

FEASIBILITY STUDY FOR
RENOVATIONS AND UPGRADES TO

THETA CHI FRATERNITY HOUSE
528 BEACON STREET
BOSTON, MASSACHUSETTS

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I. EXECUTIVE SUMMARY

A. BRIEF DESCRIPTION OF THE PROPERTY

The property is located at 528 Beacon Street in a Back Bay townhouse that was originally constructed in 1893 and was converted to its current use as a fraternity residence in 1922. The building contains approximately 10,000 square feet of gross area on six levels. The building currently is licensed for 28 occupants and contains dormitory type bedrooms and study areas, common rooms, a commercial kitchen and bathrooms. The building also has an outdoor roof deck that is only accessible by ladders from the fifth level outdoor terrace and a roof hatch at the middle of the building.

B. EVALUATION OF EXISTING BUILDING

The building is generally in fair condition, but with several systems that are in poor condition, having deteriorated beyond full functional condition. Finishes in much of the house require restoration and the house layout requires improvement to better function for the current needs of the fraternity residents. The primary recommendation for the reconfiguration of the building is to relocate the bar to the basement level and provide sleeping/study areas at the front portion of the second floor. In addition, it is recommended that better distributed and functional washroom facilities be provided on every level. Major building systems recommendations include replacement of the roof system; upgrade of the building heating and ventilation systems to provide better air quality and temperature comfort throughout the house; installation of an elevator serving the first three levels for accessibility by handicap persons; and general improvement of lighting throughout the house. Floor plans showing the proposed floor layouts for the renovated house are provided in Appendix C.

C. CONSTRUCTION COST EVALUATION AND PHASING

Estimated construction cost for recommended repairs, upgrades and renovations is \$2.31 million, not including soft costs of architect and engineer fees, fund raising, furnishings or interest during construction.

Due to the limitation of actual construction work to the summer months between MIT's academic years, construction durations are tight and accelerated scheduling is required. Two options were evaluated for the completion of the identified scope of work. The first option is to complete all work in one summer (current target, summer 2007). The second option is to perform advance work on items that may affect the critical work path in summer 2006, with the majority of the construction still taking place in summer 2007. Based on Marc Truant Associates' analysis, the net cost appears to be the same for either phasing option, with premium time costs for overtime hours in the single summer schedule roughly equaling the added supervisory, patching and other general conditions costs for the two summer schedule.

The single summer option is very tight and its likely success would be dependent on the fraternity allowing some limited work to start in advance of the end of spring semester. Given the problematical nature of such scheduling, Linea 5 recommends that a two summer schedule as the preferred option, with heating system replacement and elevator pit construction taking place in summer 2006. The remaining majority of the work would then take place in summer 2007.

II. GENERAL PROJECT INFORMATION

Project:	Theta Chi Fraternity House
Address:	528 Beacon Street Boston, Massachusetts
Building Type:	Solid wythe brick masonry residential building.
Gross Area:	Approximately 10,000 gsf
Building Height:	6 Floors including basement
Year Constructed:	1893
Occupancy Group:	Group R-2 Dormitory Facility (Massachusetts State Building Code)
Applicable Code:	Massachusetts State Building Code
Consultant's Review Team:	Robert S. Cotta, P.E. Thomas Bryant
Date of Review:	December 13, 2005
Inspection Team Accompanied by:	Mr. Brentan Alexander – Theta Chi Fraternity

III. BUILDING ENGINEERING ASSESSMENT

A. SITE

1. General

The Theta Chi Fraternity building is one of a series of townhouse style row houses located on the north side of Beacon Street in the first block west of Massachusetts Avenue in Boston, Massachusetts. The building occupies the full width of the lot with masonry brick party walls separating the building from its neighbors to the east and west. The building sets back approximately 15' from the Beacon Street sidewalk and approximately 30' from the estimated right of way for the Back Street alley on the north side of the building.

2. Drainage and Utilities

Roof drainage is to gutters at the front and back of the building that drain to downspouts connected to below ground drain pipes at grade level. Water, sewer, gas, electric and telephone service is provided from underground mains on the Beacon Street side of the building.

3. Landscape and Special Features

The building is set back from the public sidewalk on Beacon Street by about 15 feet. The portion of this area next to the entry walk is bordered by an approximate 6-inch high brownstone curb that surrounds a small grass lawn with shrubs against the building.

4. Parking

Exterior lot space at the back of the building is fully paved with bituminous asphalt paving to provide parking for nine vehicles, six in two rows of three against the building and three on the opposite side of the alley (Back Street). One space across the alley is currently occupied by the trash dumpster for the fraternity.

5. Building Access

The main entry to the building steps up from the sidewalk grade on Beacon Street to a small entry lobby. Step risers are irregular in height and do not comply with building code requirements. Two additional short stairs in the entry lobby and the indoor entry corridor provide access to the first floor of the building. A second front entry is located at the side of the main entry and accesses the basement level of the building down two steps (three risers). Access is also provided through a rear door on the back of the building located at grade level with direct access to the basement level. Access to the front entry does not currently comply with ADA/MAAB requirements. Access to the back entrance appears to comply with ADA/MAAB requirements.

B. GENERAL CONSTRUCTION

1. Exterior Wall Systems

The 528 Beacon Street building is constructed of solid brick masonry walls with wood floor and roof framing between the masonry bearing exterior and party walls. The brick masonry is mostly in fair to good condition, although some areas of brick have surface efflorescence and deteriorated mortar joints. The brick will require repointing and cleaning to restore the weather resistant capabilities of the exterior wall system. Most areas requiring masonry repair are located near the top of the building.

Building windows are a mixture of fixed, double-hung and sliding units with double insulated glazing in insulated frames. Windows units appear to generally be approximately 25 years old and are in good condition.

The main entry door is a wood door with a full glazed panel. Egress doors from the basement at the front and back of the building are solid core steel doors in steel frames. Doors are generally in good condition.

2. Roof

The roofing system is a built-up bitumen roof system with aluminum colored coating over the top. The roofing is cracked and pitted and the roof has a history of leaks, which have been repaired. There is a terrace roof on the fifth level of the building at the front of the building that has a rubber membrane roofing system with an elevated metal catwalk grating to provide access to the roof deck above the main roof. This fifth level terrace has had leakage problems over the past year, which have been corrected after unplugging of the roof drain. There is also a terrace roof at the fourth level over the front bay window was fully replaced with a rubber membrane roof in August 2005.

3. Interior

The interior walls and ceilings on the upper five levels of the Theta Chi Fraternity building are plaster on wood lathe, with some exposed brick masonry walls in isolated locations. Basement walls are exposed brick masonry with some sheet paneling and drywall partitions. Basement ceilings are vaulted brick masonry. Floors are typically hardwood and carpet on the upper floors and ceramic tile at the basement level, except for the mechanical area, which is concrete. Floors in the upper floor bathrooms and the dishwashing area off the dining room are also finished with ceramic tile. The kitchen floor was recently installed and is in good condition. Shower enclosures in the bathrooms are typically finished with 4"x4" ceramic tile.

There are three chimneys at the east wall of the building that formerly served fireplaces on each floor (front, midway and back). None of the fireplaces are currently operational. Fireplaces on the first and second floors have intricate trim surrounds with extended wainscot trim extending out along the walls of the dining room, library and first and second floor stair halls.

The main stair is an open formal stair with carved hardwood rails and balustrades and solid wood wainscot panels from the entry level up to the third floor.

C. STRUCTURAL

1. Foundations

There was no evidence of major settlement that would indicate structural deficiencies in the performance of the foundation system. The foundation system for buildings in this

part of Boston are typically wood piles driven through the fill to bearing layers below. There were no major cracks or deflections noted on the exterior walls or basement level walls and floors that would be an indication of foundation settlement or deterioration.

2. Superstructure

The above grade portion of the building structure consists of wood framed floors and interior walls framing to brick masonry bearing walls on the four sides of the building. The first floor is reported to be framed with wood joists over the vaulted brick arch basement ceiling system with a sand fill. There were no signs of major cracking noted at interior walls or significant misalignment of door jambs or window frames that would indicate settlement, deflection or deterioration of the supporting structure.

There is a rooftop deck constructed of wood joists and beams supporting a wood deck with wood handrails and built-in benches. The roof deck is of relatively new construction and painted. The deck is in good condition.

All structural systems appear to be in good condition, with no evidence of significant deflection, deterioration or damage noted.

As an existing structure, the Theta Chi Fraternity House would be classified under Chapter 34 of the Massachusetts State Building Code for the planned renovation. Based on an anticipated renovation value of less than 50% of the assessed value of the property (when costs for compliance with MAAB and exit enclosures are deducted), the building renovation would be classified as Seismic Hazard Category 1. For Seismic Hazard Category 1, seismic design requirements are limited to non-reduction of structural capacity or structural equivalence replacement of building elements that contribute to the lateral load resistance of the building structure.

D. MECHANICAL/ELECTRICAL

1. Heating, Ventilation and Air-Conditioning

The building is heated by an oil-fired, one-pipe steam radiator system. Several areas in the house have no radiators or the existing radiators have been shut off due to leaking pipes and fittings. The existing system is very old and lacking in any reasonable amount of control. The boiler for the system is located in the depressed mechanical room area in the basement under the main entry corridor. The flue for the boiler traverses the width of the basement level to a chimney along the east party wall of the building with a resultant low clearance (6'-0") at the flue duct over the basement level circulation corridor.

Ventilation is primarily by natural infiltration at windows and doors. There is a kitchen vent hood over the range in the basement kitchen and one bathroom exhaust for the basement level bathroom that vent through the back wall of the building.

Air conditioning for parts of the building by window units. There is no central air conditioning system.

2. Plumbing

A 1” city water service enters the basement on the Beacon Street side of the building. There is no check valve on this service. Domestic hot water is provided by a gas-fired hot water heater and 120 gallon storage tank. Hot and cold water distribution piping is soldered copper tubing. Sanitary pipe risers feed to a main located in the crawl space under the basement floor. Sanitary piping is cast iron hub and spigot with some PVC branches leading to the bathroom. There is blockage in a portion of the sanitary system.

Natural gas is used in the building for domestic hot water and for the kitchen range. The gas meter is located in the basement with shut-offs that are correctly located and accessible. Gas piping in the building is welded steel pipe.

Roofs currently drain to gutters at the main roof and internal roof drains on the fifth level terrace that connect to external downspouts that connect back into the building sanitary piping in the crawl space.

3. Fire Protection and Fire Alarm Systems

The building is fully protected by a wet pipe sprinkler system. The 3” sprinkler service has a tamper-proof alarm tied to fire alarm control panel on a dedicated zone. There is no double check valve on the system. A single fire department connection is provided on the south side of the building adjacent to the basement entrance. Sprinkler piping is 1/2” and 3/4” diameter piping and sprinkler heads are primarily sidewall type.

The house has a multi-zone fire alarm system with a remote monitor and an annunciator that is located at the front entrance. The fire alarm panel can be modified to add features such as elevator recall and power shunt trip. The system includes detectors, pull stations, horn/strobes and the flow and tamper switches for the sprinkler system. Detectors in the sleeping areas are 110 bolt and are not connected to the fire alarm system.

4. Electrical

The building has a 225 amp, 3 phase service that has two 100 amp, 3 phase risers that each supply one half of the building. Local panels are located in stairways and are recessed into walls in the toilet rooms. Some of these panels were made by a manufacturer that is no longer in business and are a safety concern. A rigid conduit riser located in the back stair supplies panels located on the top three floors. Distribution wiring in the house is a mixture of rigid conduit, EMT, BX, Romex, surface raceway and exposed wiring.

IV. PRELIMINARY CODE ANALYSIS

The Theta Chi Fraternity House is a residential building housing 28 students and thus is classified as a dormitory or boarding house facility, which is Use Group R-2 per Section 310.4 of the Massachusetts State Building Code. The building is protected by a sprinkler and fire alarm system. Building construction is exterior brick masonry walls with interior walls and floors of wood frame construction with plaster finished walls and ceilings. Construction classification is Type 3A per Section 6 of the Massachusetts State Building Code.

Given that the Theta Chi Fraternity House is an existing building, the proposed renovation would fall under Chapter 34 of the Massachusetts State Building Code, “Repair, Alteration, Addition and Change of Use of Existing Buildings”. The renovations will not involve a change of use; will not result in an occupancy increase of 25% or greater; and will not have a total cost for alterations (less costs associated with Massachusetts Architectural Access Board Regulations or Americans with Disabilities Act requirements) of more than 50% of the assessed valuation of the building. (Theta Chi should confirm the current assessed valuation, so that threshold limits affected by the renovation cost percentage are verified.) Per Table 3408.1 of the Massachusetts State Building Code, the building falls under Seismic Hazard Category 1, and for purposes of seismic design need only comply with Section 3408.3.5, which requires that no alterations be made to elements or systems that contribute to the lateral load resistance of the building.

The cost of renovations appears likely to exceed 30% of the assessed valuation of the building and thus is above the threshold requiring full compliance with the MAAB and ADA. Some items will require a variance from the Massachusetts Architectural Access Board and are noted in **bold** below. These variances are reviewed based on the submittal of a document package, which should be as complete as possible, since the current procedure conducts the standard review without a personal appearance by the owner and/or architect to explain the details of the variance request.

Based on the above, the following items will need to be incorporated in the design of the renovations to comply with applicable code requirements.

Massachusetts State Building Code Requirements:

1. The two stairwell systems will require compartmentalization to provide separation between these two stairwells. This will require the doors onto the main stair lobby areas to be converted to fire-rated swing doors held open on magnetic releases tied to the fire alarm system. One-hour rated partitions will be required where new partitions are added to provide separation between the two stairwells and between the stair lobby/landing areas and adjacent rooms.
2. The main stairway can remain open as it is currently through the building per Exception 2 of Section 1014.11 of the Massachusetts State Building Code. However, all doors that open onto the stair hall areas will require closers.
3. The existing stairs are acceptable as a means of egress at less than current code required minimum width for new construction per Section 3404.6 of the Massachusetts State Building Code, since the existing width provides adequate capacity for the occupancy anticipated for the floors served. Access to existing exterior fire escapes will need to be maintained to complement the reduced width stairs. **Existing winders on the back stair will need to be allowed through a variance application. Handrails required by**

code are likely to require a variance to allow on one side only, due to the limited width of the existing stair.

4. The existing plaster walls at stairs, landings and lobbies are considered to provide the required rated assembly for one-hour separation and do not require additional modification.
5. Handrails should be added at the main entrance and the steps reconfigured to provide even risers for safety. Step reconfiguration, however, is not mandatory per the code for existing conditions.
6. Doors to sleeping rooms (non-handicap accessible) need to be 32” wide. Most doors in the existing building appear to meet this criterion.

Massachusetts Architectural Access Board/Americans with Disabilities Act (MAAB/ADA) Requirements:

7. Based on the number of occupants in the house, sleeping rooms for two students that comply with the MAAB/ADA requirements will be required. These can be provided on the second floor. Handicap compliance would be required on the basement, first and second floors, since these are the floors with common areas and the handicap designated sleeping rooms.
8. Based on handicap access to the lower three levels per Item 7 above, elevator access would be required for these three floors only.
9. Maintaining a roof deck would require handicap access (elevator) to the roof, since the roof deck is considered a common area.
10. **Handicap access to the building can be provided at the rear entrance, but will require a variance since the primary entrance (main door on Beacon Street) will not comply as the primary entrance. For this variance, a letter will be required from the Massachusetts Historical Commission confirming the building’s status as a partially preserved building.** Signage will need to be provided at the front door to direct handicap persons to the entrance at the back of the building. The back door will need to be shifted outward within the exterior wall to comply with clearance requirements of MAAB/ADA.
11. The parking area at the back of the building will need to be restriped and signed to provide a parking space that complies with MAAB requirements.
12. Kitchen appliances and layout will need to comply with MAAB/ADA requirements, since all house residents use the kitchen.
13. Handicap accessible toilet rooms will be required on the basement, first and second floor levels. A handicap accessible shower will also be required on the second floor level. Bathrooms on the third, fourth and fifth floor levels are not required to comply with MAAB/ADA requirements.
14. Handrail heights on the main stair, including at the landings, will need to be adjusted upward to comply with MAAB 521 CMR Section 27.4, or a waiver will be required to maintain the railings at the existing heights.
15. MAAB/ADA compliant hardware will be required on all doors on the basement, first and second floor levels.

16. One washer and one dryer in the laundry area need to comply with MAAB/ADA.
17. A new bar would need to comply with MAAB/ADA requirements to provide an accessible segment 34" high x 60" long with knee space below.
18. Dining room tables need to provide 5% of the seat positions in compliance with MAAB/ADA.

V. REPAIRS AND RECOMMENDATIONS

(Refer to demolition and architectural plans for further details.)

ITEM

Site/Exterior

1. Remove existing brick pavers at outer entry hall and replace with thin-set non-slip ceramic tile flooring to provide evenly spaced risers at front entry door.
2. Resurface parking area at back of building and restripe parking space markings at back of building to create MAAB and ADA compliant handicap-accessible parking space.
3. Remove existing roof deck, access grating and ladders from 5th level terrace and bitumen roofing system on main roof and 5th floor level front terrace. Install new insulated adhered membrane roof on main roof, 5th floor terrace and back bay window.
4. Replace two existing skylight units with prefabricated insulated skylight (one with operable hatch and pulldown stairs) units with thermal breaks.
5. Replace existing gutters and downspouts (copper) with new copper gutters and downspouts connected to the storm sewer in Beacon Street. (The current roof drain system discharges to the city sanitary system.)
6. Remove existing roof access ladder and hatch and infill frame to provide flat roof surface for replacement roof system.
7. Repoint and clean with muriatic acid wash exterior brick masonry walls at front and back of building. Carry 50% of brick to be repointed above the 2nd floor level – approximately 1000 square feet of brick area (window area excluded). No repointing is anticipated for the basement and 1st floor levels. All masonry to be acid-washed, approximately 2400 square feet of surface area.
8. Provide new wood double doors with glazed upper panels and frame at front door.
9. Relocate rear entry door to outer edge of masonry wall per architectural plan.

Interior

ITEM

10. Install new stair from first floor level to basement level per architectural plans.
11. Install new elevator and shaft from basement level to second floor level per architectural plans.
12. Remove walls and partitions at basement level as indicated on plans. Provide new vinyl bonded wood floor, painted walls and ceiling, new bar and built-in seating per architectural plans.
13. Provide new sinks and countertops in kitchen per architectural plans at basement level.
14. Renovate existing bathrooms at basement, first, third and fourth floor levels per architectural plans. Provide ceramic tile floors and shower enclosures, painted plaster walls and ceilings. New plumbing fixtures, built-in countertops, doors and partitions per plans.
15. Add new bathrooms on second and fifth floor levels per architectural plans. Provide ceramic tile floors and shower enclosures, painted plaster walls and ceilings. Built-in countertops, doors and partitions per plans.
16. Renovate food service area on first floor level off of dining room per first floor architectural plan.
17. Remove existing pocket doors, miscellaneous doors and partitions on first and second levels per demolition plans. Add partitions and magnetic release rated fire doors at first and second floor levels off of central stair area per architectural plans.
18. Remove doors and partitions on third, fourth and fifth levels per demolition plans. Install partitions and doors at 3rd through 5th levels per architectural plans.
19. Skim coat plaster existing walls and ceilings on 1st through 5th floor levels. Paint all walls and ceilings.
20. Provide new carpet in sleep and study areas on 2nd through 5th floors.

Mechanical/
Electrical/
Plumbing

21. Replace existing steam heat boiler and distribution piping system with new high efficiency gas-fired hot water boiler, new piping and baseboard radiators. The combustion air line and flues to the boiler

ITEM

- would be 3” PVC piping run up in the existing flue. Individual room controls shall be provided in each front and back room.
22. Remove and dispose of existing fuel oil storage tank and boiler.
23. Install new bathroom exhaust ventilation in each bathroom (six total). Bathroom exhausts will vent to exterior through back wall of building.
24. Install a make-up air system to provide fresh air that is preheated by the boiler exhaust prior to distribution through the building.
25. Replace and reconfigure as required existing ½” and ¾” branch piping for sprinkler system on all floors. Replace all existing sprinkler heads with fast-acting residential type heads. (80 total)
26. Move electrical service panels to closet as shown on the architectural plans.
27. Replace existing floor electrical panels with new panels located outside of the stairs and toilet rooms (five total).
28. Provide lighting fixtures for common areas based on the following schedule:
Basement Level Kitchen/Laundry/Back Corridor – 8 surface-mounted acrylic lens fixtures.
Basement Level Bar/Pool Table Area – 8 wall sconces, 8 surface-mounted canister downlights.
Elevator Landing Levels (3) – 6 total (2 each landing) recessed canister downlights.
First Floor Common Areas – 12 wall sconces, 12 recessed canister downlights, 2 surface-mounted acrylic lens fixtures (food service), 2 chandelier fixtures in dining room.
Second Floor Library and Stairway Common Area – 10 wall sconces, 16 surface-mounted canister downlights.

Note: None of the items above appear to present safety hazards in their current condition.

VI. CONSTRUCTION COST EVALUATION

A. ESTIMATED CONSTRUCTION COST

Estimated construction cost from Marc Truant Associates for the above scope of work plus the proposed renovations is \$2.31 million dollars. A detailed listing of the construction cost estimate is contained in Appendix B. This estimate does not include “soft” costs for architect and engineer design fees, fund raising, furnishings, and interest during construction or scope of work project contingencies.

B. RECOMMENDED CONSTRUCTION PHASING

Construction phasing is driven by the need to minimize disruption to the house during the academic year. All major construction work thus needs to be scheduled to be done during the summer months during the summer break between MIT’s academic years. Two scenarios were evaluated by Linea 5 and Marc Truant Associates, one that would plan to phase the construction work over two summer periods (2006 and 2007) and the second approach that would schedule all on-site work for the summer of 2007. Critical to the success of either option is the concerted effort to order materials, obtain permits and complete as much “up-front” effort as possible prior to the actual on-site construction so that there are no delays to the construction schedule due to factors outside of the actual construction site.

Phasing the work over two summers would provide the potential for gaining calendar time on items that would compress other trades due to sequential dependencies (e.g. heating system piping needs to be installed prior to finishing plaster walls and installing new partitions). However, this approach would require either temporary finishing of some areas or leaving the house in an interim state of construction for the 2006/07 academic year. Three major scopes of work were considered for summer 2006 early phase work.

1. Replacement of the existing steam heat system with a hot water heating system.
2. Installation of the elevator.
3. Replacement of the building roof.

Replacement of the existing heating system was considered to offer the most schedule advantages, since much of this work would need to be done before finished wall systems work could be completed. However, installation of the heating system would also leave either a large amount of unfinished wall and floor penetrations (or carry the added cost of temporary finishing of these penetration areas) that would be there during the 2006/07 academic year.

Elevator installation was not considered feasible, due to the limited time available prior to May 2006 to order the elevator and the major disruption to the floor layout that would require either unfinished or temporarily finished conditions in the house between the two summers of construction. However, construction of the elevator pit in the first summer is feasible, with minimal provision of temporary finishes required between summers to allow use of surrounding areas through the 2006/07 academic year. Advance

construction of the elevator pit would save 3 to 4 weeks of critical path construction time on the schedule for the summer 2007 phase of the project.

Replacement of the roof in summer 2006 is feasible, but would gain no overall schedule advantage, since this activity does not impact any other aspect of construction.

With regard to any early phase work, Marc Truant Associates notes that general conditions costs for the additional months of activity are likely to exceed the premium time costs (estimated at \$100,000) required to accomplish the full scope of work in one summer. For a single summer construction phase the critical path activity is the construction of the elevator and elevator shaft. The recommendation from Marc Truant Associates is that if basement level demolition and excavation for the elevator pit could start a month in advance of the summer break, the necessary additional schedule duration would be gained that allows the total project to be completed in a single summer season. This activity would be limited to the basement level of the house and would affect areas of the kitchen (specifically the storage room), which would need to be cleared out and made available as a construction area.

C. RECOMMENDED RENOVATION SCHEDULE

Based on construction limited to the summer months, the following schedule is anticipated with major milestones as noted:

January 26, 2005	Presentation of Feasibility Report to full Theta Chi community with vision, project scope, phasing, costs, etc.
February 2006	Theta Chi Building Committee approves initial steps and plans.
February 2006	Theta Chi Alumni Corporation develops full fundraising campaign materials.
February 2006	Select architect/engineering team to prepare permit and construction plans for renovations.
March 1, 2006	Issue design development set of construction documents to minimum two contractors for bid.
April 2006	Select contractor for renovations.
May 2006	Issue permit and construction set for summer 2006 construction.
June 2006	Prepare and submit waiver request package(s) for ADA and building code waivers.
Summer 2006 (5/15 – 8/15)	Phase I construction.
January 2007	Contractor prepares submittals for long lead items (elevator).
Summer 2007 (5/15 – 8/15)	Phase II construction.

VII. QUALIFICATIONS AND LIMITATIONS

The opinions and recommendations made in this report have been rendered using our professional judgment after our observation, interviews with key personnel and an evaluation of the information obtained from available documents. The operating or testing of equipment that was not observed to be functioning or visible during our visit is beyond the scope of work and was not performed.

This report reflects conditions as observed on the date of our observation and does not consider any changes in building, zoning or environmental codes, which may have subsequently affected the property.

We were not retained to examine the property for asbestos, toxic or hazardous materials, pollutants or insect infestations. We claim no expertise in these areas and assume no liability for the work, opinions or reports of any other independent consulting firm engaged to do so.

This report is intended for the use of Theta Chi Fraternity in Boston.

VIII. APPENDICES

- A. Photographs
- B. Preliminary Construction Budget Cost Estimate
- C. Proposed Architectural Renovation Plans
- D. Renderings of Building Front Elevation and New Basement Room