UNIVERSITY OF
St.Thomas

Loras Hall: HPC Pre-application Meeting

October 5, 2020

(September 18, 2020- Pre-Application)

BWBR | RAMSA

PRESENTATION OUTLINE

1. *Introduction to 'STEAM'*
2. *Project Overview*
3. *Loras Hall*
    - *Demonstration of Importance*
    - *Existing Building Explained*
    - *Demonstration of Options*

1. INTRODUCTION TO ‘STEAM’

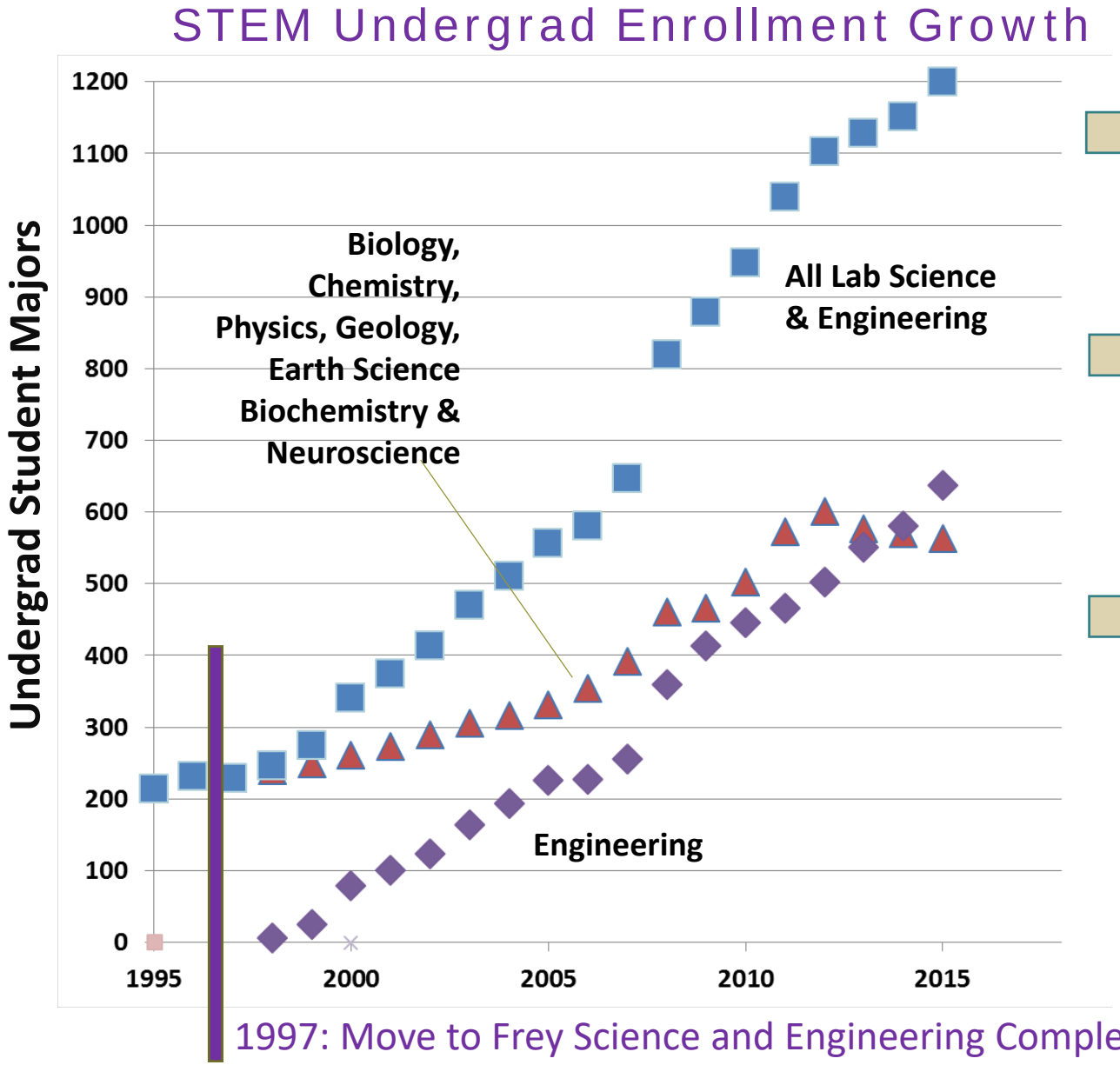
1. INTRODUCTION TO STEAM

What is STEAM?

- **S**cience, **T**echnology, **E**ngineering, **A**rts, and **M**ath
- St. Thomas seeks to build approximately 120,000 gsf of new science and art space for a unique interdisciplinary educational experience on the South Campus in St. Paul.
- Spaces will include:
  - Civil engineering high bay for testing of physical materials
  - Music rehearsal and performance space
  - Art gallery for university collection
  - Science laboratories
- STEAM will include a student and community outdoor quad area.
- 100% privately funded by generous donors.

1. INTRODUCTION TO STEAM

St. Thomas has experienced EXPLOSIVE growth in STEM enrollment – 800% in the last twenty years.



- **Since 1997 Move In Date: number of UG ENGR and Lab Science Majors has increased by 5x**
- **Campus Master Plan and Programming Study for new Science & Engineering Building completed.**
- **MN ranks in bottom 15 in number of UG ENGR students per capita in the US**

1. INTRODUCTION TO STEAM

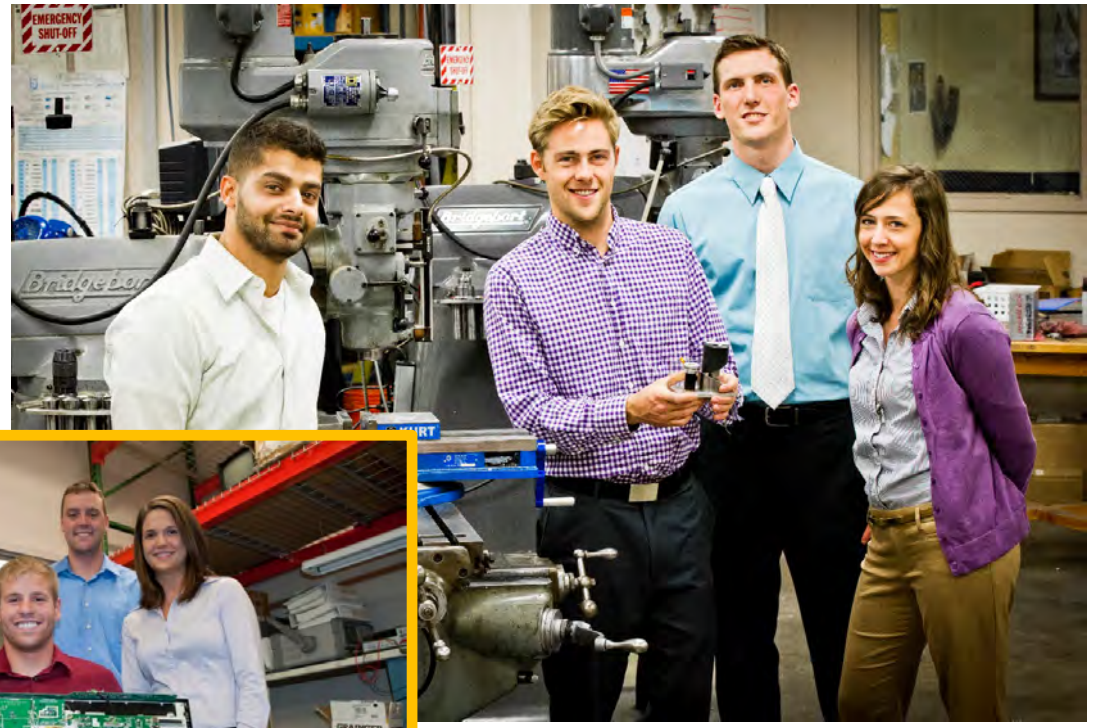
St. Thomas has one of the top engineering programs in the country but has one of the lowest square foot/ student ratios.

1. INTRODUCTION TO STEAM

Hands-On, Practical, Connected

Engineering requires large sophisticated space.

STEM Collaboration with Community Partners



Major Projects w/ 40+ Companies and Non-Profits per Year

School of Engineering | UNIVERSITY OF St.Thomas

1. INTRODUCTION TO STEAM

Engineering requires highly technical and flexible space.

1. INTRODUCTION TO STEAM

St. Thomas grads are in high demand right out of college.

2. STEAM PROJECT OVERVIEW

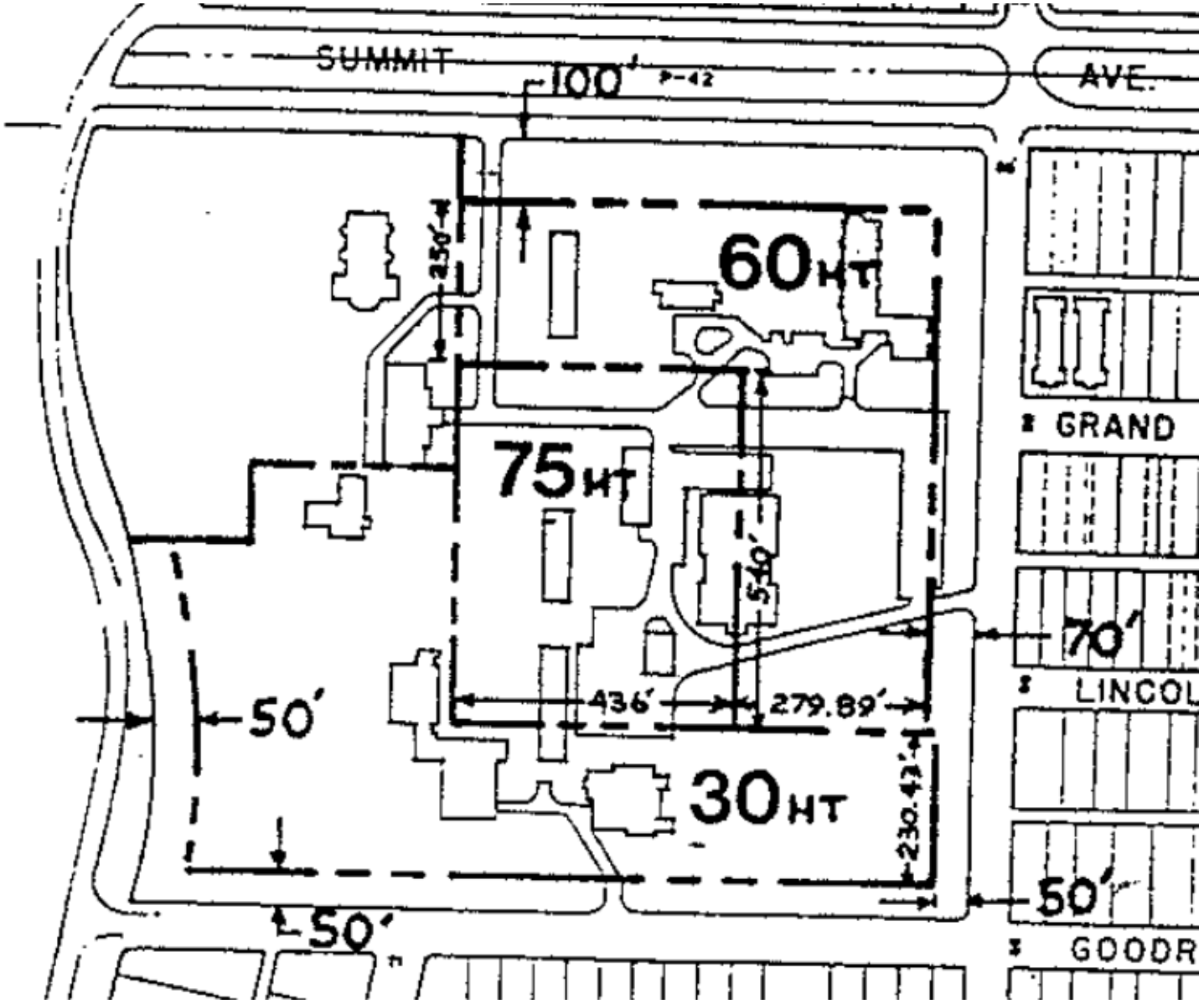
UNIVERSITY OF ST. THOMAS – ST. PAUL


SOUTH CAMPUS
SUMMIT AVE
Summit Avenue West
Heritage Preservation
District Limit
SEMINARY
LORAS
OSS
OWS
SRC
FDC
McCARTHY
PARKING
CRETIN
CRETIN AVE S
GRACE
BEC
BINZ
N

2. STEAM PROJECT OVERVIEW

University of St. Thomas Conditional Use Permit (CUP)

- Began in 1990, amended in 1995 and 2004
- Defines site limitations
  - Property ownership limits
  - Height restrictions
  - Parking requirements
  - Building setbacks



2. STEAM PROJECT OVERVIEW

SCHEDULE

Space Programming/ Concept Planning

- June – Nov 2020

Fundraising

- Ongoing through 2021

Design

- Jan 2021 – Jan 2022

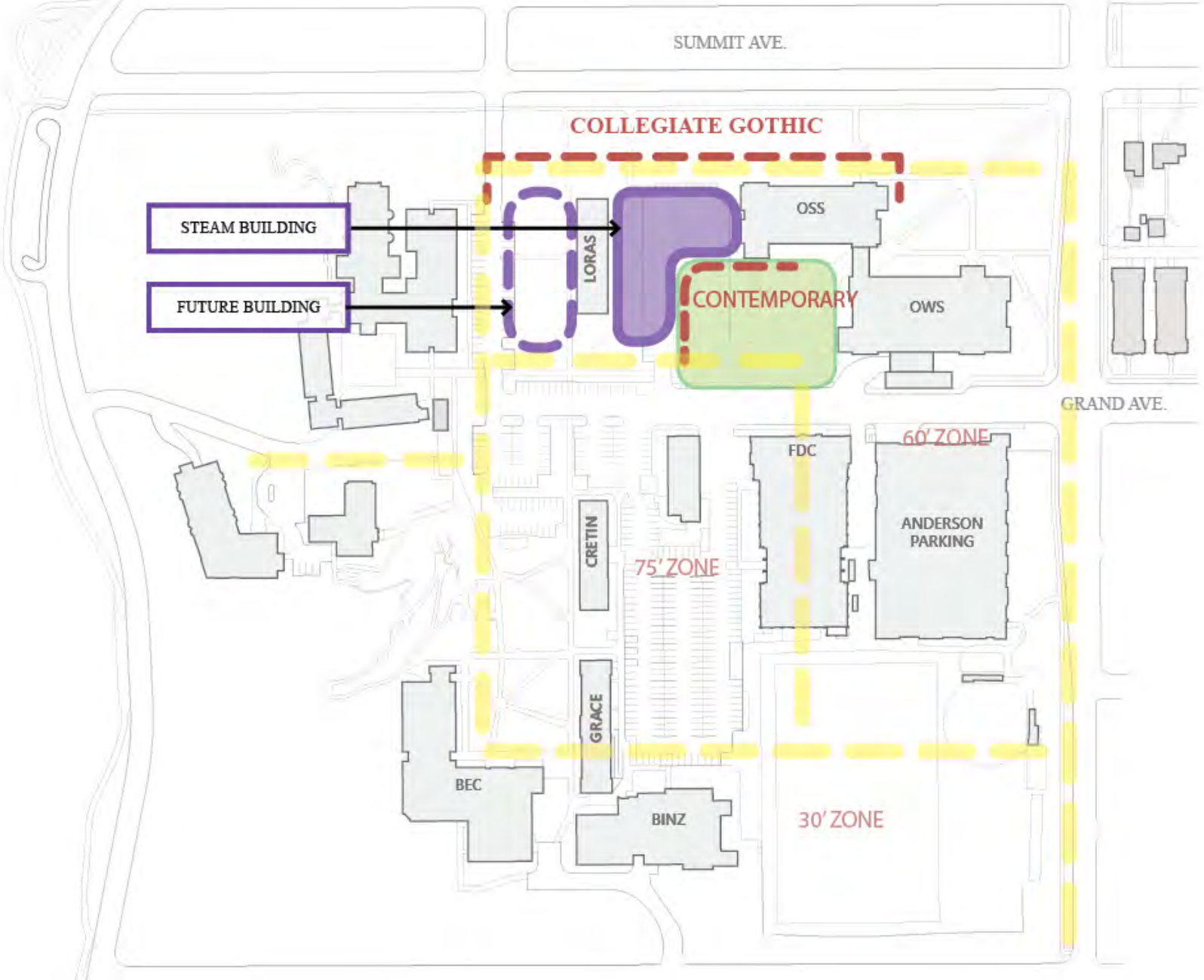
Construction

- Mar 2022 – Aug 2024

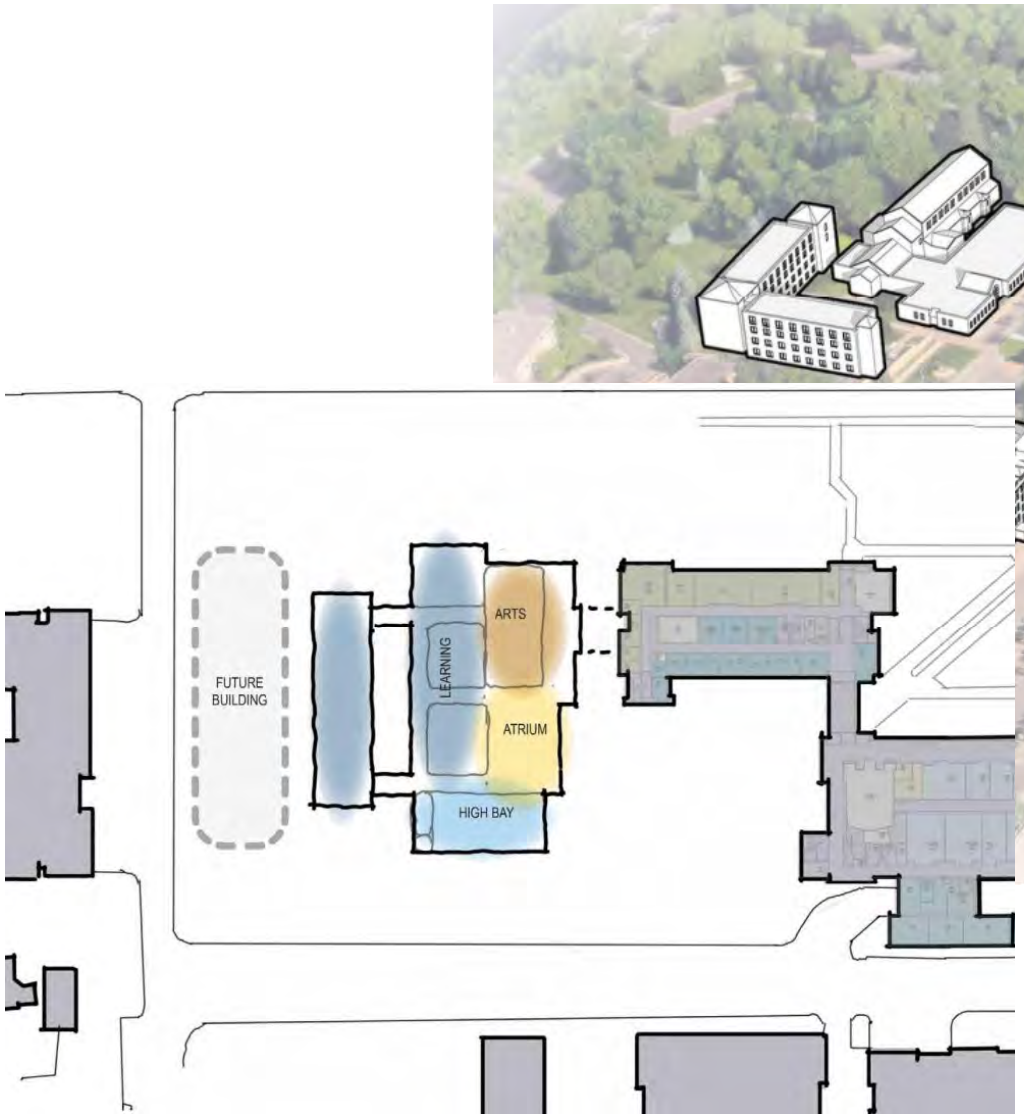
Move in

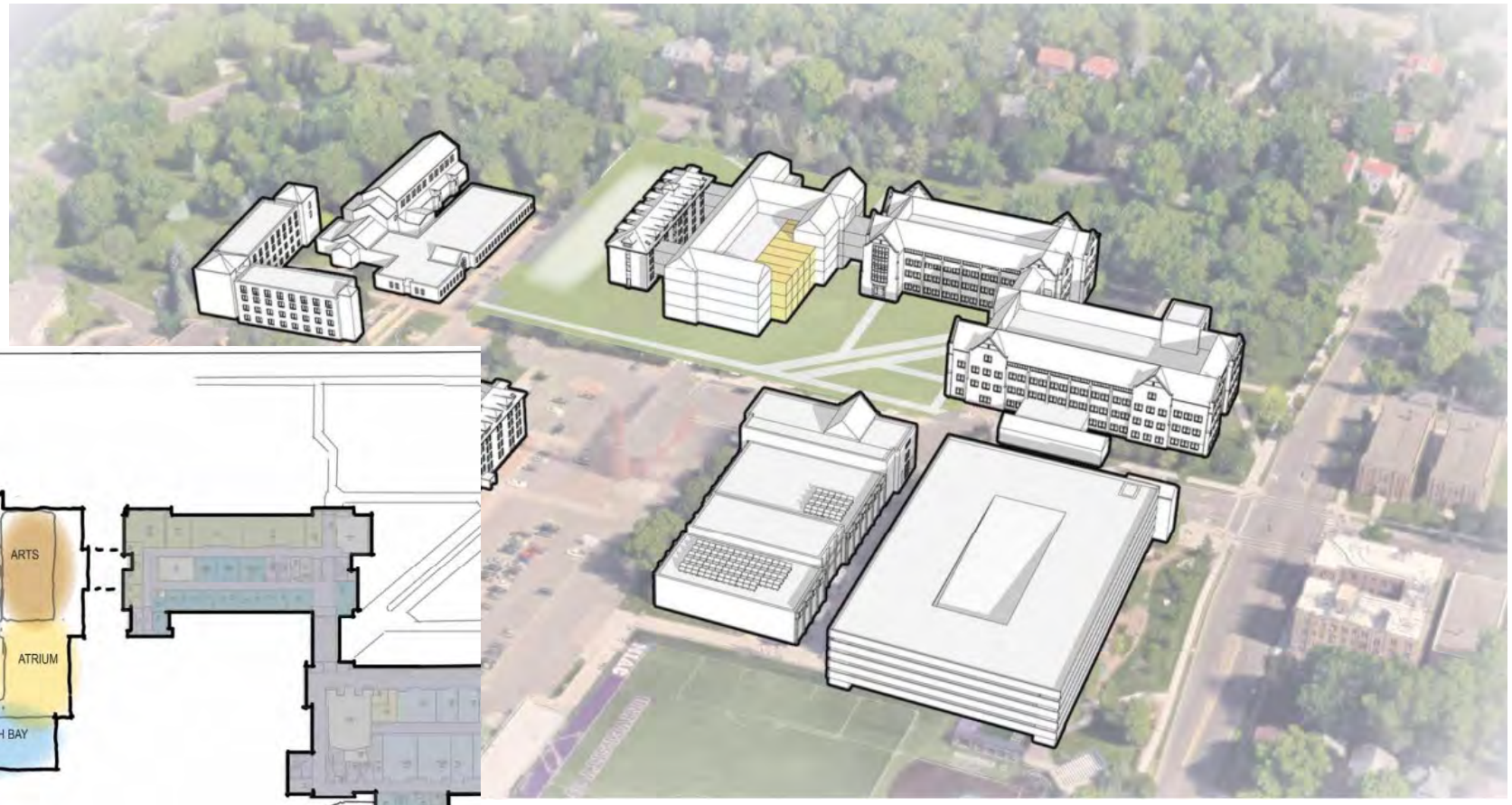
- Fall semester 2024

2. SOUTH CAMPUS MASTER PLAN – LORAS REMAINS OPTION

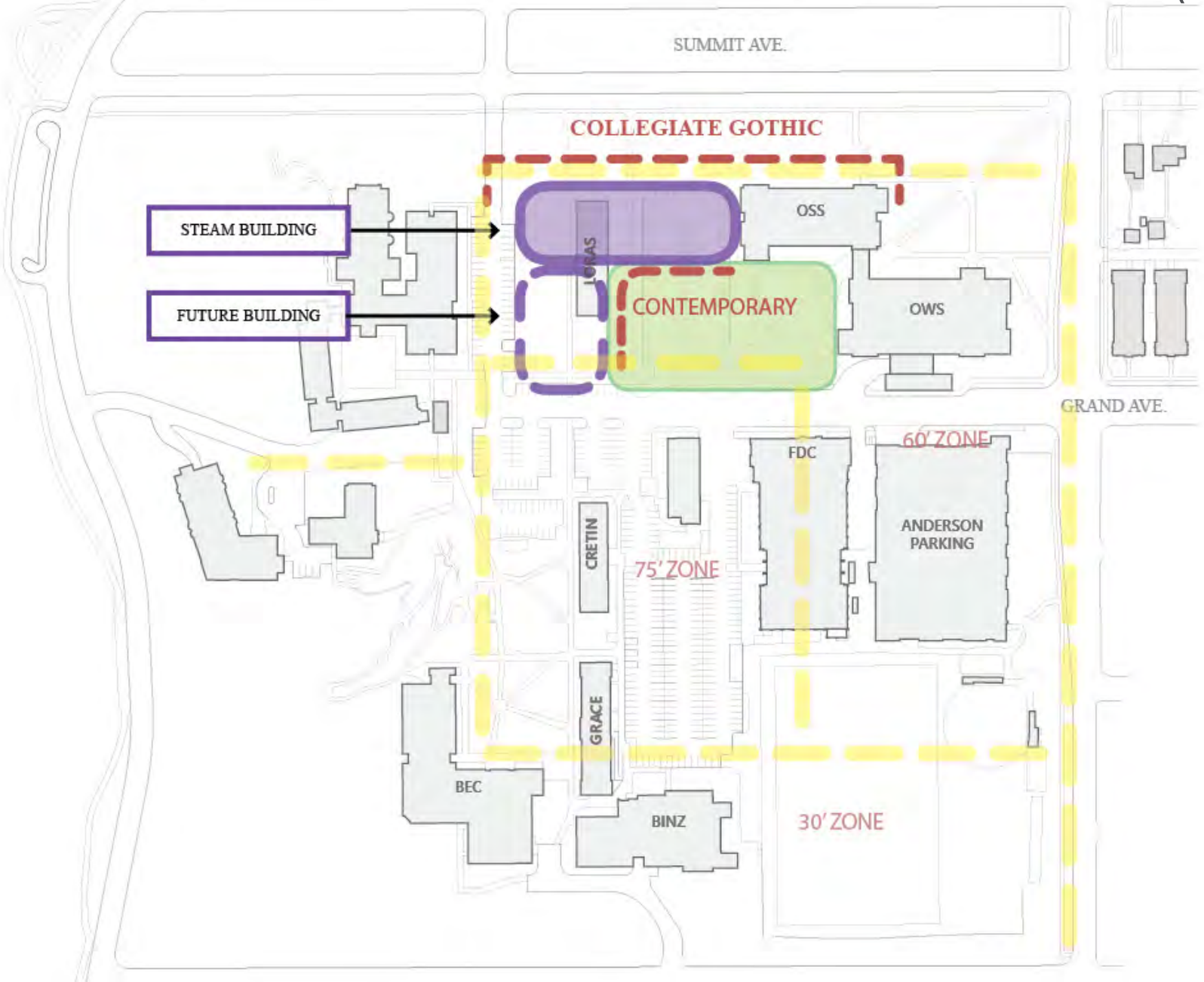


2. SOUTH CAMPUS MASTER PLAN – LORAS REMAINS OPTION

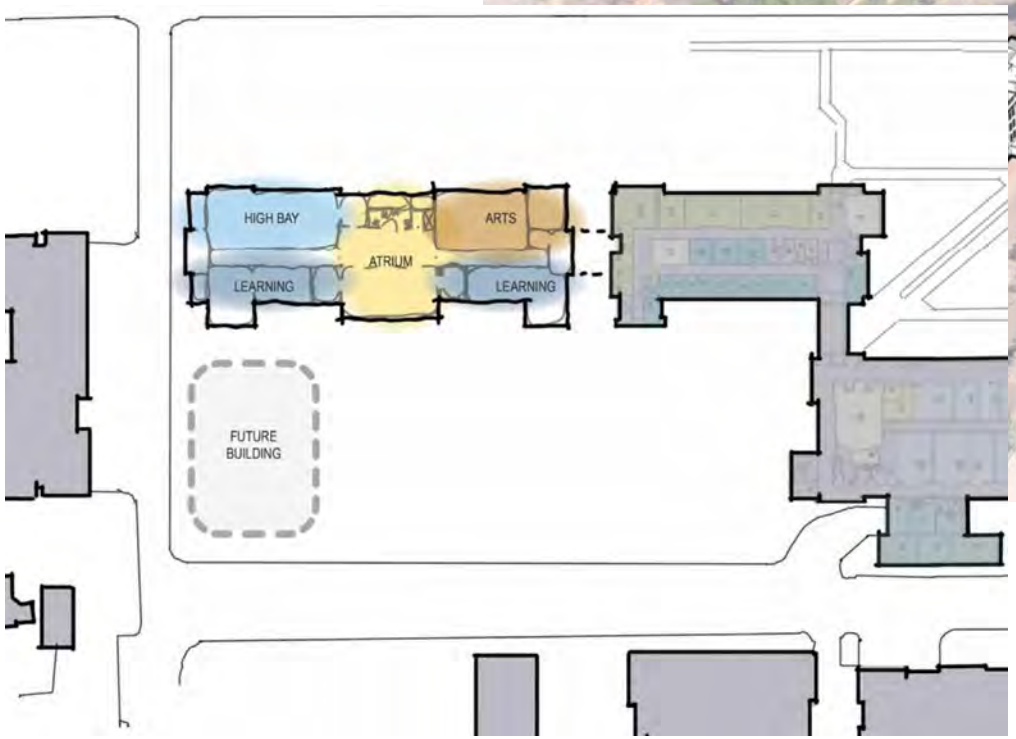


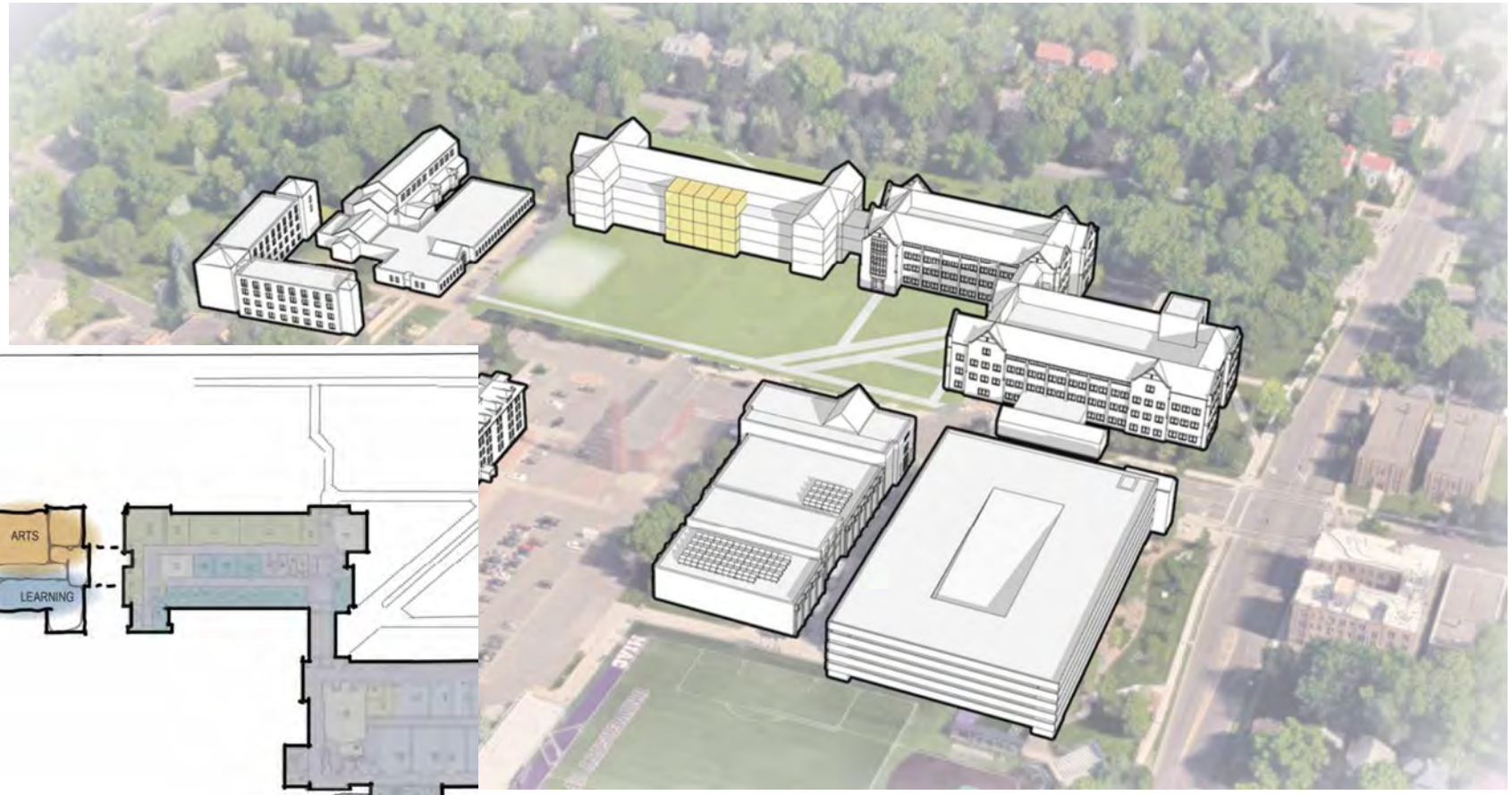


2. SOUTH CAMPUS MASTER PLAN – LORAS REMOVED OPTION(PREFERRED)



2. SOUTH CAMPUS MASTER PLAN – LORAS REMOVED OPTION (PREFERRED)





3. LORAS HALL

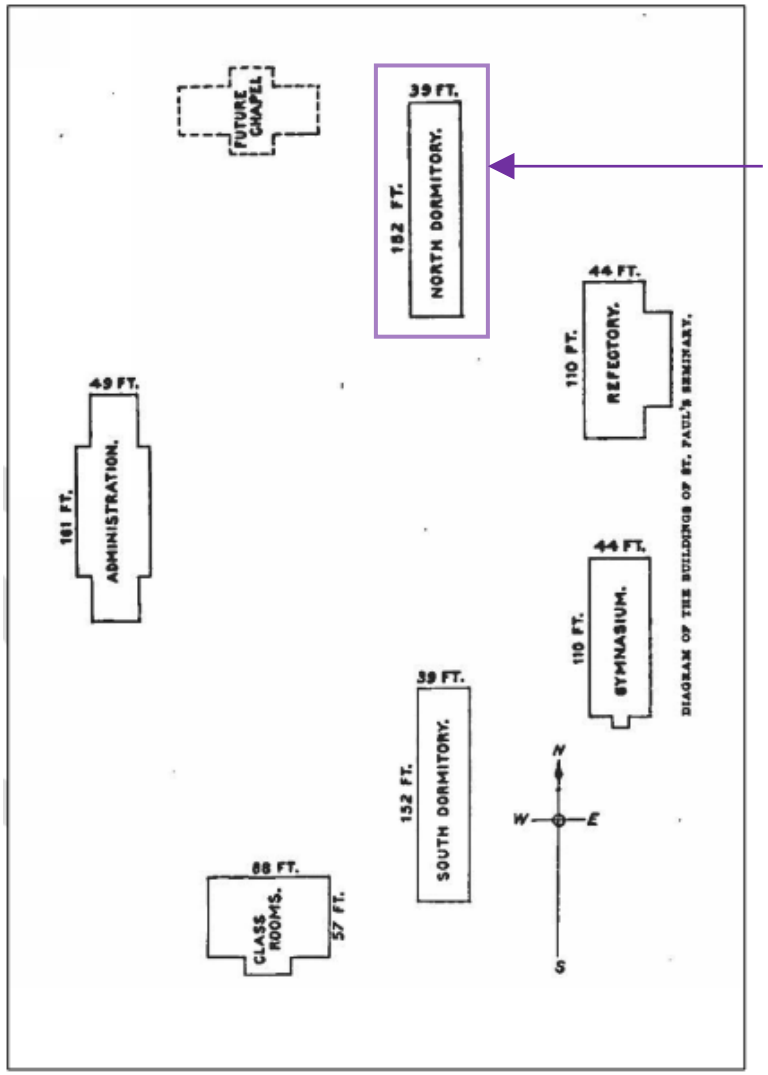
LORAS HALL – DEMONSTRATION OF IMPORTANCE

. LORAS HALL - HISTORY

- *Built in 1894*
- *Designed by famed Master-Architect Cass Gilbert*
- *Acquired by St. Thomas in 1982*
- *Currently housing a mix of University functions including faculty offices, music practice rooms, credit union and storage.*

LORAS HALL – HISTORY

- *The St. Paul Seminary moved to this location in 1894 and with funding from railroad magnate James J. Hill, constructed six new buildings (shown right).*
- *These first buildings were designed by Cass Gilbert who soon after was awarded the Minnesota State Capitol project which would bring him to national prominence.*
- *Loras, Grace and Cretin Halls would later get their names in honor of the first three bishops.*



Seminary plan from Patrick Danehy, "The New Seminary of St. Paul," Catholic University Bulletin *1 (1895)*

LORAS HALL – HISTORY

- *Original 1984 National Register nomination for the St. Paul Seminary Historic District based significance in education & religion (Criterion A) and architecture (Criterion C)*
- *Properties are classified as either contributing or non-contributing to the integrity of the Historic District. Loras Hall, St. Mary's Chapel and numerous landscape features were all identified as contributing at the time.*
- *This district **has not** been officially listed in the National Register, but the Minnesota Historic Preservation Office does consider it eligible for designation.*

LORAS HALL –
EXISTING BUILDING EXPLAINED

LORAS HALL TODAY

View from Summit Eastbound

LORAS HALL TODAY

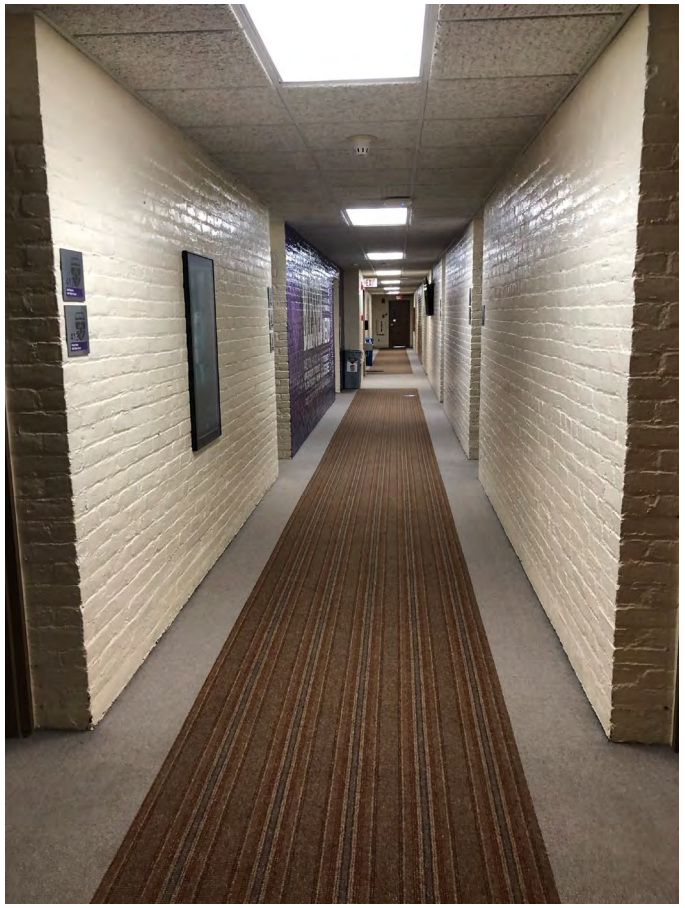
View from Summit Westbound

LORAS HALL TODAY

View from parking to the East

View from NW corner

LORAS HALL TODAY



Interior corridor

Vertical Circulation/ Building Entry

View into office suite

LORAS HALL TODAY

Basement wall

Basement storage room

Basement storage room

LORAS HALL TODAY

Lower Level: 3,298 NSF

Storage, Utilities

First Floor: 3,384 NSF

Offices, Music Studios, Photography Studio, Restrooms

Second Floor: 3,358 NSF

Offices, Practice Rooms, Restrooms, Storage, Utilities

Third Floor: 3,577 NSF

Offices, Conference Rooms, Storage, Restrooms

Fourth Floor: 3,679 NSF

Offices, Conference Room, Restrooms

Fifth Floor: 3,908 NSF

Offices, Break Room, Storage

SCALE: 1/32" = 1'

0 8' 32'

N

LORAS HALL TODAY

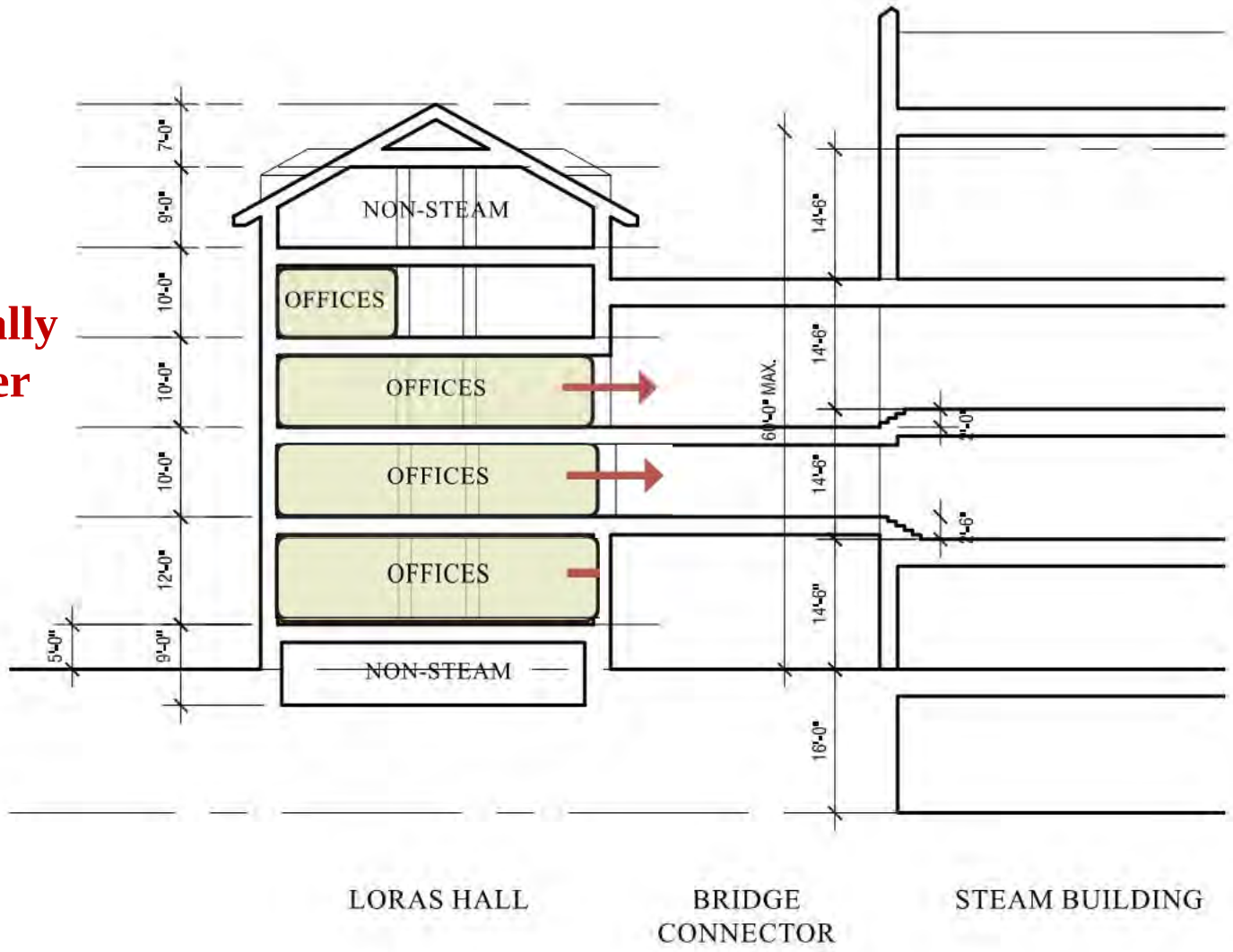
Load-bearing corridor walls result in narrow bars – limiting space for programs

Lower Level | First Floor | Second Floor | Third Floor | Fourth Floor | Fifth Floor

SCALE: 1/32" = 1'
0 8' 32'
N

LORAS HALL TODAY

Ceilings generally at 8’-0” or lower



SCALE: 1/16" = 1'
0 4' 16'

LORAS HALL TODAY

Mechanical Systems

- Air Conditioning : Window units in limted locations
- Heating : Steam radiation
- Fresh Air Ventilation : Operable windows

Structural Narrative

- Brick ties in multi-wythe masonry walls deteriorating
- Wood floor framing is good conditon
- Stone foundation spalling due to moisture
- Interior load bearing walls – removal to enlarge space would require enlarging the interior footings

LORAS HALL – 2015 ENVELOPE ASSESSMENT

The exterior wall deficiency observations include the following:

Photo 5

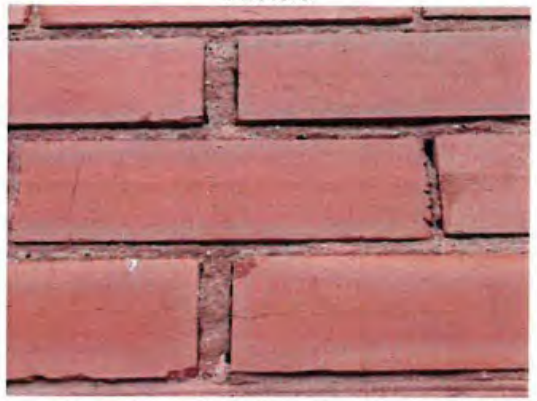


Photo 6

- Deteriorated and cracked mortar joints were typical on all elevations (photo 5).
- Cracked brick were observed in spot locations on all elevations (photo 6).

Photo 7

Photo 8

- Efflorescence was observed at grade in multiple locations (photo 7).
- Efflorescence was observed below a window sill on the west elevation (photo 8).

Photo 9

Photo 10

- Efflorescence was observed adjacent to several downspouts (photo 9).
- The dormer soffit and fascia paint had begun to peel in several locations (photo 10).

The window deficiency observations include the following:

Photo 11

Photo 12

- Most windows were wood frame with aluminum storm windows (photo 11).
- Dormer windows are similar assemblies with bronze anodized aluminum (photo 12).

LORAS HALL – 2015 ENVELOPE ASSESSMENT

Photo 13

Photo 14

- Bathroom areas are inefficient glass block with operable hopper sashes (photo 13).
- In stairwells, the fenestrations were infilled with masonry and aluminum windows (photo 14)

Photo 17

Photo 18

- Deteriorated glazing was observed at most windowsills (photo 17).
- Window air conditioning units were observed in several locations (photo 18).

Photo 15

Photo 16

- Deteriorated interior wood frames were observed in several locations (photo 15).
- Deteriorated exterior wood frames were observed in several locations (photo 16).

Photo 19

Photo 20

- Condensation was observed between the glass panes on the south elevation (photo 19).
- Daylight was visible at the frame joinery of some aluminum frame windows (photo 20).

LORAS HALL – 2015 ENVELOPE ASSESSMENT

The door deficiency observations include the following:

Photo 21

Photo 22

- Corrosion was observed on the hollow metal frame doors (photos 21 and 22).

Photo 23

Photo 24

- Each of the primary doors on the east and west elevation had aged card reader systems for building access (photos 23 and 24).

Recommended Repairs:

Exterior Walls:

1. *Solid tuck point all clay brick masonry mortar joins on all elevations*
2. *Replace the damaged and cracked clay brick masonry on all elevations*
3. *Clean efflorescence at spot locations on all elevations*
4. *Verify function of all downspouts*
5. *Clean, prime, and paint primary soffits, and dormer soffit and fascia.*

Window Systems:

1. *Replace all primary window systems with a new energy efficient system that meets historical aesthetic requirements*
2. *Replace all dormer window systems*
3. *Replace skylights with translucent panel assemblies*
4. *Replace Aluminum frame windows in north and south stairwells*
5. *Rehabilitate the existing window sills*
6. *Clean, prime, and paint adjacent interior finishes and wood trim.*

Doors:

1. *Replace the existing entry doors on the east and west elevations of the buildings. Consider updating card readers and corresponding door hardware at the same time.*
2. *Remove corrosion, prime, and coat the hollow metal frame doors on the north and south elevations. Replace the perimeter seals and weatherstripping following rehabilitation of the door frame and leafs.*

3. DEMONSTRATION OF OPTIONS STUDIED

Evaluation Criteria

A. Mothball

B. Continue to Use as-is

C. Move it/ Reuse

D. Incorporate into STEAM

E. Remove

EVALUATION CRITERIA

1. ***Student Education Value- STEAM (most important):***

   Does this option create an enhanced student experience and enrich outcomes?

2. ***Utility of Investment:***

   Does the investment provide long term, highest utility of use per square foot?

3. ***Land Use/ Opportunity of Highest Use:***

   Does the option provide highest and best use of land in terms of benefits for the university and community?

4. ***Initial Cost:***

   What is the budget impact (and consequently square foot reduction in new building) to the new STEAM project?

5. ***Community Asset:***

   Does this option contribute to the community- use of open space, overall character, neighborhood history.

6. ***Sustainability:***

   How does this option rate compare to other options for short term sustainability, and long term operational and human wellness sustainability?

A. LORAS HALL OPTION – MOTHBALL

- *Vacate Entirely:*

offices can be moved to other space, including Minneapolis campus

music practice rooms can be accommodated elsewhere

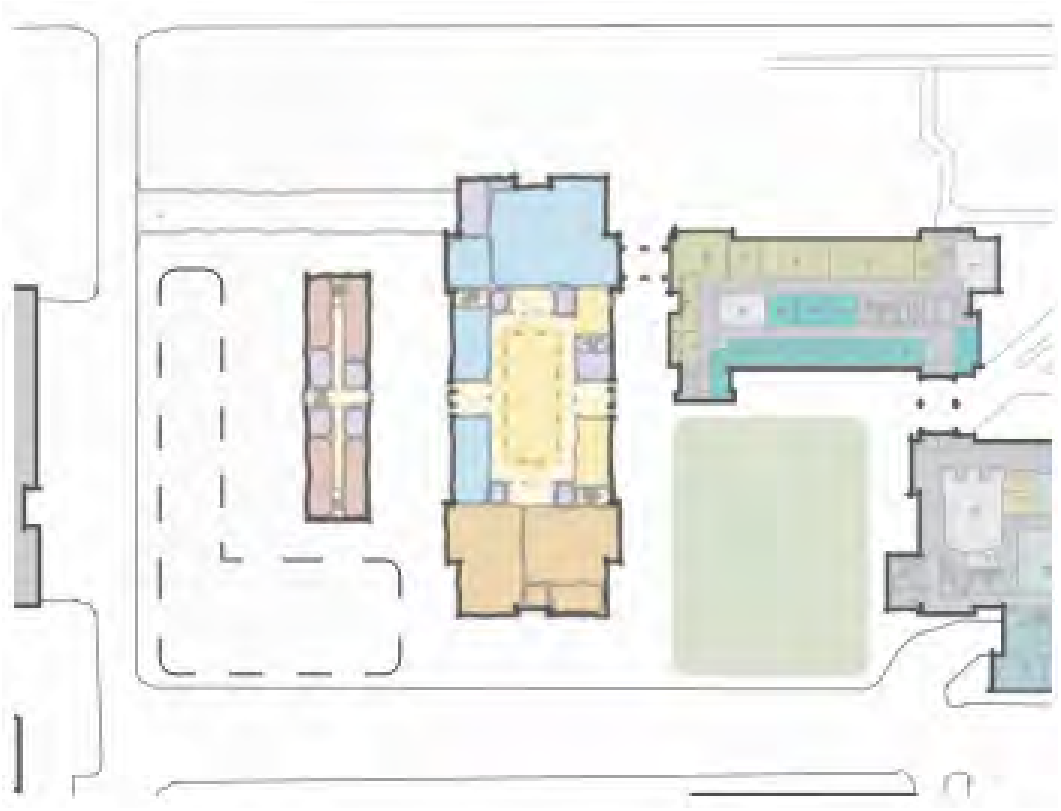
- *No known near-term needs*
- *Annual costs still incurred:*
  - *Regular maintenance*
  - *Utilities*
  - *Deferred repairs*
  - *Security*

Annual costs:	*$ 117,500*
Deferred rehab cost:	*$ 1,730,000*
(minimal investment now)	
Future interior work cost (min):	*$ 8,010,000*
STEAM Bldg gsf impact	minimal

B. LORAS HALL OPTION – REMAIN, USE AS-IS

- *Today, building does not provide modern ventilation for occupants.*
  - *Small A/C window unit*
  - *Fresh air supplied only by windows*
- *Code upgrades – fire protection, toilet rooms*
- *Exterior rehabilitation repairs*
- *Likely to have future vacancy as uses relocated to other more efficient places*
- *Future need for 35,500 gsf of limited use space is not known.*

Rehab now cost:	*$ 450,000*
Deferred rehab/code cost:	*$ 1,510,000*
<u>Future</u> interior work cost (min):	*$ 7,780,000*
STEAM Bldg gsf impact (est)	*-1000 gsf*

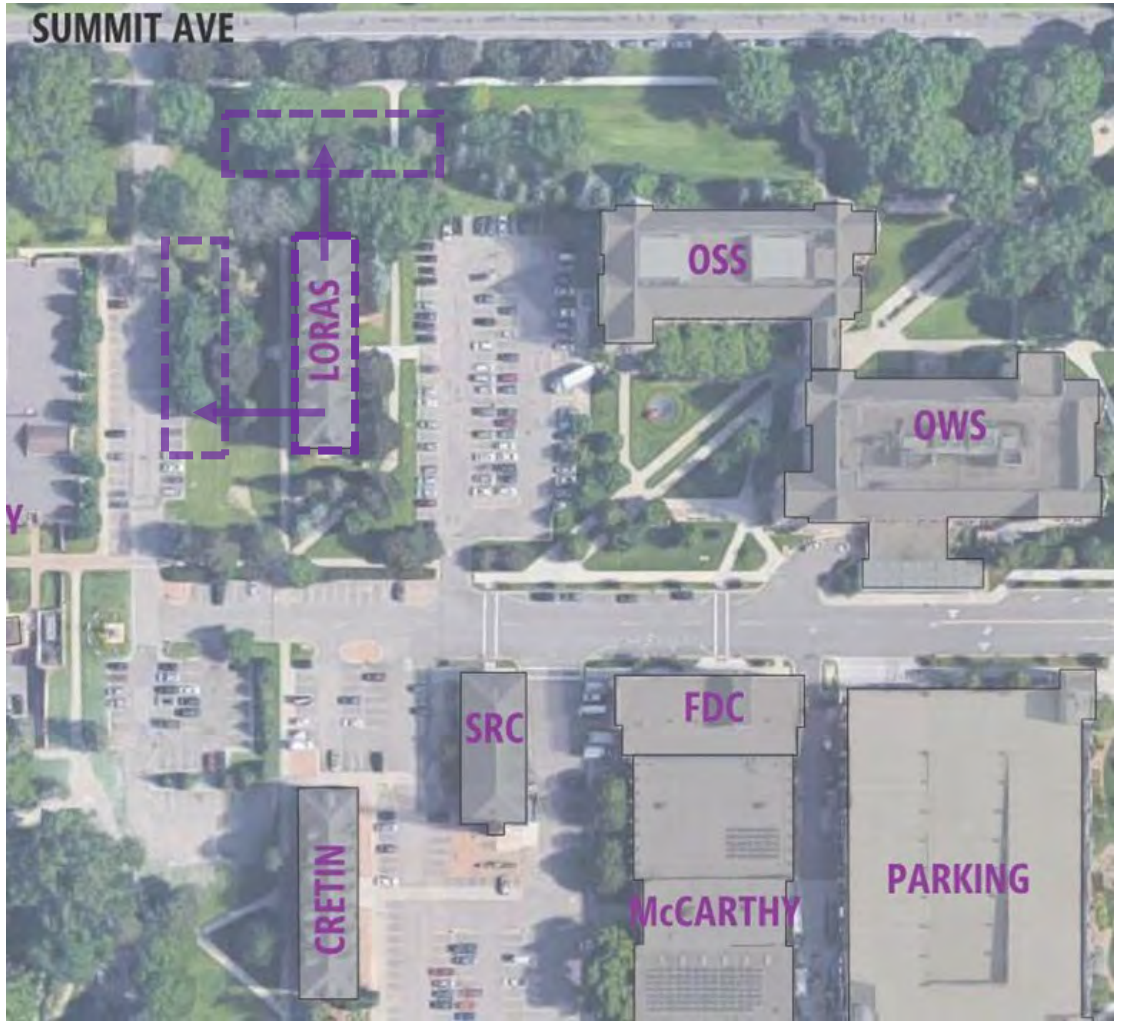


C. LORAS HALL OPTION – MOVE IT/ REUSE IT

- *Building condition – Move risks*
- *Negates original 'box-car lineup' of Gilbert seminary buildings*
- *Future need for 27,000 gsf of limited use space is not known.*
- *Limited value for STEAM space program*
- *Rehabilitation costs incurred*

Move costs:	*$ 4,980,000*
Rehab work cost:	*$ 1,730,000*
Interior work cost (min):	*$ 8,010,000*
STEAM Bldg gsf impact (est)	*-21,400 gsf*

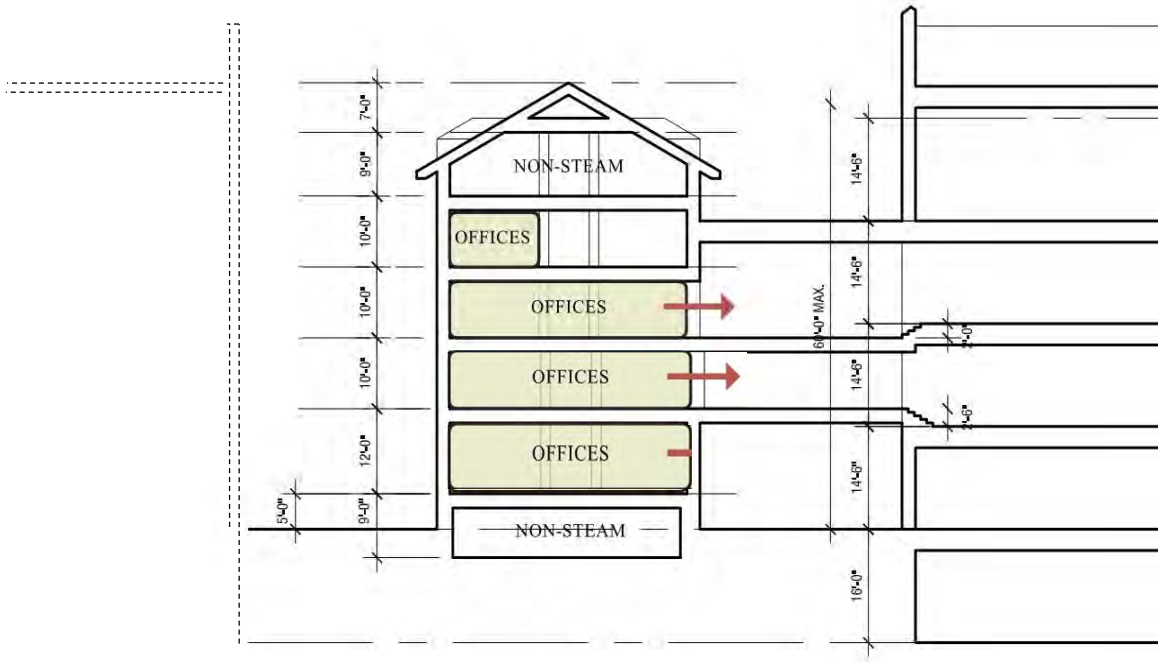
(7,250 sf STEAM moved into Loras)



D. LORAS HALL OPTION – INCORPORATE INTO STEAM

- *Difficult to connect to STEAM with awkward floor-to-floor heights.*
- *Connections may compromise value of main facades.*
- *STEAM program would use only 2 floors (all other space too large to fit)*
- *Future projects to west of Loras may "sandwich" Loras, limiting views to and from.*
- *Exterior rehabilitation costs incurred.*

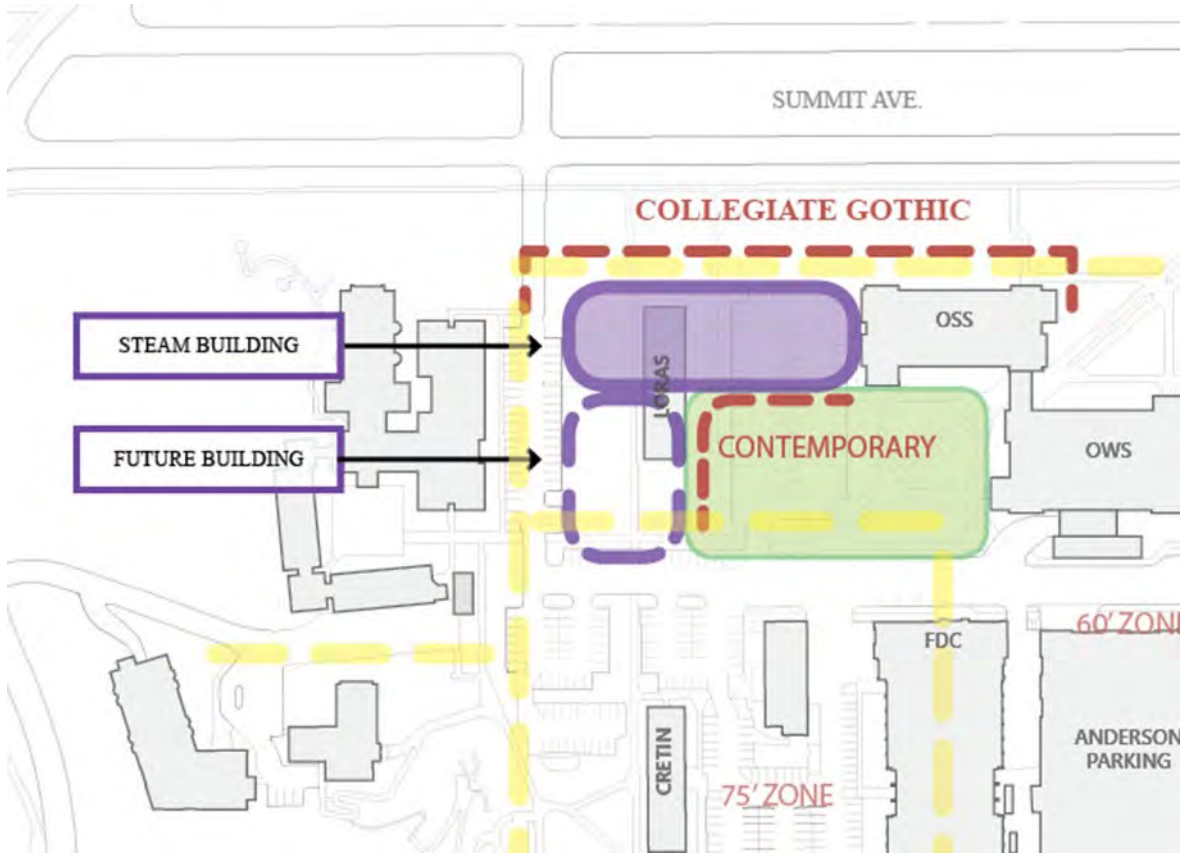
Rehab work cost: *$ 1,730,000*
Interior work cost (min): *$ 8,010,000*
STEAM Bldg gsf impact (est) *-11,480*
(7,250 nsf STEAM moved into Loras)



E. LORAS HALL OPTION – REMOVAL

- *STEAM program can be in modern, energy efficient space*
- *Large green quad created for all to use*
- *Faculty and student proximity enhanced*
- *Opportunity for future programs*
- *Highest utilization of investment*
- *Highest opportunity for limited campus land*

Rehab work cost:	*$ 0*
Interior work cost (min):	*$ 0*
STEAM Bldg gsf impact	*0*
(Demolition cost included)	



THANK YOU!

INSPEC

Smart engineering of
roofs, walls, windows,
pavements and waterproofing

www.inspec.com

5801 Duluth Street
Minneapolis, MN 55422
Ph. 763-546-3434
Fax 763-546-8669

126 North Jefferson St.
Suite 120
Milwaukee, WI 53202
Ph. 414-744-6962
Fax 414-744-6981

8618 West Catalpa
Suites 1109-1110
Chicago, IL 60656
Ph. 773-444-0206
Fax 773-444-0221

PROJECT: Building Envelope Assessment
University of St. Thomas
Loras Hall

DATE: December 18, 2015
FILE NO.: 213738

REPORTED TO:

University of St. Thomas
Mail PHP, 2115 Summit Avenue
St. Paul, MN 55105

Attn: Mr. Dave Clysdale, CEM, CEA, LEED

BUILDING ENVELOPE ASSESSMENT

Table of Contents **Page**

LORAS HALL

GENERAL

The purpose of the building envelope assessment was to assess the existing condition of the building envelope including the following systems:

- Exterior Walls
- Windows
- Exterior Doors

The intent of our services was to evaluate the existing condition of the building envelope systems and provide recommendations for rehabilitation of the observed deficiencies in the exterior wall, exterior windows, and exterior door assemblies.

BACKGROUND

Loras Hall is a five-story building with clay brick masonry veneer, wood frame windows with aluminum storm windows on the east and west elevations, aluminum frame windows in the infill areas on the north and south elevations, and flat seam metal cladding adjacent to the dormer windows. The doors are all hollow metal frame assemblies with safety glass glazing.

Specific concerns at Loras Hall include:

- Exterior Walls: Deteriorated mortar joints and efflorescence.
- Aluminum Windows: Wood frame windows past design life.
- Exterior Doors: Inefficient hollow metal frame assemblies.
- Skylights: Water intrusion was reported adjacent to multiple skylights.
- Soffits: Building tenants noted critters have been reported in the ceiling above the fifth floor.
- Historic Features: Loras Hall was constructed as the north residence for St. Paul seminary students. It was designed by Cass Gilbert.

OBSERVATIONS

East Elevation
Photo 1

South Elevation

Photo 2

West Elevation

Photo 3

North Elevation

Photo 4

The exterior wall deficiency observations include the following:

Photo 5

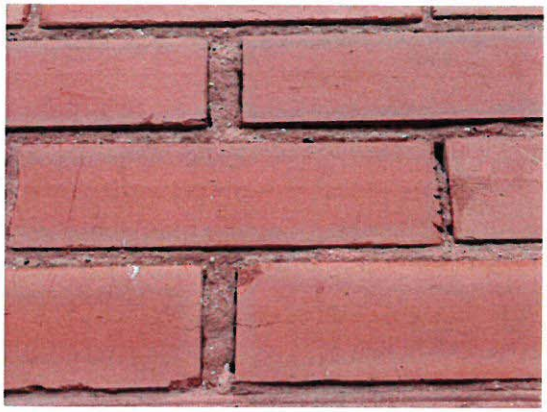
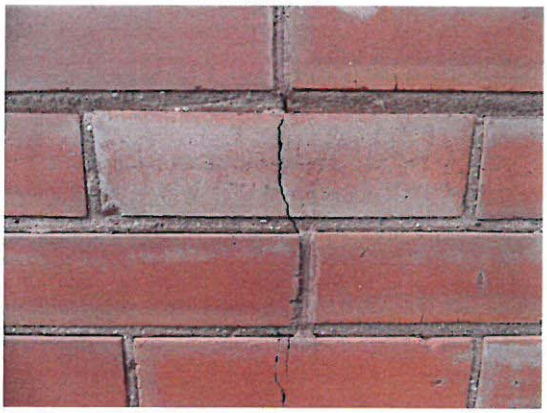


Photo 6



- Deteriorated and cracked mortar joints were typical on all elevations (photo 5).
- Cracked brick were observed in spot locations on all elevations (photo 6).

Photo 7

Photo 8

- Efflorescence was observed at grade in multiple locations (photo 7).
- Efflorescence was observed below a window sill on the west elevation (photo 8).

Photo 9

Photo 10

- Efflorescence was observed adjacent to several downspouts (photo 9).
- The dormer soffit and fascia paint had begun to peel in several locations (photo 10).

The window deficiency observations include the following:

Photo 11

Photo 12

- Most windows were wood frame with aluminum storm windows (photo 11).
- Dormer windows are similar assemblies with bronze anodized aluminum (photo 12).

Photo 13

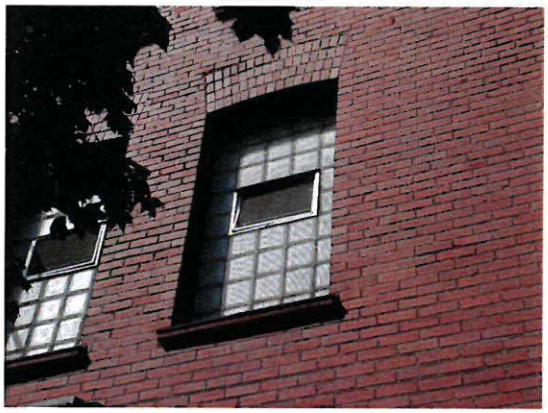


Photo 14

- Bathroom areas are inefficient glass block with operable hopper sashes (photo 13).
- In stairwells, the fenestrations were infilled with masonry and aluminum windows (photo 14)

Photo 15

Photo 16

- Deteriorated interior wood frames were observed in several locations (photo 15).
- Deteriorated exterior wood frames were observed in several locations (photo 16).

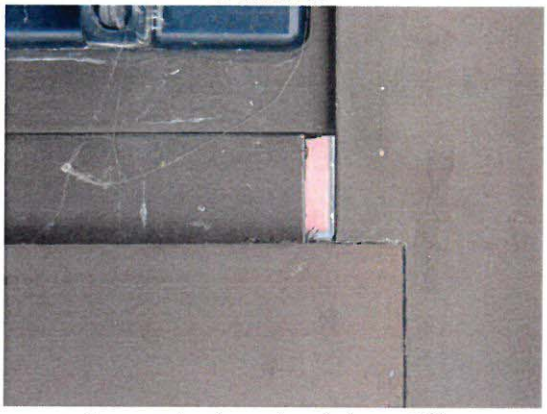
Photo 17

Photo 18

- Deteriorated glazing was observed at most windowsills (photo 17).
- Window air conditioning units were observed in several locations (photo 18).

Photo 19

Photo 20

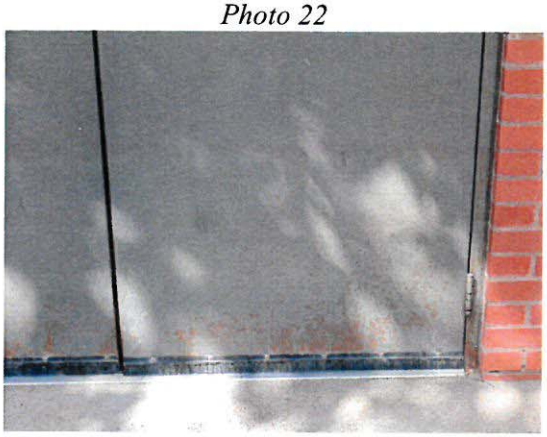


- Condensation was observed between the glass panes on the south elevation (photo 19).
- Daylight was visible at the frame joinery of some aluminum frame windows (photo 20).

The door deficiency observations include the following:

Photo 21

Photo 22



- Corrosion was observed on the hollow metal frame doors (photos 21 and 22).

Photo 23

Photo 24

- Each of the primary doors on the east and west elevation had aged card reader systems for building access (photos 23 and 24).

DISCUSSION

The intent of this building envelope assessment is to identify deficiencies in the exterior walls, windows, and doors. Once identified, recommendations for rehabilitation of the deficiencies are summarized. An opinion of probable construction cost is included for your use.

The primary exterior wall assembly is clay brick masonry. The condition of the mortar joints and the convex tooling indicate that they have not been tuck pointed for several decades. This type of maintenance is necessary to minimize the amount of water that enters the wall assembly through open or failed mortar joints. Similarly, any cracked brick should be replaced as a part of the masonry rehabilitation. The efflorescence observed in several locations indicates that excessive moisture has been entering the wall assembly. Part of this could be attributed to the deteriorated mortar joints and cracked brick. Additionally, failed downspout seams should be sealed to minimize excessive moisture running down the surface of the exterior wall assembly. The dormer soffit panels appear to have a failed coating that should be addressed to minimize the potential for damage to the substrate materials. Similarly, the stain on the primary soffits should be reviewed. From grade it appeared that there may be an open joint between the soffit and the wall assembly which would explain the reported critters above the ceiling on the fifth floor. It may be intentional for ventilation of the roof system, but should be reviewed to confirm this is the case.

The window systems are largely significantly past their service life. The storm windows may alleviate some of the drafts, but as installed, they are not preventing deterioration of the frame assemblies. Replacement with more energy efficient windows that meet historic aesthetic requirement features should be considered. Similarly, the glass block window assemblies should be replaced with a more efficient translucent glazing material. Design considerations should include evaluating the continued use of inefficient air conditioning units. If necessary, the systems should be designed to incorporate this type of dehumidification system into the replacement assembly, but it is our understanding that a central dehumidification system is being requested. The glazing on the existing window sills appears to be deteriorating. Rehabilitation of this architectural feature should be considered. The aluminum frame

windows on the north and south appear to have several deficiencies related to both the system and the installation. Replacement should be considered in these locations as well. Lastly, the leaking skylights should be considered for replacement in order to provide a system with proper transitions between the adjacent roof system and the skylights. A tinted glazing could be considered in lieu of the existing window treatments that appear to have several operational issues.

The hollow metal frame door assemblies on the east and west elevations should be considered for replacement in order to minimize maintenance costs and improve the energy efficiency of these assemblies. Additionally, replacement to improve accessibility as well as security should be considered at the time of replacement. Hollow metal frame assemblies on the north and south elevation appear to be in fair condition.

RECOMMENDATIONS

Based upon the observations performed in August of 2015, we recommend the following repairs:

Exterior Walls

1. Solid tuck point all clay brick masonry mortar joints on all elevations.
2. Replace the damaged and cracked clay brick masonry on all elevations.
3. Clean efflorescence at spot locations on all elevations.
4. Verify function of all downspouts.
5. Clean, prime, and paint primary soffits, and dormer soffit and fascia.

Window Systems

6. Replace all primary window systems with a new energy efficient system that meets historical aesthetic requirements.
7. Replace all dormer window systems.
8. Replace skylights with translucent panel assemblies.
9. Replace aluminum frame windows in north and south stairwells.
10. Rehabilitate the existing window sills.
11. Clean, prime, and paint adjacent interior finishes and wood trim.

Doors

12. Replace the existing entry doors on the east and west elevations of the building. Consider updating card readers and corresponding door hardware at the same time.

13. Remove corrosion, prime, and coat the hollow metal frame doors on the north and south elevations. Replace the perimeter seals and weatherstripping following rehabilitation of the door frame and leafs.

SPECIAL ITEMS

Hazardous materials, asbestos, lead, and PCBs, need to be tested in the existing joint sealant and paint. Inspec will work with your hazardous materials consultant or can recommend one.

OPINION OF PROBABLE CONSTRUCTION COST

The opinion of probable construction cost shown below is for the scope of work described previously.

Exterior Wall	$300,000
Window Systems	$600,000
Door Systems	$25,000
≈5% Mobilization	$50,000
≈10% Contingency	$100,000
Total Opinion of Probable Construction Cost	$1,075,000

The opinion of probable construction cost does not include design, construction administration, construction observation, or quality control testing fees.

Does not include any abatement for hazardous materials; i.e., existing joint sealant with asbestos or PCBs.

REMARKS

This report is a summary of the building envelope assessment of Loras Hall located on the University of St. Thomas campus in St. Paul, Minnesota. If there are further questions, please contact our office.

INSPEC

By: _____
Nicholas J. Hall, CDT

NH/bap

Relocation of Loras Hall

University of St. Thomas

STUBBS BUILDING MOVERS

2284 County Road 90 Maple Plain, MN 55359
Phone (612) 282-1139 ● Fax (763) 479-1665
stubbsls@stubbsmovers.com

Date: August 3, 2016

Dear Jim,

Thank you for contacting Stubbs Building Movers regarding the feasibility of relocating Loras Hall on the University of St. Thomas campus.

After looking at Loras Hall, I would like to point out a few important features that are relevant to the moving process. The building was built, as many are from this time period, with a three-brick-construction method for the exterior walls. The building also consists of two hallway walls starting in the basement and continuing up to the roof. The hallway walls are constructed with the three-brick-construction method with a tie row, these are different from the exterior walls in that they have two rows tied and the exterior row are not tied in the building. This method leaves an approximate one-inch air gap between the walls. Another consideration is that the ties are made from metal straps. Over the years, the metal straps have a tendency to rust off which calls for additional bracing.

The floor system is dove tailed into the exterior brick and placed on the stone wall in the basement then infilled between. These hallway walls are stone in the basement and at the first level change over to brick. This building has partitions at roughly every 14 feet with door openings.

Loras Hall would be able to be moved.

The moving method to move the building the one hundred foot distance to the west would be on rollers. This process would involve using bracing framework on the exterior walls along with cross ties from side to side and additional interior bracing to help stabilize the walls. The elevator should be able to be pulled up and carried along in the process.

In order to carry the building a grid work of steel beams would be installed under the building. The grid work would consist of the following: four main beams that are the full length of the building and another layer of beams that are termed “cross steel.” These are placed about every four feet the full length of the building along with another deck above the cross steel to hold the floor system.

The time period for moving Loras Hall with the bracing, excavation, saw cutting, placing of beams, and moving of the building is approximately six to seven months. The price to complete this project would be in the range of two million four hundred thousand dollars to two million eight hundred thousand dollars ($2,400,000.00 - $2,800,000.00). In order to give a firm price, more engineering work would need to be done and a complete bracing plan would need to be finalized, along with consulting an elevator company to make sure the lower level elevator shaft would be able to be rebuilt or reused. The cost to do this would be six thousand five hundred dollars ($6,500).

Sincerely,
Larry Stubbs
Stubbs Building Movers

Project:
Loras Hall is a five - story brick structure with basement. The building is currently used as staff office with separate rooms. This high-level report focuses on the feasibility of relocating the building to the west on the current site in order to prepare the ground for a new (STEAM) building. Existing building structural plans are not available.

Information reviewed:

1. RFP issued by University of St. Thomas and 4 addenda. Sunde Land survey 2018, Loras floor space plan as office in 2018, AET soils report#01-03647 in 2008, Stubbs Building Mover Proposal 2016, McGough preliminary cost estimate
2. Site visit -Exterior May 14, 2020; Exterior & Interior July 31, 2020

Structure:
Year of construction-1896
Building size – 39' X 152' as per Sunde Land surveying in 2018
Site – Fairy level. Paved parking lot to the east and lawn on the other three sides. Refer to Survey attached.
Foundation – Spread footings (Assumed). Slab on grade. Stone basement walls.
Above Grade walls - Load bearing exterior and hallway walls. Three brick construction. It is not known if the bricks are tied together with metal ties.
Floor construction – 2 X 14 joists at 16" O.C. 1 X 6 boards spanning between joists, Wood strips for floor finish, Acoustical ceiling. Bearing on exterior brick wall and interior hallway wall. (to be verified at all floors. First floor was verified looking up from basement)
First floor has different elevations (Front and back entrance at different elevations)
Roof construction – Gable roof, Wood trusses. 5th floor is within Gable structure.

Existing condition:

1. Brick wall has vertical cracks limited locations.
2. Bricks have been replaced at selective locations (different color)
3. Tuck pointing has been done at selective location (fresh mortar color)
4. Cast iron sill under windows have gap at ends. Looks very rusty.
5. Entrance steps have sunk. No mortar fills under.
6. Fifth floor Gable penetration not original construction
7. No insulation on walls.
8. Condition of joist embedded within wall. Had to be verified for rot development
9. Chimney condition not observed

Estimated building weight:

1. Three brick interior and exterior wall construction. 125 PSF
2. Floor dead weight 15 PSF
3. Partition weight 15 psf (stud wall)
4. Ceiling, Floor finish, M & E ducts and pipe 5 PSF
5. Stair enclosure, elevator enclosure to be verified
6. Mechanical equipment on supported floors to be verified
7. Estimated building weight (not including items 5, 6 above) Walls 65% solid allowing for windows Walls 3,630 kips. (52' height average). Floors, partition, roof=1,170 kips. Total 4,800 kips.

Relocation of Loras hall , Structural Opinion.

September 16, 2020

Building New Location:
100’ west of present location

Building Code:

Verify with building official, if relocation of the building has to comply with current building code for all aspects. Architectural, energy conservation, plumbing, fire protection, heating, cooling, ADA.
Conduct Code research for -Repair, replacement, 3 levels of alteration and relocation of existing buildings

Can this building be moved ?

1. May be, with lot of risks.
2. Has this size building been relocated in the Midwest? Answer is no.
3. Are experienced building movers available to move 135-year-old, 5 story brick building, 152 X 39’ , 73’ high (elevator shaft roof)weighing 4,800 kips?
4. Will the existing cracks widen? Yes.
5. Will the rusty window sill stay in place? Do not know.

Issues to be considered.

1. Existing basement height adequate to construct cribs for temporary support and load transfer beams, Hydraulic dollies. 3 layers steel beams total height 5, 6”. Hydraulic dolly height to be verified with building mover.
2. Is the existing slab on grade adequate for dollies to roll over?
3. Excavate an area roughly 25’ beyond the face of the building on three side. The remaining side excavate to the end of new building location.
4. Will the existing slab on grade crack and settle under temporary loads? New footing required under cribs?
5. The most important item is preparation of flat path way to rollers. Is this a new heavy slab?
6. New slab on grade may have to be 18” thick mat foundation to co support temporary crib load, Roller load.
7. Undergrade utilities, elevator pit has to be in place prior to moving the building.
8. Basement walls shall be cast in place walls with water proofing, drain tile and insulation.

Economic value / usefulness of the building.

1. The building dimension is not efficient for any space need by the university
2. Will be spending more per square foot in maintaining the building
3. Relocation and alteration cost may be much more than new efficient building
4. Conditional use permit rules?
5. Economic value is overvehemently in favor of new construction.