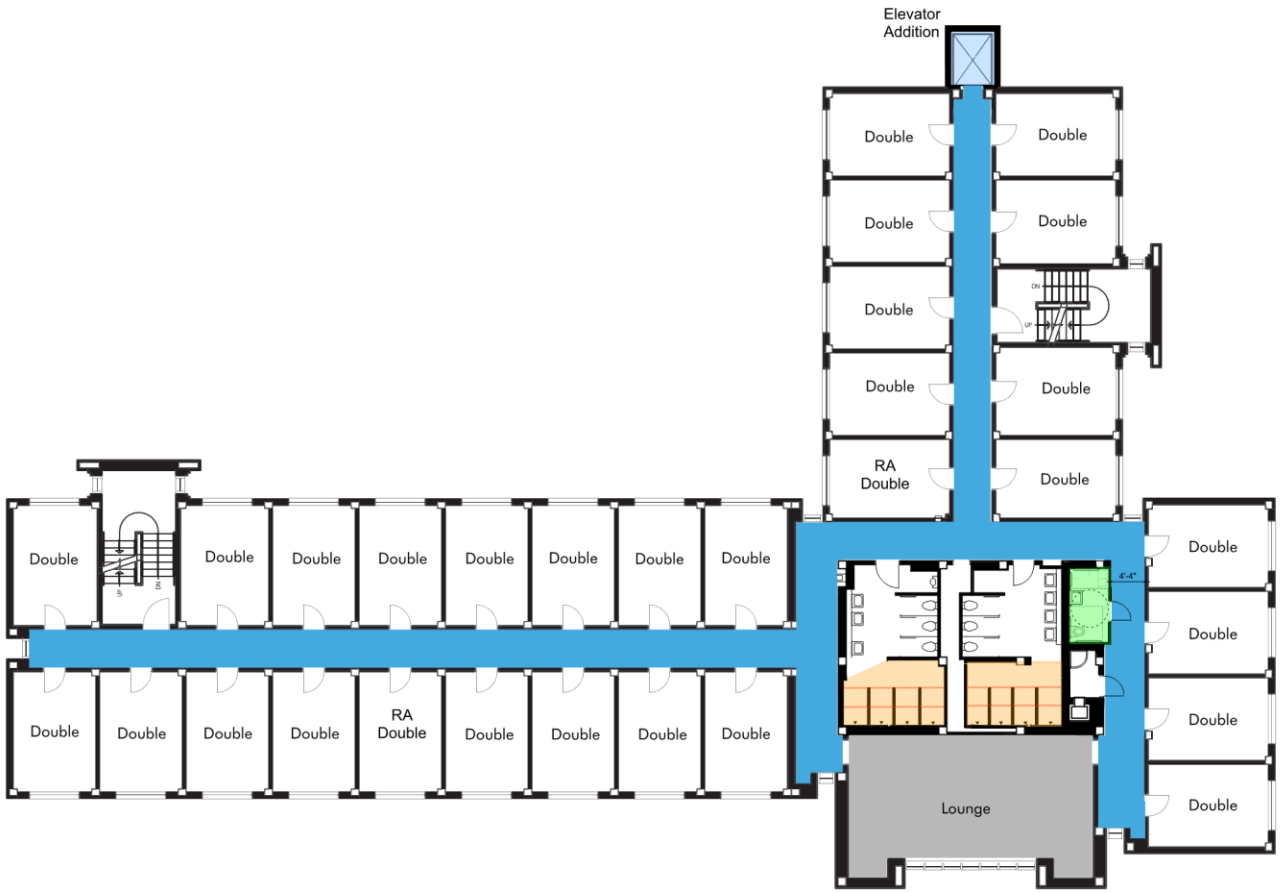
8 RECOMMENDED BUILDING CONCEPTS

SANFORD HALL

It is recommended to renovate Sanford Hall. The target bid date is January 1, 2022 with construction occurring January 2022 to July 2022. The renovation shall include:

- Provide fire sprinklers
- Replace electrical power systems
- Refurbish bathroom exhaust systems
- Gut remodel showers
- Add ADA/Gender Neutral bathrooms
- Add elevator


Sanford Hall
First Floor Plan
eppstein uhen : architects
04-11-16
715084
Gut Showers, add Gender Neutral Bathrooms
226 Beds Design Capacity
6.28 beds/shower; 8.37 beds/toilet
Elevator Addition
Double
RA Double
Lounge
Apartment



Gut Showers, add Gender Neutral Bathrooms
226 Beds Design Capacity
6.28 beds/shower; 8.37 beds/toilet

Sanford Hall

Upper Floor Plans 2, 3, 4

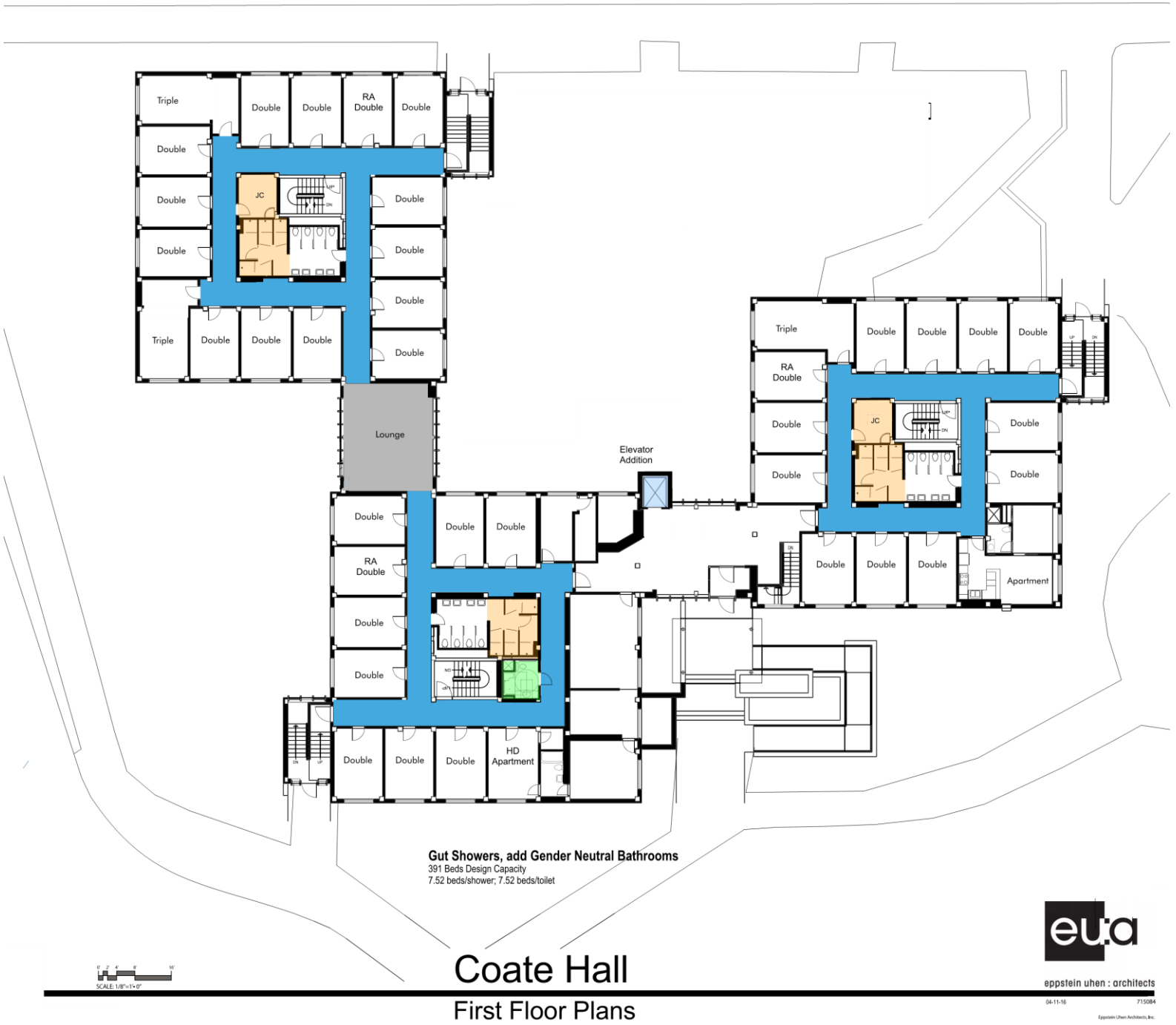
eppstein uhen : architects
04-11-16 715084
Eppstein Uhen Architects, Inc.

8 Recommended Building Concepts

Coate Hall

It is recommended to renovate Coate Hall. The target bid date is January 1, 2017 with construction occurring January 2017 to July 2017. The renovation shall include:

- Provide fire sprinklers
- Provide compliant fire alarm system
- Replace electrical power systems
- Refurbish bathroom exhaust systems
- Gut remodel showers
- Add ADA/Gender Neutral bathrooms
- Add elevator


Triple
Double
Double
RA Double
Double
Double
Double
Double
Double
Double
JC
Double
Double
Double
Double
Triple
Double
Double
Double
Lounge
Elevator Addition
Triple
Double
Double
Double
Double
RA Double
Double
Double
Double
JC
Double
Double
Double
Double
Double
Double
Double
Double
Double
Double
Double
Double
Apartment
RA Double
Double
Double
Double
Double
Double
Double
HD Apartment
Gut Showers, add Gender Neutral Bathrooms
391 Beds Design Capacity
7.52 beds/shower; 7.52 beds/toilet
SCALE: 1/8"=1'-0"
Coate Hall
First Floor Plans
eu:a
eppstein uhen : architects
04-11-16
715084

Gut Showers, add Gender Neutral Bathrooms
391 Beds Design Capacity
7.52 beds/shower; 7.52 beds/toilet

SCALE: 1/8"=1'-0"

Coate Hall

Upper Floor Plans 2, 3, and 4

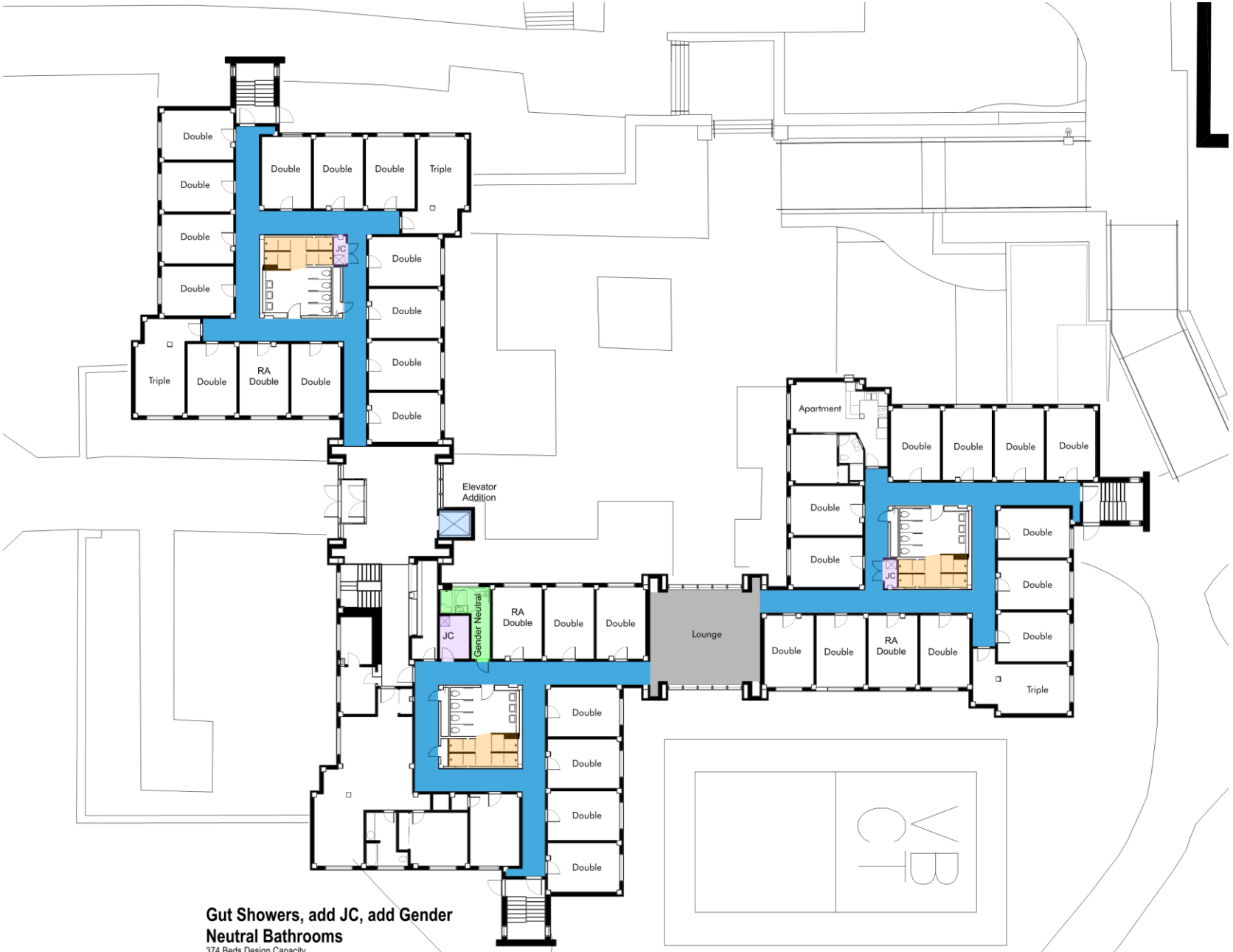
eppstein uhen : architects
04-11-16
715084
Eppstein Uhen Architects, Inc.

8 Recommended Building Concepts

Hutchison Hall

It is recommended to renovate Hutchison Hall. The target bid date is January 1, 2018 with construction occurring January 2018 to July 2018. The renovation shall include:

- Provide fire sprinklers
- Provide compliant fire alarm system
- Replace electrical power systems
- Refurbish bathroom exhaust systems
- Gut remodel showers
- Add ADA/Gender Neutral bathrooms
- Add elevator

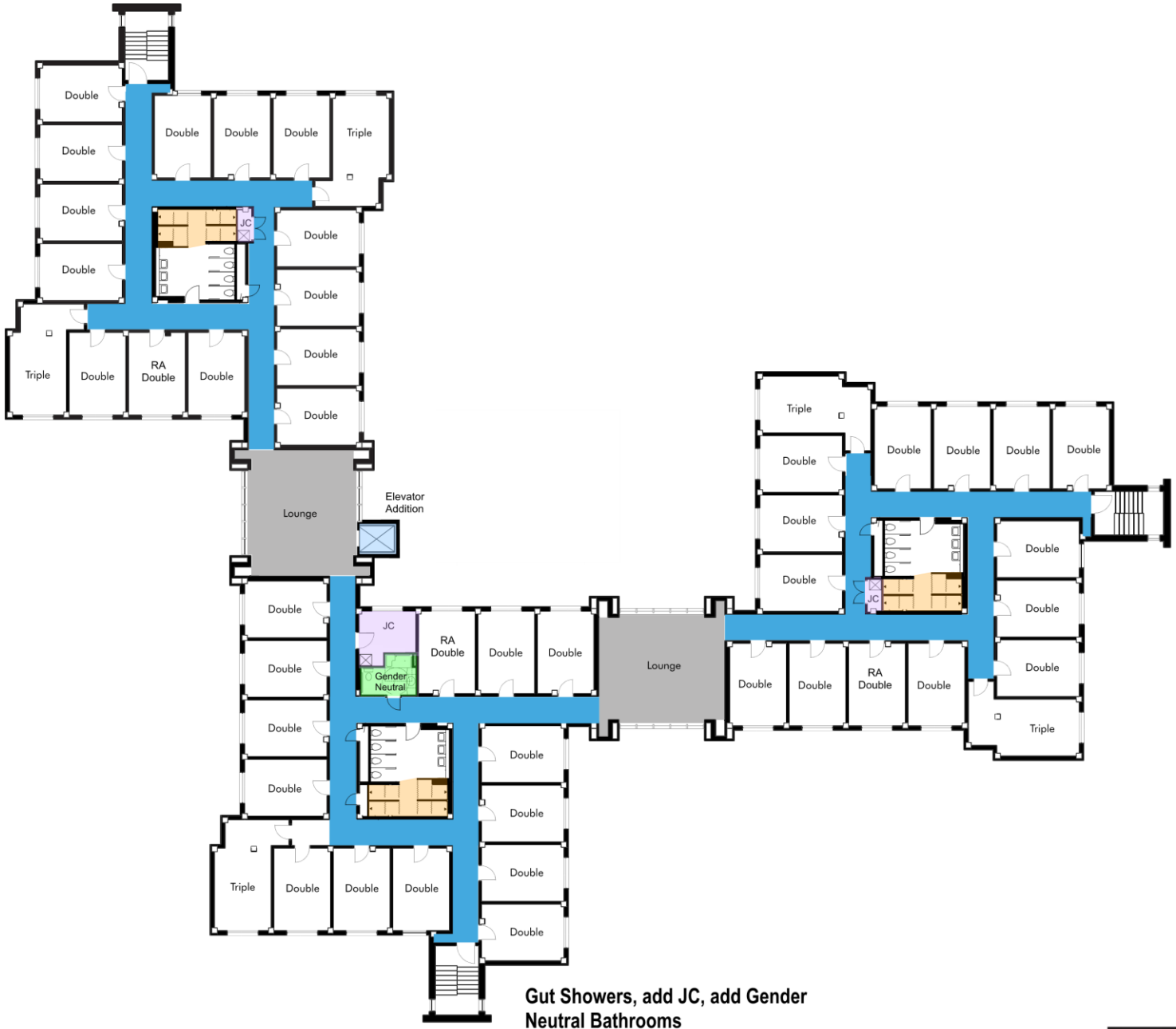


Hutchison Hall

First Floor Plan

eppstein uhen : architects

04-25-16 715084



Gut Showers, add JC, add Gender Neutral Bathrooms
374 Beds Design Capacity
7.19 showers/bed; 7.19 toilets/bed

Hutchison Hall

Upper Floor Plans 2, 3, and 4

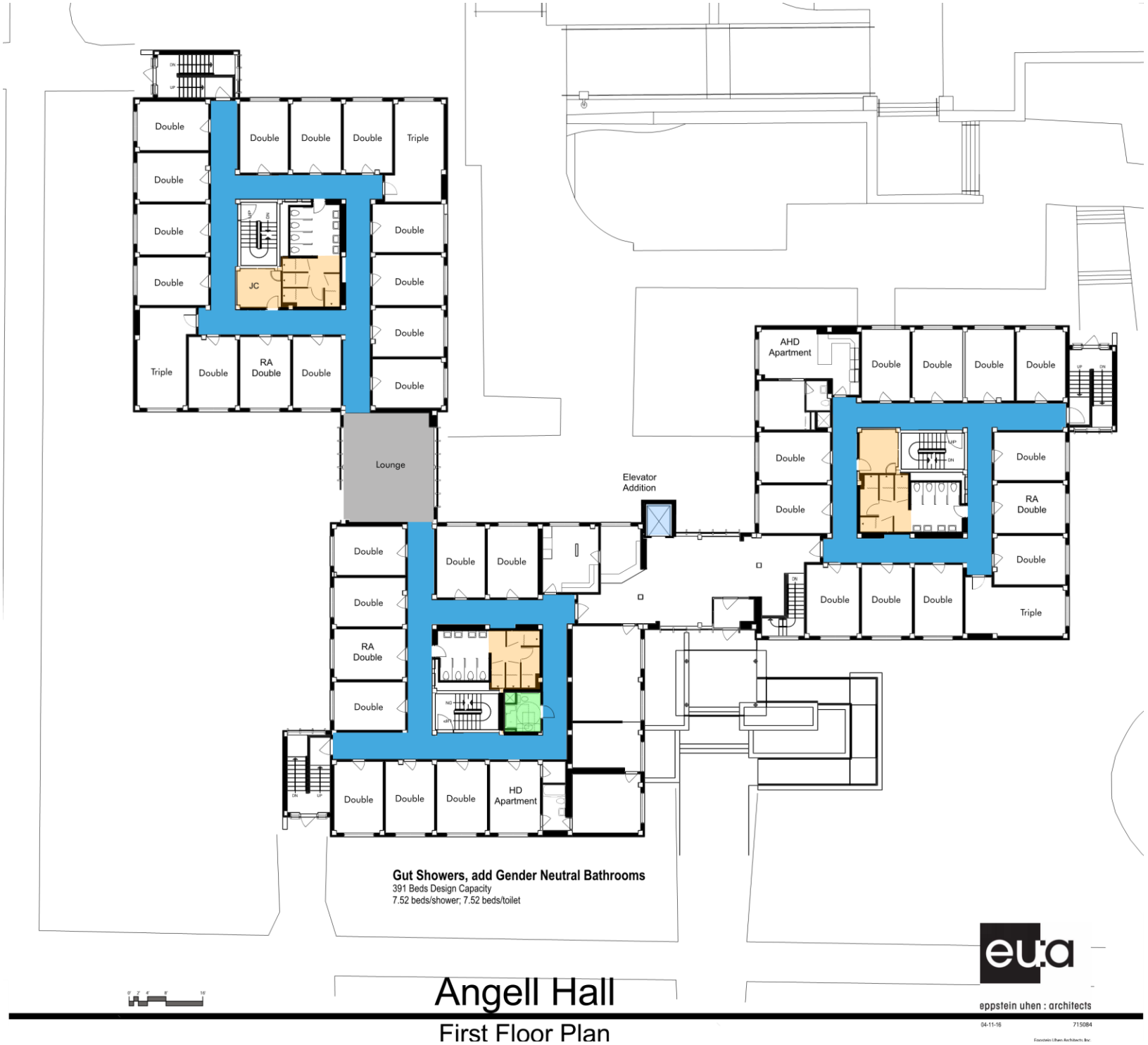
eppstein uhen : architects
04-11-16 715084
Eppstein Uhen Architects, Inc.

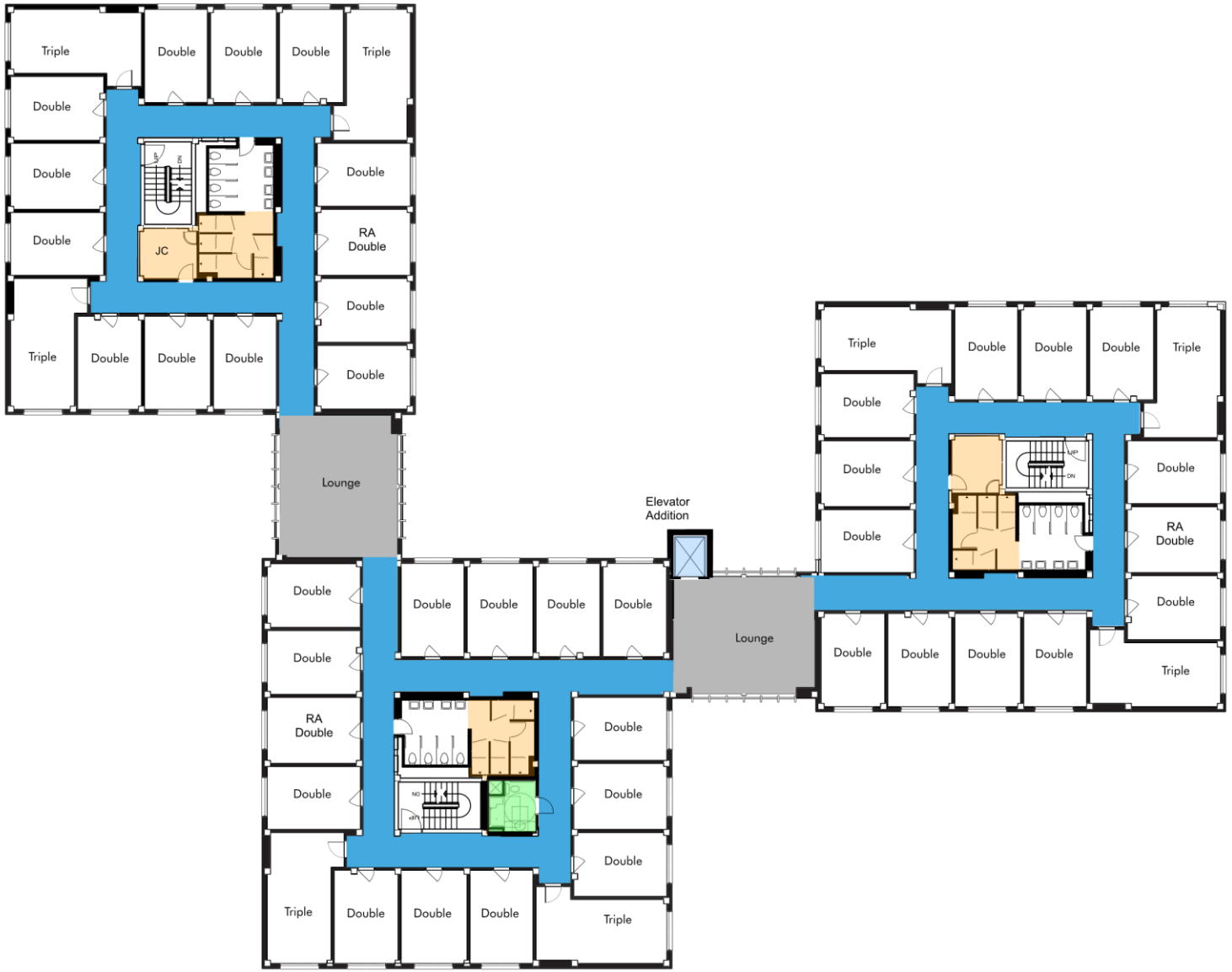
8 RECOMMENDED BUILDING CONCEPTS

ANGELL HALL

It is recommended to renovate Angell Hall. The target bid date is January 1, 2024 with construction occurring January 2024 to July 2024. The renovation shall include:

- Provide fire sprinklers
- Replace electrical power systems
- Refurbish bathroom exhaust systems
- Gut remodel showers
- Add ADA/Gender Neutral bathrooms
- Add elevator


Double
Triple
JC
RA Double
Lounge
Elevator Addition
AHD Apartment
HD Apartment
Gut Showers, add Gender Neutral Bathrooms
391 Beds Design Capacity
7.52 beds/shower; 7.52 beds/toilet
Angell Hall
First Floor Plan
eppstein uhen : architects
04-11-16
715084



Gut Showers, add Gender Neutral Bathrooms
391 Beds Design Capacity
7.52 beds/shower; 7.52 beds/toilet

Angell Hall

Upper Floor Plans 2, 3, and 4

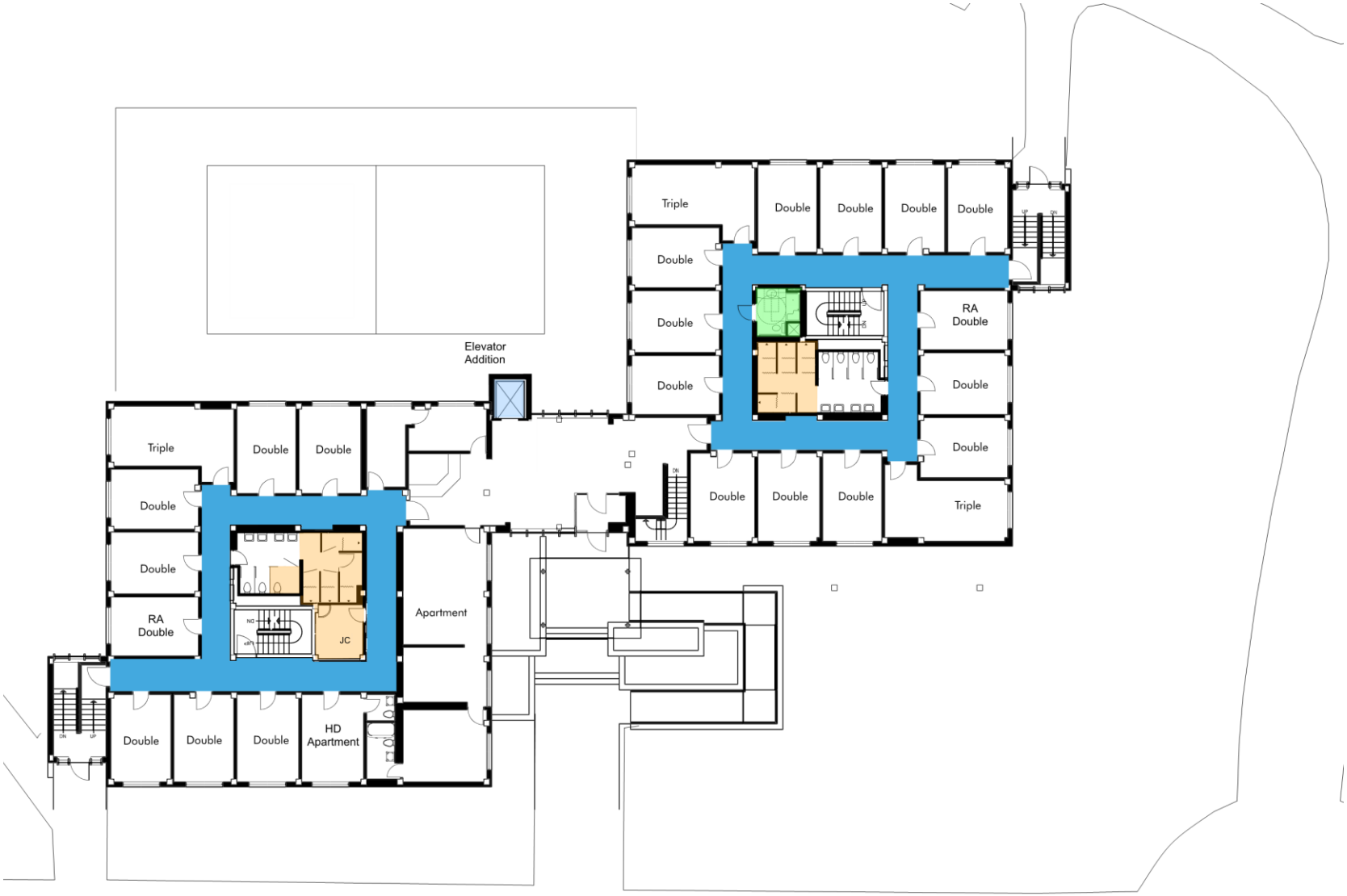
eppstein uhen : architects
04-11-16 715084
Eppstein Uhen Architects, Inc.

8 Recommended Building Concepts

Drake Hall

It is recommended to renovate Drake Hall. The target bid date is January 1, 2023 with construction occurring January 2023 to July 2023. The renovation shall include:

- Provide fire sprinklers
- Replace electrical power systems
- Refurbish bathroom exhaust systems
- Gut remodel showers
- Add ADA/Gender Neutral bathrooms
- Add elevator



Gut Showers, add Gender Neutral Bathrooms

261 Beds Design Capacity

7.25 beds/shower; 8.16 beds/toilet

Drake Hall

First Floor Plan

eppstein uhen : architects

02-03-16 715084

Eppstein Uhen Architects, Inc.

Gut Showers, add Gender Neutral Bathrooms
261 Beds Design Capacity
7.25 beds/shower; 8.16 beds/toilet

Drake Hall

Upper Floor Plan 2, 3, and 4

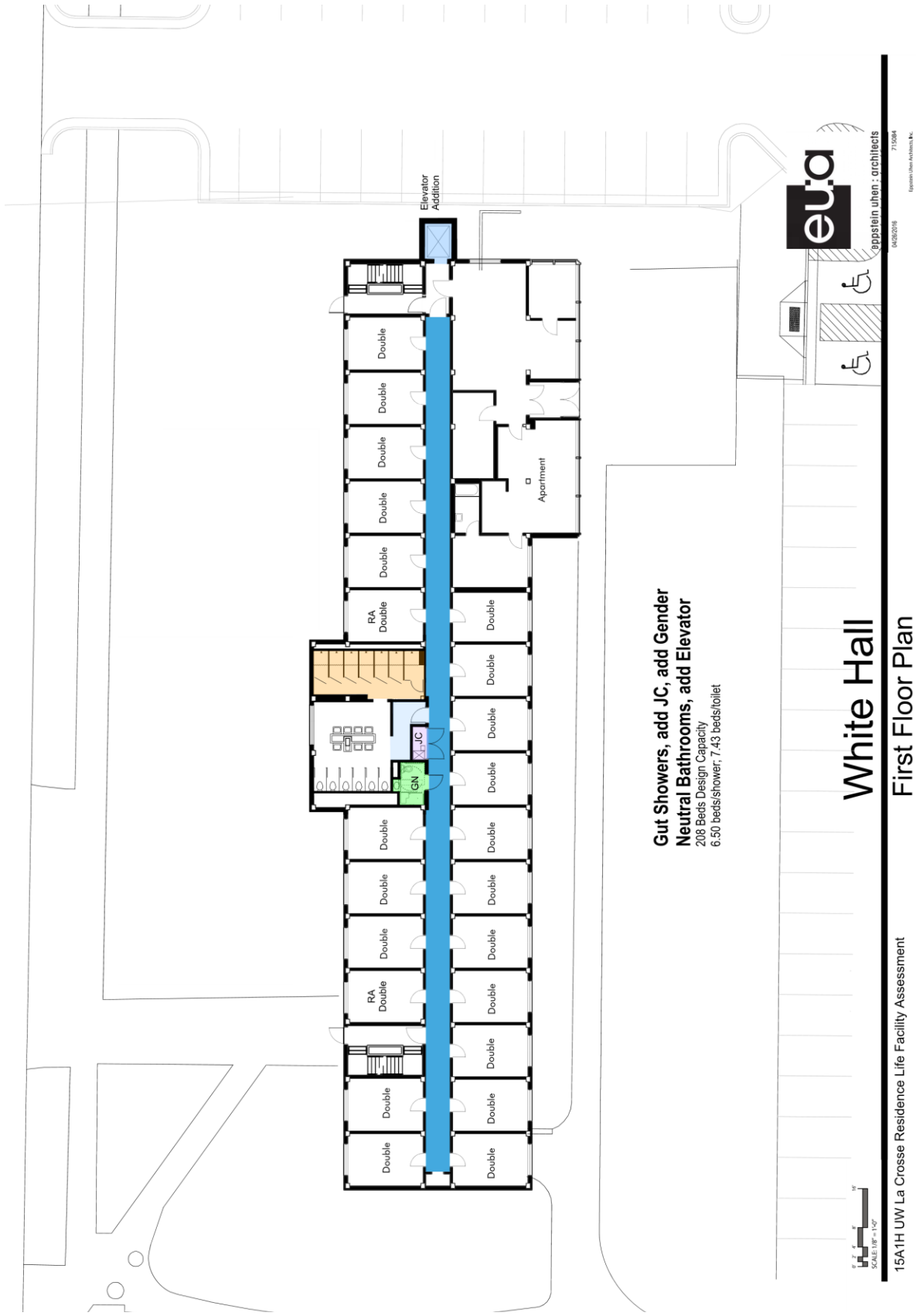
eppstein uhen : architects
02-03-16 715084
Eppstein Uhen Architects, Inc.

8 RECOMMENDED BUILDING CONCEPTS

WHITE HALL

It is recommended to renovate White Hall. The target bid date is January 1, 2028 with construction occurring January 2028 to July 2029. The renovation shall include:

- Provide fire sprinklers
- Replace electrical power systems
- Refurbish bathroom exhaust systems
- Gut remodel showers
- Add ADA/Gender Neutral bathrooms
- Add elevator.


Elevator Addition
Double
RA Double
Apartment
JC
GN
Gut Showers, add JC, add Gender Neutral Bathrooms, add Elevator
208 Beds Design Capacity
6.50 beds/shower; 7.43 beds/toilet
White Hall
First Floor Plan
15A1H UW La Crosse Residence Life Facility Assessment
eppstein uhen : architects

SCALE: 1/8" = 1'-0"

White Hall

Upper Floor Plans 2, 3, and 4

15A1H UW La Crosse Residence Life Facility Assessment

eppstein uhen : architects

04/26/2016 715084

Eppstein Uhen Architects, Inc.

8. RECOMMENDED BUILDING CONCEPTS

8b. Building Code Interpretation and Recommendations

General

The 8 buildings studied appear to be compliant with the building code at the time that they were built, and the building code does not require retroactive building upgrades every time the code changes so there are no *requirements* to make the building comply with current codes. However, life safety, health, energy, and accessibility requirements in the building code have changed considerably since the 1960's. If these 8 buildings were built today they would have modern fire alarm systems, fire sprinklers, ducted fresh air, more bathroom fixtures per occupant, energy efficient envelopes, and would be ADA compliant throughout. The cost of remodeling these existing halls to provide these modern features is quite high, totaling in excess of 50% of replacement cost

In a remodeling, new work associated with renovations does need to be compliant with current codes, but existing work that isn't modified may remain as is. Under the ADA there are situations when some upgraded areas trigger a need to upgrade other elements, i.e. remodeled bathrooms will need to comply with the ADA, therefore an accessible route to those bathrooms needs to be considered to the extent achievable once the ADA 20% disproportionality threshold is met.

Even though the code does not mandate it, UW La Crosse has chosen to include adding fire sprinklers and elevators to each building in order to enhance life safety and accessibility in these buildings.

DFD Policy & Procedure Manual 4.D.1 GENERAL: All State facilities must be constructed in compliance with all applicable State and federal laws, rules, codes, and regulations. State facilities are exempted from local codes and regulations including county and municipal codes with 2 exceptions: County and municipal land-use zoning regulations apply to State facilities. County or municipal officials are the State's enforcement agents: example – county land and water agents enforce the Department of Agriculture and Consumer Protection animal waste regulations.

Accessibility

DFD Policy & Procedure Manual 3.D.4 ACCESSIBILITY

The State's policy is to promote barrier-free access to persons of all physical abilities in all State facilities. The primary responsibility for providing program accessibility lies with the State Agency. For all new or altered facilities the primary responsibility for providing physical accessibility, as required by federal and State law, lies with the Division of Facilities Development. The Americans with Disabilities Act (ADA) and the Department of Justice rules that administer it (28 CFR Part 35) require Agencies to:

1) Perform a Facility Self-Evaluation of their programs and facilities and have a plan on file for achieving accessibility;
2) Remove architectural barriers where such removal is "readily achievable";
3) Operate and manage their facilities such that their programs and services are accessible.

3.D.4.a Applicable Codes

The accessibility of State facilities is governed by the Wisconsin Commercial Building Code, American National Standards Institute, the Revised Americans with Disabilities Act Accessibility Standards (ADAAG) and DFD Accessibility Guidelines whichever is more stringent.

3.D.4.b Path-of-Travel Improvements

Upgrading the accessibility of an existing building to meet code, especially related to path of travel, can have a significant effect on the planning and cost of a proposed project. Alterations or renovations to existing facilities shall take into consideration all requirements for compliance with applicable codes and standards for accessibility.

DFD Accessibility Guidelines:

3. Existing facilities – Accessibility: At least 20% of the architectural cost to alter the primary function space is to be allocated to path of travel accessibility improvements unless the existing facility is in full compliance with accessibility standards (see IBC 3408.6).

4. Path of travel improvements – priority of improvements.
    - 4.1. Access to the site
    - 4.2. Accessible route to the entrance
    - 4.3. Accessible entrance into the building
    - 4.4. Accessible path of travel to the primary function spaces.
    - 4.5. Accessible restrooms
    - 4.6. Accessible telephone
    - 4.7. Accessible hi/low drinking fountains
    - 4.8. Accessible parking
    - 4.9. Accessible storage
    - 4.10. Accessible alarms

ADAAG

4.1.1* Application.

(1) General. All areas of newly designed or newly constructed buildings and facilities and altered portions of existing buildings and facilities shall comply with section 4, unless otherwise provided in this section or as modified in a special application section.

4.1.6 Accessible Buildings: Alterations.

(1) General. Alterations to existing buildings and facilities shall comply with the following:

(a) No alteration shall be undertaken which decreases or has the effect of decreasing accessibility or usability of a building or facility below the requirements for new construction at the time of alteration.

(b) If existing elements, spaces, or common areas are altered, then each such altered element, space, feature, or area shall comply with the applicable provisions of 4.1.1 to 4.1.3 Minimum Requirements (for New Construction). If the applicable provision for new construction requires that an element, space, or common area be on an accessible route, the altered element, space, or common area is not required to be on an accessible route except as provided in 4.1.6(2) (Alterations to an Area Containing a Primary Function.)

(c) If alterations of single elements, when considered together, amount to an alteration of a room or space in a building or facility, the entire space shall be made accessible.

(d) No alteration of an existing element, space, or area of a building or facility shall impose a requirement for greater accessibility than that which would be required for new construction. For

example, if the elevators and stairs in a building are being altered and the elevators are, in turn, being made accessible, then no accessibility modifications are required to the stairs connecting levels connected by the elevator. If stair modifications to correct unsafe conditions are required by other codes, the modifications shall be done in compliance with these guidelines unless technically infeasible.

(g) In alterations, the requirements of 4.1.3(9), 4.3.10 and 4.3.11 do not apply.

(h)* Entrances: If a planned alteration entails alterations to an entrance, and the building has an accessible entrance, the entrance being altered is not required to comply with 4.1.3(8), except to the extent required by 4.1.6(2). If a particular entrance is not made accessible, appropriate accessible signage indicating the location of the nearest accessible entrance(s) shall be installed at or near the inaccessible entrance, such that a person with disabilities will not be required to retrace the approach route from the inaccessible entrance.

(i) If the alteration work is limited solely to the electrical, mechanical, or plumbing system, or to hazardous material abatement, or automatic sprinkler retrofitting, and does not involve the alteration of any elements or spaces required to be accessible under these guidelines, then 4.1.6(2) does not apply.

(2) Alterations to an Area Containing a Primary Function: In addition to the requirements of 4.1.6(1), an alteration that affects or could affect the usability of or access to an area containing a primary function shall be made so as to ensure that, to the maximum extent feasible, the path of travel to the altered area and the restrooms, telephones, and drinking fountains serving the altered area, are readily accessible to and usable by individuals with disabilities, unless such alterations are disproportionate to the overall alterations in terms of cost and scope (as determined under criteria established by the Attorney General).

(3) Special Technical Provisions for Alterations to Existing Buildings and Facilities:
(a) Ramps: Curb ramps and interior or exterior ramps to be constructed on sites or in existing buildings or facilities where space limitations prohibit the use of a 1:12 slope or less may have slopes and rises as follows:
(i) A slope between 1:10 and 1:12 is allowed for a maximum rise of 6 inches (150 mm).
(ii) A slope between 1:8 and 1:10 is allowed for a maximum rise of 3 inches (75 mm). A slope steeper than 1:8 is not allowed.

(b) Stairs: Full extension of handrails at stairs shall not be required in alterations where such extensions would be hazardous or impossible due to plan configuration.

(c) Elevators:
(i) If safety door edges are provided in existing automatic elevators, automatic door reopening devices may be omitted (see 4.10.6).
(ii) Where existing shaft configuration or technical infeasibility prohibits strict compliance with 4.10.9, the minimum car plan dimensions may be reduced by the minimum amount necessary, but in no case shall the inside car area be smaller than 48 in (1220 mm) by 48 in (1220 mm).
(iii) Equivalent facilitation may be provided with an elevator car of different dimensions when usability can be demonstrated and when all other elements required to be accessible comply with the applicable provisions of 4.10. For example, an elevator of 47 in by 69 in (1195 mm by 1755 mm)

with a door opening on the narrow dimension, could accommodate the standard wheelchair clearances shown in Figure 4.

(d) Doors:
(i) Where it is technically infeasible to comply with clear opening width requirements of 4.13.5, a projection of 5/8 in (16 mm) maximum will be permitted for the latch side stop.
(ii) If existing thresholds are 3/4 in (19 mm) high or less, and have (or are modified to have) a beveled edge on each side, they may remain.

(e) Toilet Rooms:
(i) Where it is technically infeasible to comply with 4.22 or 4.23, the installation of at least one unisex toilet/bathroom per floor, located in the same area as existing toilet facilities, will be permitted in lieu of modifying existing toilet facilities to be accessible. Each unisex toilet room shall contain one water closet complying with 4.16 and one lavatory complying with 4.19, and the door shall have a privacy latch.
(ii) Where it is technically infeasible to install a required standard stall (Fig. 30(a)), or where other codes prohibit reduction of the fixture count (i.e., removal of a water closet in order to create a double-wide stall), either alternate stall (Fig.30(b)) may be provided in lieu of the standard stall.
(iii) When existing toilet or bathing facilities are being altered and are not made accessible, signage complying with 4.30.1, 4.30.2, 4.30.3, 4.30.5, and 4.30.7 shall be provided indicating the location of the nearest accessible toilet or bathing facility within the facility.

ANSI A117
ANSI A117 provides the physical space requirements referenced in the ADA

IBC/Comm 62.3400 Existing structures. The requirements in IBC chapter 34 are not included as part of this code.

IEBC SECTION 505 ACCESSIBILITY
505.1 General. Repairs shall be done in a manner that maintains the level of accessibility provided. The level of accessibility that currently exists in a building must not be adversely affected as a result of any repair.

Wisconsin Building Code (IEBC & IBC)
IEBC (International Existing Building Code). This is the building code applicable to remodeling projects.
403.1 Scope. Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.
404.1 Scope. Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.
405.1 Scope. Level 3 alterations apply where the work area exceeds 50 percent of the aggregate area of the building. WORK AREA. That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by this code.

9 BUDGET AND PHASING

9a Budget and Phasing Summary

Due to the high demand for on-campus housing UW-La Crosse determined that only one hall could be offline at a time, work must be completed in less than 2 semester's time, and work can't begin until a new residence hall is built and occupied. The following implementation plan proposes undertaking one hall per year, and having the work completed in the spring semester and summer break of that year. Order of implementation is based on beginning with the smaller halls first in order to minimize the initial amount of beds offline at a time. Order of implementation may change based on evolving conditions and funding sources that may occur over time:

Laux Hall: Bid Date: July 2021
Construction Start/Finish: January 2022/July 2022
Project Budget: $3,016,915

Wentz Hall: Bid Date: July 2022
Construction Start/Finish: January 2023/July 2023
Project Budget: $2,778,480

Sanford Hall: Bid Date: July 2023
Construction Start/Finish: January 2024/July 2024
Project Budget: $3,393,700

Coate Hall: Bid Date: July 2024
Construction Start/Finish: January 2025/July 2025
Project Budget: $5,203,815

Hutchison Hall: Bid Date: July 2025
Construction Start/Finish: January 2026/August 2026
Project Budget: $5,963,495

Angell Hall: Bid Date: July 2026
Construction Start/Finish: January 2027/July 2027
Project Budget: $5,651,365

Drake Hall: Bid Date: July 2027
Construction Start/Finish: January 2028/July 2028
Project Budget: $4,580,450

White Hall: Bid Date: July 2028
Demolition Start/Finish: January 2029/July 2029
Project Budget: $3,813,670

9 Budget and Phasing

9b Budget Detail per Hall

15A1H UW La Crosse Residence Life Facility Assessment

Hall:	Laux
Year Built:	1964
Date of report:	4/11/2016
Current # beds	257
Current bed/bath ratio	8.03
Design capacity beds	226

	Total	$/gsf	
Construction Cost Subtotal	$1,625,853	$36.73	
Project Cost Total	$2,301,232	$51.99	
project cost for year bid	$3,016,915	$68.16	$13,349.18
target year bid	7/1/2021		

Work description	Include?	component cost	Existing # Beds	Proposed # Beds	Proposed Bed/Shower Ratio	Proposed Bed/Toilet Ratio
Gut existing showers, create new divided shower stalls	x	$215,747		226	7.06	7.06
Add Gender Neutral bathrooms	x	$112,493		226	6.28	6.28
Add elevator to exterior	x			226	6.28	6.28
14 Conveying Equipment						
Hydraulic Elevator & hoistway	x	$275,000				
21 Fire Suppression						
Demolish existing hose cabinets & standpipes	x	$21,687				
Provide new fire sprinkler system	x	$188,105				
22 Plumbing						
Gut remodel showers	X	$86,400				
Add gender neutral bathrooms	X	$84,000				
23 HVAC						
Refurbish existing bathroom exhaust system	x	$11,000				
26 Electrical						
Demolish all existing electrical power systems	X.	$14,163				
New power distribution system	X.	$526,694				
Construction Cost subtotal		$1,625,853				
Design Contingency (10%)		$162,585				
Project Contingency (8%)		$130,068				
A/E Fees (8%)		$140,474				
DFD Fees (4%)		$71,538				
Other Fees		$113,810				
Reimbursable Expenses		$56,905				
Moveable Equipment						
Project Cost Total		$2,301,232				

Percent of new work cost allocated to Accessibility Upgrades (20% min) $170,400

.5A1H UW La Crosse Residence Life Facility Assessment					Total	$/gsf	
lall:	Wentz		Construction Cost Subtotal		$1,412,038	$31.88	
'ear Built:	1964		Project Cost Total		$1,997,469	$45.09	
)ate of report:	4/11/2016		**project cost for year bid**		$2,778,479	$62.73	$12,745.32
:urrent # beds	232		target year bid		7/1/2022		
:urrent bed/bath ratio	7.25						
)esign capacity beds	218						

Work description	Include?	component cost	Existing # Beds	Proposed # Beds	Proposed Bed/Shower Ratio	Proposed Bed/Toilet Ratio	
ut existing showers, create new divided shower stalls	x	$215,832		218	6.81	6.81	
dd Gender Neutral bathrooms	x	$112,512		218	6.06	7.79	
efurbish existing elevator	x			218	6.06	7.79	
4 Conveying Equipment							
Refurbish existing elevator	x	$165,000					
:1 Fire Suppression							
Demolish existing hose cabinets & standpipes	x	$21,705					
Provide new fire sprinkler system	x	$188,254					
:2 Plumbing							
Gut remodel showers	X	$86,400					
Add gender neutral bathrooms	X	$84,000					
:3 HVAC							
Refurbish existing bathroom exhaust system	x	$11,000					
:6 Electrical							
Demolish all existing electrical power systems	X.	$13,731					
New power distribution system	X.	$527,111					
:onstruction Cost subtotal		$1,412,038					
)esign Contingency (10%)		$141,204					
'roject Contingency (8%)		$112,963					
V/E Fees (8%)		$122,000					
)FD Fees (4%)		$61,000					
)ther Fees		$98,843					
leimbursable Expenses		$49,421					
Moveable Equipment							
'roject Cost Total		$1,997,469					
'ercent of new work cost allocated to Accessibility Upgrades (20% min)		$678,594					

15A1H UW La Crosse Residence Life Facility Assessment

			Total	$/gsf	
Hall:	Sanford	Construction Cost Subtotal	$1,626,478	$36.05	
Year Built:	1967	Project Cost Total	$2,300,816	$50.99	
Date of report:	4/11/2016	**project cost for year bid**	$3,393,703	$75.22	$15,016.39
Current # beds	246	target year bid	7/1/2023		
Current bed/bath ratio	7.69				
Design capacity beds	226				

Work description	Include?	component cost	Existing # Beds	Proposed # Beds	Proposed Bed/Shower Ratio	Proposed Bed/Toilet Ratio	
6, Gut existing showers, create new divided shower stalls	x	$217,825		226	7.06	9.42	
7, Add Gender Neutral bathrooms	x	$112,953		226	6.28	8.37	
Add elevator to exterior	x			226	6.28	8.37	
14 Conveying Equipment							
Hydraulic Elevator & hoistway	x	$265,751					
21 Fire Suppression							
Demolish existing hose cabinets & standpipes	x	$22,108					
Provide new fire sprinkler system	x	$191,756					
22 Plumbing							
Gut remodel showers	X	$86,400					
Add gender neutral bathrooms	X	$84,000					
23 HVAC							
Refurbish existing bathroom exhaust system	x	$11,000					
26 Electrical							
Demolish all existing electrical power systems	X.	$13,987					
New power distribution system	X.	$536,916					
Construction Cost subtotal		$1,626,478					
Design Contingency (10%)		$162,648					
Project Contingency (8%)		$130,118					
A/E Fees (8%)		$140,528					
DFD Fees (4%)		$70,264					
Other Fees		$113,853					
Reimbursable Expenses		$56,927					
Moveable Equipment							
Project Cost Total		$2,300,816					

Percent of new work cost allocated to Accessibility Upgrades (20% min) $516,028

15A1H UW La Crosse Residence Life Facility Assessment

Hall:	Coate
Year Built:	1966
Date of report:	4/11/2016
Current # beds	378
Current bed/bath ratio	7.88
Design capacity beds	391

	Total	$/gsf	
Construction Cost Subtotal	$2,350,356	$30.81	
Project Cost Total	$3,324,814	$43.58	
project cost for year bid	$5,203,333	$68.21	$13,307.76
target year bid	7/1/2024		

Work description	Include?	component cost	Existing # Beds	Proposed # Beds	Proposed Bed/Shower Ratio	Proposed Bed/Toilet Ratio	
Gut existing showers, create new divided shower stalls	x	$314,578		391	8.15	8.15	
Add Gender Neutral bathrooms	x	$136,101		391	7.52	7.52	
Add elevator to exterior	x			391	7.52	7.52	
14 Conveying Equipment							
Hydraulic Elevator & hoistway	x	$215,000					
21 Fire Suppression							
Demolish existing hose cabinets & standpipes	x	$37,379					
Provide new fire sprinkler system	x	$324,207					
22 Plumbing							
Gut remodel showers	X	$86,400					
Add gender neutral bathrooms	X	$84,000					
23 HVAC							
Refurbish existing bathroom exhaust system	x	$11,000					
26 Electrical							
Demolish all existing electrical power systems	X.	$23,648					
New power distribution system	X.	$907,780					
28 Electronic Safety & Security							
Demolish all existing fire alarm & security systems		$22,122					
Provide new fire alarm system (Edwards, done in 2006?)	x	$228,852					
Construction Cost subtotal		$2,350,356					
Design Contingency (10%)		$235,036					
Project Contingency (8%)		$188,028					
A/E Fees (8%)		$203,071					
DFD Fees (4%)		$101,535					
Other Fees		$164,525					
Reimbursable Expenses		$82,262					
Moveable Equipment							
Project Cost Total		$3,324,814					

Percent of new work cost allocated to Accessibility Upgrades (20% min) $450,679

15A1H UW La Crosse Residence Life Facility Assessment

					Total	$/gsf	
Hall:	Hutchison		Construction Cost Subtotal		$2,535,167	$35.04	
Year Built:	1967		Project Cost Total		$3,590,303	$49.62	
Date of report:	4/11/2016		**project cost for year bid**		$5,963,493	$82.42	$15,945.17
Current # beds	389		target year bid		7/1/2025		
Current bed/bath ratio	8.10						
Design capacity beds	382						

Work description	Include?	component cost	Existing # Beds	Proposed # Beds	Proposed Bed/Shower Ratio	Proposed Bed/Toilet Ratio	
Gut existing showers, create new divided shower stalls v2	x	$340,706		382	7.96	7.96	
Add Gender Neutral bathrooms v2	x	$127,524		374	7.19	7.19	
Add elevator to exterior				374	7.19	7.19	
14 Conveying Equipment							
Hydraulic Elevator & hoistway	x	$289,420					
21 Fire Suppression							
Demolish existing hose cabinets & standpipes	x	$35,454					
Provide new fire sprinkler system	x	$307,509					
22 Plumbing							
Gut remodel showers	X	$86,400					
Add gender neutral bathrooms	X	$84,000					
23 HVAC							
Refurbish existing bathroom exhaust system		$11,000					
26 Electrical							
Demolish all existing electrical power systems	X.	$22,430					
New power distribution system	x.	$861,025					
Construction Cost subtotal		$2,535,167					
Design Contingency (10%)		$253,517					
Project Contingency (8%)		$202,813					
A/E Fees (8%)		$223,095					
DFD Fees (4%)		$109,519					
Other Fees		$177,462					
Reimbursable Expenses		$88,731					
Moveable Equipment		$0					
Project Cost Total		$3,590,303					

Percent of new work cost allocated to Accessibility Upgrades (20% min) $2,189,080

15A1H UW La Crosse Residence Life Facility Assessment

				Total	$/gsf	$/bed
Hall:	Angell	Construction Cost Subtotal		$2,267,330	$29.96	
Year Built:	1966	Project Cost Total		$3,207,364	$42.38	
Date of report:	4/11/2016	**Project cost for year bid**		$5,651,376	$74.67	$14,453.65
Current # beds	406	target year bid		7/1/2026		
Current bed/bath ratio	8.46					
Design capacity beds	391					

Work description	Include?	component cost	Existing # Beds	Proposed # Beds	Proposed Bed/Shower Ratio	Proposed Bed/Toilet Ratio	
Gut existing showers, create new divided shower stalls	x	$291,754		391	8.15	8.15	
Add Gender Neutral bathrooms	x	$129,304		391	7.52	7.52	
Add elevator to exterior	x			391	7.52	7.52	
14 Conveying Equipment							
Hydraulic Elevator & hoistway	x	$215,000					
21 Fire Suppression							
Demolish existing hose cabinets & standpipes	x	$37,084					
Provide new fire sprinkler system	x	$314,080					
22 Plumbing							
Gut remodel showers	X	$86,400					
Add gender neutral bathrooms	X	$84,000					
23 HVAC							
Refurbish existing bathroom exhaust system	x	$11,000					
26 Electrical							
Demolish all existing electrical power systems	X.	$23,461					
New power distribution system	X.	$900,616					
Construction Cost subtotal		$2,267,330					
Design Contingency (10%)		$226,733					
Project Contingency (8%)		$181,386					
A/E Fees (8%)		$195,897					
DFD Fees (4%)		$97,949					
Other Fees		$158,713					
Reimbursable Expenses		$79,357					
Moveable Equipment							
Project Cost Total		$3,207,364					

Percent of new work cost allocated to Accessibility Upgrades (20% min) $170,400

15A1H UW La Crosse Residence Life Facility Assessment

			Total	$/gsf	
Hall:	Drake	Construction Cost Subtotal	$1,732,467	$34.64	
Year Built:	1966	Project Cost Total	$2,450,748	$49.01	
Date of report:	4/11/2016	**project cost for year bid**	$4,580,448	$91.59	$17,549.61
Current # beds	263	target year bid	7/1/2027		
Current bed/bath ratio	8.22				
Design capacity beds	261				

Work description	Include?	component cost	Existing # Beds	Proposed # Beds	Proposed Bed/Shower Ratio	Proposed Bed/Toilet Ratio	
Gut existing showers, create new divided shower stalls	x	$229,651		261	8.16	8.16	
Add Gender Neutral bathrooms	x	$115,568		261	7.25	8.16	
Add elevator to exterior	x			261	7.25	8.16	
14 Conveying Equipment							
Hydraulic Elevator & hoistway	x	$280,000					
21 Fire Suppression							
Demolish existing hose cabinets & standpipes	x	$24,504					
Provide new fire sprinkler system	x	$212,534					
22 Plumbing							
Gut remodel showers	X	$86,400					
Add gender neutral bathrooms	X	$84,000					
23 HVAC							
Refurbish existing bathroom exhaust system	x	$11,000					
26 Electrical							
Demolish all existing electrical power systems	X.	$15,502					
New power distribution system	X.	$595,095					
Construction Cost subtotal		$1,732,467					
Design Contingency (10%)		$173,247					
Project Contingency (8%)		$138,597					
A/E Fees (8%)		$149,685					
DFD Fees (4%)		$74,843					
Other Fees		$121,273					
Reimbursable Expenses		$60,636					
Moveable Equipment							
Project Cost Total		$2,450,748					

Percent of new work cost allocated to Accessibility Upgrades (20% min) $345,220

15A1H UW La Crosse Residence Life Facility Assessment					Total	$/gsf	Proj $ per bed
Hall:	White		Construction Cost Subtotal		$1,359,523	$34.56	
Year Built:	1962		Project Cost Total		$1,923,182	$48.89	
Date of report:	4/25/2016		**project cost for year bid**		$3,813,669	$96.94	$18,334.95
Current # beds	220		target year bid		7/1/2028		
Current bed/bath ratio	9.17						
Design capacity beds	208						

Work description	Include?	component cost		Proposed # Beds	Proposed Bed/Shower Ratio	Proposed Bed/Toilet Ratio	8:1 max Existing Bed/Shower Ratio
Gut existing showers, create new divided shower stalls	x	$213,444		208	7.43	8.67	
Add Gender Neutral bathrooms	x	$109,861		208	6.50	7.43	
Add elevator to exterior	x						
14 Conveying Equipment							
Hydraulic Elevator & hoistway	x	$215,000					
21 Fire Suppression							
Demolish existing hose cabinets & standpipes	x	$19,276					
Provide new fire sprinkler system	x	$167,191					
22 Plumbing							
Gut remodel showers	X	$86,400					
Add gender neutral bathrooms	X	$84,000					
23 HVAC							
Refurbish existing bathroom exhaust system	x	$11,000					
26 Electrical							
Demolish all existing electrical systems	X.	$16,129					
New power distribution system	X.	$468,134					
Construction Cost subtotal		$1,359,523					
Design Contingency (10%)		$135,952					
Project Contingency (8%)		$108,762					
A/E Fees (8%)		$117,463					
DFD Fees (4%)		$58,731					
Other Fees		$95,167					
Reimbursable Expenses		$47,583					
Moveable Equipment							
Project Cost Total		$1,923,182					