HARVARD UNIVERSITY
Faculty of Arts and Sciences

Facility Condition Assessment Program

51 Brattle Street Report

December 2008

ARAMARK Education
Facility Services

Table of Contents

ARAMARK Education
Facility Services

I. PROGRAM APPROACH AND METHODOLOGY

The Facilities Condition Assessment employed by ARAMARK Education is based upon the successful completion of similar facilities assessments for higher education institutions. While there is a consistent approach to the Assessment, the process is flexible to address the unique requirements of Harvard. Included in the Assessment are the following elements: facilities inspection, observation classification, summary of findings, University participation, reporting, and fire suppression and accessibility details. Final reports both summarizing and detailing findings were delivered to individual Schools and the University along with an electronic version of the data.

1. Facilities Inspection

The buildings identified by the University have been inspected. Teams of Operations professionals have been organized by technical discipline to ensure all buildings, components, and systems have been evaluated. Component evaluation is organized in detail according to a technical classification of system and subsystem as requested. The standard systems and subsystems used in the Assessment are as follows:

- Exterior envelop - roofs, walls, foundation, window systems, and doors
- Interior envelop - walls, doors, flooring, and visible structural components
- Electrical systems – circuitry, distribution, lighting, fire safety
- Mechanical systems – compressors, elevators, pumps
- Heating and Cooling – heating and air conditioning systems
- Ventilation – air handlers, exhaust fans, variable air volume boxes
- Plumbing – domestic hot and cold water, fire protection, sanitary sewer
- Grounds – roads and paths, outdoor furniture, plant materials
- Life Safety and Accessibility – safety and regulatory compliance

2. Development of Observations, Categorization, and Prioritization

A detailed inventory has been developed on the basis of the physical inspection, interviews, and review of pre-existing reports. Each item in the total inventory is characterized with a cost estimate for corrective action or replacement, along with

categorization and priority. Items are classified by institutional mission, budget program, implementation strategy and sustainability categorization.

Items are separated into the following priorities:

- 1a – Currently Critical – correct a cited safety hazard
- 1b – Currently Critical – return a system to operation
- 1c – Currently Critical – stop accelerated deterioration
- 2a – Potentially Critical in a year – life safety exposure
- 2b - Potentially Critical in a year – intermittent operations
- 2c - Potentially Critical in a year – rapid deterioration
- 3a – Necessary but Not Yet Critical – will require attention within the next 3 years
- 3b – Necessary but Not Yet Critical – will require attention within the next 10 years
- 4a – Recommended – Time-sensitive issue
- 4b – Recommended – Non-time-sensitive issue (modernization)
- U – Undefined Timeline

Institutional mission categorization is as follows:

- A - Support University program
- B - Student life quality
- C - Public interface
- D - Asset preservation
- E – Safety, Security and Regulatory
- F - Cost containment
- G – Accessibility
- H - Sustainability

Observation Category classification includes the following:

- 1 - Deferred

- Includes expenditures that were not undertaken to keep the facilities in reliable operating condition for its present use. These expenditures are beyond normal maintenance for items with a life cycle in excess of one year and are not normally contained in an annual facility operating budget. Also includes "deferred maintenance," which exists when a system, component, fixture, or piece of equipment is nonfunctional or operates at less than optimal levels. The equipment may require

minor maintenance, extensive repair or selective replacement of components. Deferred Maintenance consists of maintenance projects that were not included in the operating or plant renewal budgeting processes because of a perceived lower priority status than those funded with available resources. Finally, this category includes any issues related to safety or compliance to municipal, state, and federal codes and regulations

- 2 - Current/Future

- Includes expenditures that should be undertaken within the next 10 years to keep the facilities in reliable operating condition for its present use. Planned life-cycle renewal programs replace or renovate building systems on a schedule based on an assessment of expected remaining useful life. Also includes activities that normally fall within the daily operational activities of the campus. These items are typically funded out of operational maintenance budgets.

- 3 - Modernization

- Used when major building systems and components should be upgraded to like new modern condition, as appropriate to support current educational programs and/or organizational needs. Modernization needs are typically not included in a facility condition assessment but rather would be part of an overall campus modernization program. However, observations on the Harvard campus relating to public interface, marketability of space, and environmental sustainability have also been included in this category.

Implementation Strategy categories follow:

- A - Implement as a stand alone project – operations initiative
- B - Implement as a stand alone project – CAPS project (>$100,000)
- C - Address as part of a larger space renovation – operations initiative
- D - Address as part of a larger space renovation – CAPS project (>$100,000)

Sustainability categories include:

- EA - Protect Energy & Atmosphere
- EQ - Improve Indoor Environmental Quality
- MR - Effective Use of Materials and Resources
- NA - Not Applicable
- SS - Promote a Sustainable Site
- WE - Improve Water Efficiency

All of the above categories exist within the standard menu of the OPTIMA database, and can easily be modified for any additions, deletions, or changes.

Cost estimates for identified projects were developed using latest published cost estimating data from RS Means, collective operations experience, local pricing knowledge from recent University projects and facilities managers, and aggravating/mitigating circumstances accompanying the individual projects.

3. Summary of Findings

An important part of the analysis is a summary of the findings. Individual projects were summarized by system and priority. Senior administration at the Schools and University can use these summaries for long-term planning, prioritization and resource allocation decisions. Additional reporting exists or can be created as needed using the OPTIMA software. As an example, projects can be summarized by budget program or implementation strategy.

Three graphical exhibits summarizing observations according to categories such as implementation strategy and institutional mission are included in the report. The first exhibit includes all observations and the second includes those observations that fall into the Deferred and Current/Future observation categories. The third exhibit only includes observations that are considered to be in the Deferred category.

4. University Participation

University facilities personnel have actively participated in the inspection phase and their perspective has provided substantial value to the overall assessment. Although the ultimate responsibility for inspection remains with ARAMARK, University staff has contributed their valuable institutional knowledge and understands the Facility Condition Assessment inspection methodology. Their enthusiasm has contributed greatly to the process.

5. Fire Suppression and Accessibility

An integral part of the Assessment is the review of building conditions as they relate to fire safety systems, emergency egress, and accessibility.

With life safety systems and accessibility, two factors drive upgrades to aging buildings: building codes and overall investment in a building as it relates to the

building's replacement value. Changes in federal, state, and local ordinances will inevitably affect current structures. As re-investment in building infrastructure occurs, "grandfathered" systems do not need to be addressed until renovation investment reaches 30% of the overall replacement value of the building. This financial threshold is often the lynchpin to a total building renovation of every system as the cost of a complete renovation is comparable to grandfathered system renewal.

As part of the Assessment, grandfathered systems are identified but not given a specific priority for renewal (rated priority U for unidentified timeline). The prioritization will become relevant once building renovation thresholds are reached or legislation changes. Once these projects are identified, the University and individual schools can manage their future prioritization.

As is the case at many institutions, Harvard has its share of old spaces. In particular, dormitories and other living spaces are 50 years old, or older, on average with a few exceptions. Unless the dormitories are new or have had complete renovations done on them in the last 15 years, these spaces are not equipped with fire sprinklers. Buildings in this group are grandfathered under current state regulations. Installation of sprinklers represents significant cost and may be a trigger to larger scope renewal projects. Sprinkler projects will be identified, given cost estimates, and prioritized as "U". The same will hold true for accessibility.

Harvard University

Faculty of Arts and Sciences

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51 Brattle Street

Executive Summary

Background

Our inspection of 51 Brattle Street was started and completed on Wednesday, September 24, 2008. The building is an office space that consists of 46,245 gross square feet of space. It was constructed in 1902. There were no priority facility needs for investigation noted at the time of the inspection. The Building Manager is Patrick Shea.

Overall Condition Assessment Results

The total dollar costs of the issues related to our observations of the conditions at 51 Brattle Street are:

Priority	**Total $K**
Priority 1	$49
Priority 2	$80
Priority 3	$358
Total	**$487**
Priority 4	$0
Priority U	$9

Summary of Priority Results

Our inspection identified three (3) Critical Observations estimated at $48,754, seven (7) Potentially Critical Observations totaling about $79,916, eight (8) Necessary But Not Yet Critical Observations totaling $358,253 and one (1) observation totaling $9,264 that was identified and labeled Undefined Timeline as not meeting current codes/standards, i.e. grandfathered under older, pre-existing codes or typically being addressed as part of a space / building renovation. All observations identified for this building total $496,187.

Condition Assessment Results by Priority

Priority 1
Observations, totaling $48,754, include installing additional LED type exit signs in all required areas that currently do not have them and replacing all the aged units. Other observations for this priority include replacing all the old and non-functioning emergency lighting units.

Priority 2
Observations, totaling $79,916, include inspecting the fire escape to certify that all connections to the masonry will hold the number of people required in the event of an evacuation and repainting it with a steel primer and two coats of high quality enamel. Other observations for this priority include installing new elevator controls to the existing elevator.

Priority 3
Observations, totaling $358,253, include replacing the existing aged hot water boilers before they fail in service with new premium efficiency condensing hot water boilers with efficiencies above 95%, of the type that has been recently installed at many other Harvard locations. Other observations for this priority include upgrading the fire alarm system to protect a building of this age and its occupants that is much more reliable and easier to repair and maintain, installing a new fire alarm control panel, devices, wiring and a communicator modem, providing an auto dialer via a phone line to the Harvard central system and upgrading the wiring to accommodate the new devices.

Priority U
Observations, totaling $9,264, include redirecting the service feeders that feed another building from being located inside this building to prevent a code violation.

Condition Assessment Results Summary by System

Cooling
Observations, totaling $5,626, include installing a dedicated ductless split unit to cool the server room.

Electrical
Observations, totaling $267,936, include upgrading the fire alarm system to protect a building of this age and its occupants that is much more reliable and easier to repair and maintain, installing a new fire alarm control panel, devices, wiring and a communicator modem, providing an auto dialer via a phone line to the Harvard central system. Other observations for this system include installing new elevator controls to the existing elevator.

Exterior Shell
Observations, totaling $115,654, include replacing the existing roof within the next ten years. Other observations for this system include brick re-pointing and inspections as required.

Condition Assessment Results Summary by System *(Continued)*

Heating
Observations, totaling $90,012, include replacing the existing aged hot water boilers before they fail in service with new premium efficiency condensing hot water boilers with efficiencies above 95%, of the type that has been recently installed at many other Harvard locations.

Life Safety
Observations, totaling $10,207, include installing additional LED type exit signs in all required areas that currently do not have them and replacing all the aged units.

Plumbing
Observations, totaling $6,751, include labeling and color coding the gas piping in the building per OSHA. Other observations for this system include directing the local utility to relocate the indoor gas meter to an area outdoors to eliminate the hazard from an indoor leak.

Condition Assessment Results Summary by Category

Institutional Mission
The observation breakdown by Institutional Mission reveals that the majority of the identified capital requirement is designated to "Asset Preservation," followed by observations pertaining to "Safety, Security and Regulatory." The "Cost Containment" and "Support University Program" categories encompass the remaining observations.

Observation Category
The Observation Category breakdown shows the majority of observations in the "Modernization" category followed by "Deferred." The remaining observations are found in "Current/Future."

Implementation Strategy
A look at the observations by Implementation Strategy shows the majority of observations in "Address as part of a larger space renovation – CAPS (>$100,000)" followed by "Implement as a stand alone project – operations initiative." The remaining observations are found in "Implement as a stand alone CAPS project (>$100,000)" and "Undefined Implementation Strategy."

ARAMARK Inspection Team
Architectural – Dick Elliott
Electrical – Frank Quigley
Mechanical – Jim Lockaby

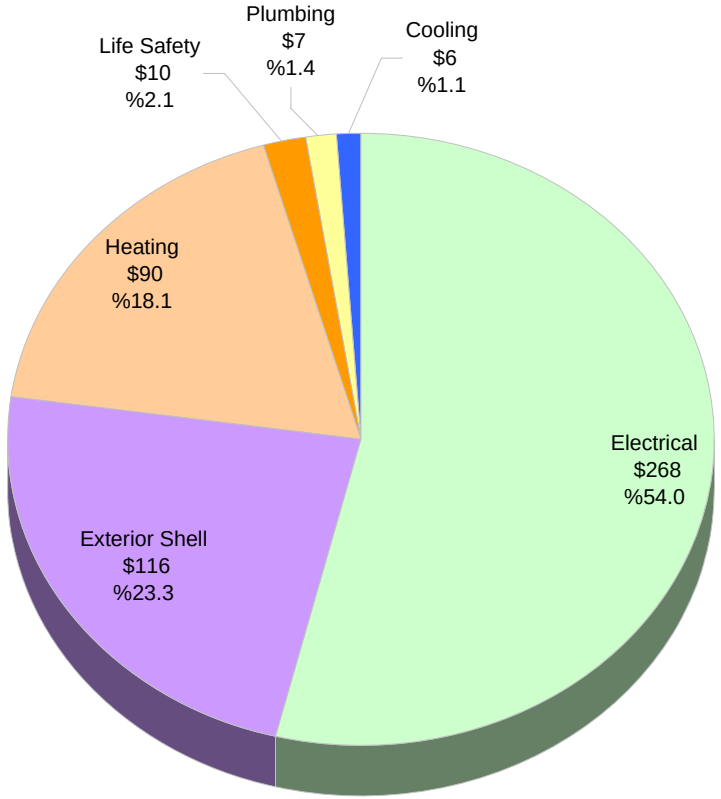
Harvard Representation
Building Manager – Patrick Shea

Summary of All Identified Observations

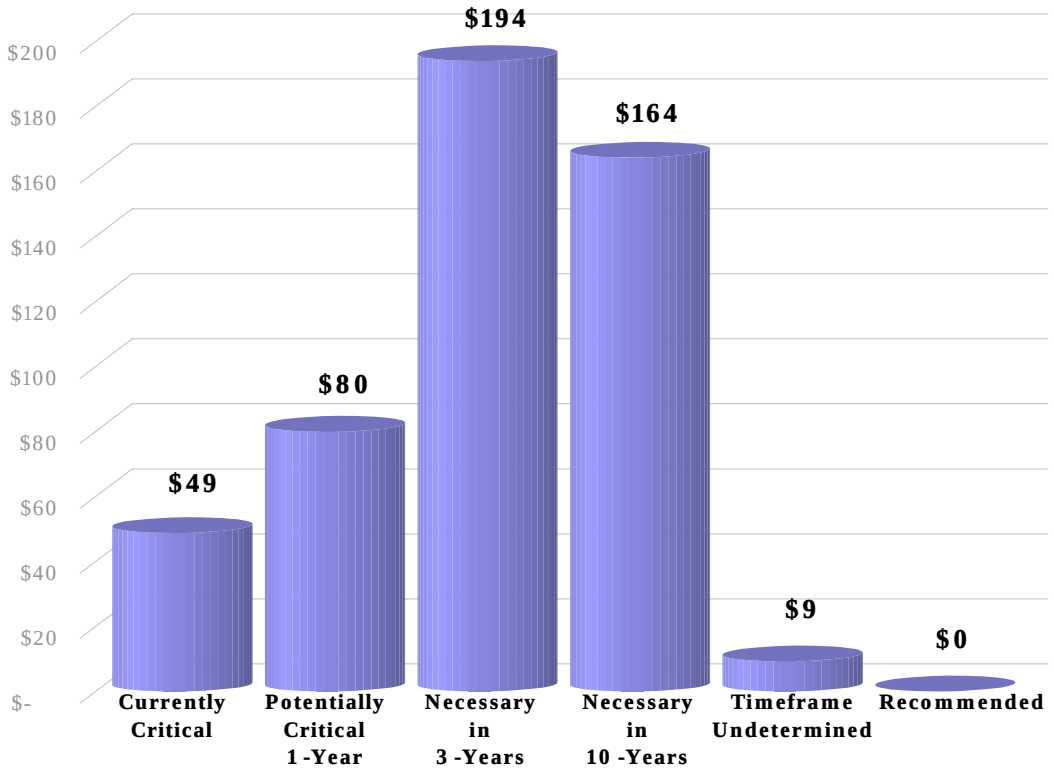
FACULTY OF ARTS AND SCIENCES
51 BRATTLE STREET (inspected in FY 2008/09)

Summary of Identified Observations *
(in thousands of dollars)

Observation Summary by Building System**



Observation Summary by Priority**



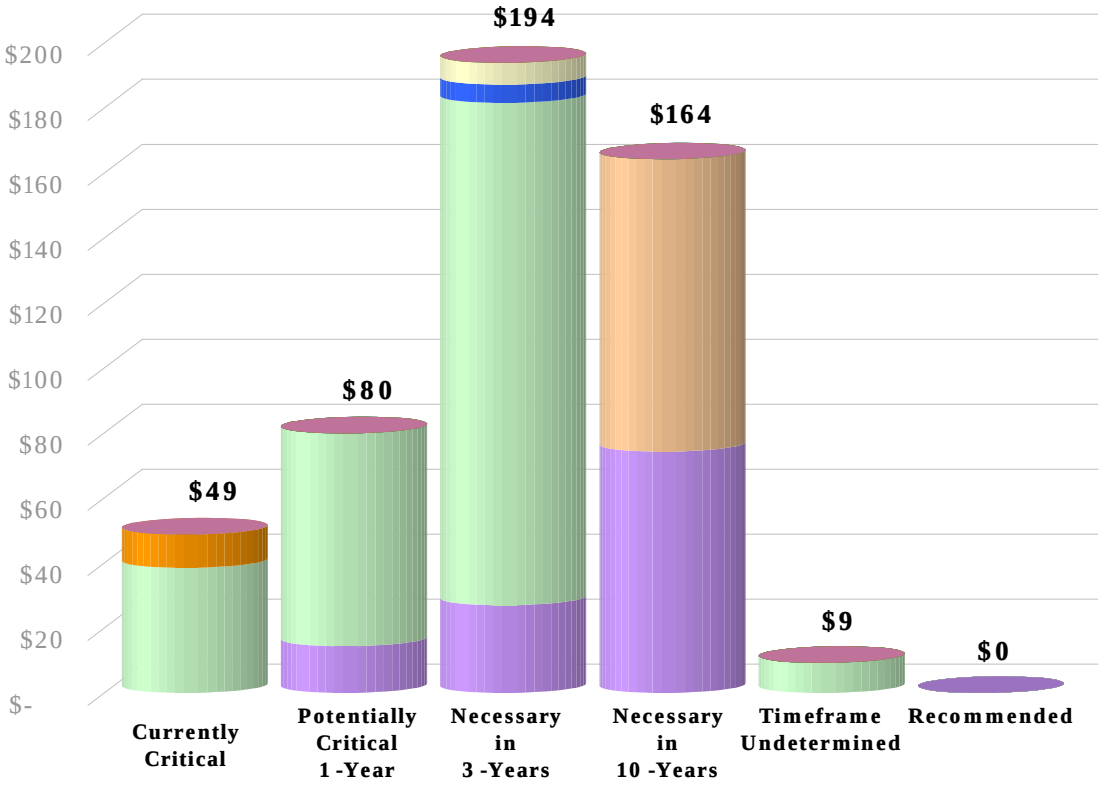
Estimated Total: $496.19
$11 per GSF

*All costs represented in constant 2005 dollars
** Includes ***all*** observations

FACULTY OF ARTS AND SCIENCES
51 BRATTLE STREET (inspected in FY 2008/09)

Summary of Identified Observations *
(in thousands of dollars)

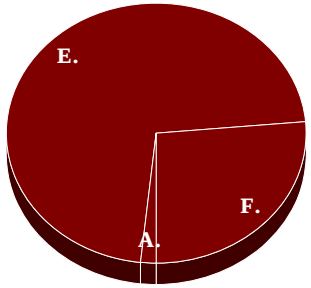
*Building System***



Accessibility	$-	Heating	$90
Life Safety	$10	Mechanical	$-
Grounds	$-	Electrical	$268
Plumbing	$7	Interior	$-
Ventilation	$-	Exterior Shell	$116
Cooling	$6		
		Total:	**$496**

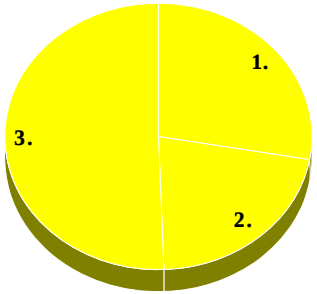
*All costs represented in constant 2005 dollars
** Includes ***all*** observations

*Institutional Mission***



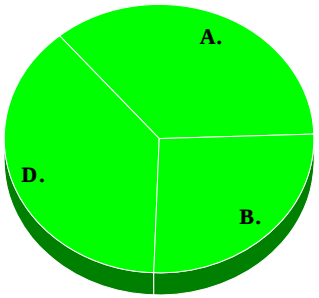
A. Support University Program
B. Student Life Quality
C. Public Interface (Neighbors)
D. Safety or Regulatory
E. Asset Preservation
F. Cost Containment
G. Accessibility
H. Sustainability

*Observation Category***



1. Deferred
2. Current/Future
3. Modernization

*Implementation Strategy***



A. Implement as a stand-alone project - operations initiative
B. Implement as a stand-alone CAPS project > $100,000
C. Address as part of a larger space renovation-operations initiative
D. Address as part of a larger space renovation- CAPS > $100,000

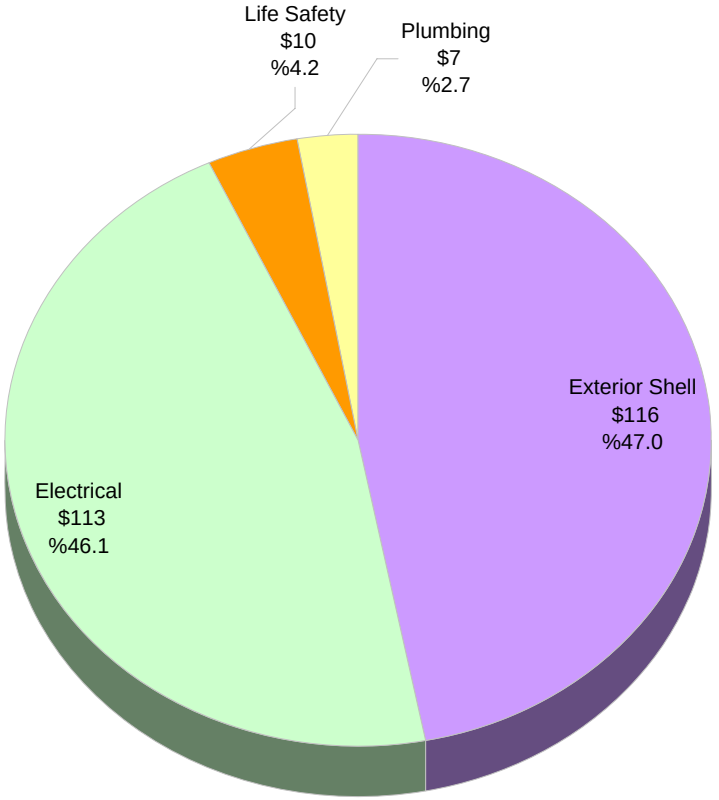
Summary of Deferred Maintenance and Current/Future Observations

FACULTY OF ARTS AND SCIENCES

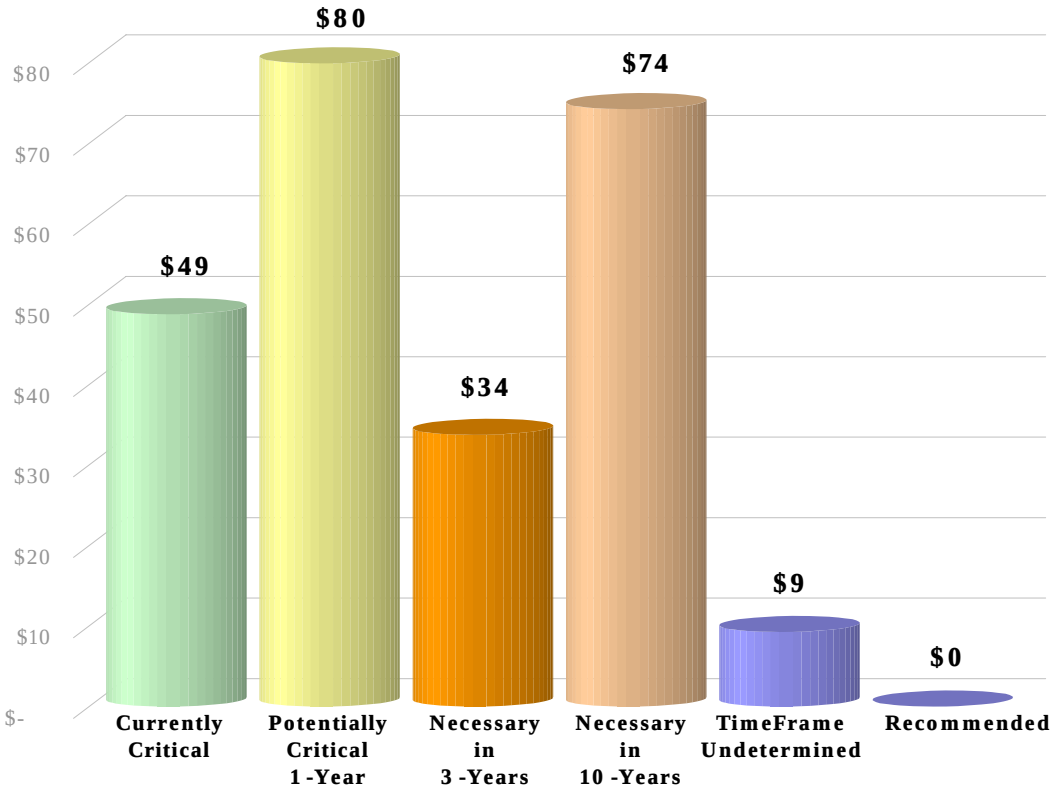
51 BRATTLE STREET (inspected in FY 2008/09)

Summary of Deferred & Current/Future Observations *
(in thousands of dollars)

Summary of Need by Building System**



Summary of Need by Priority**



Estimated Total: $245.94
$5 per GSF

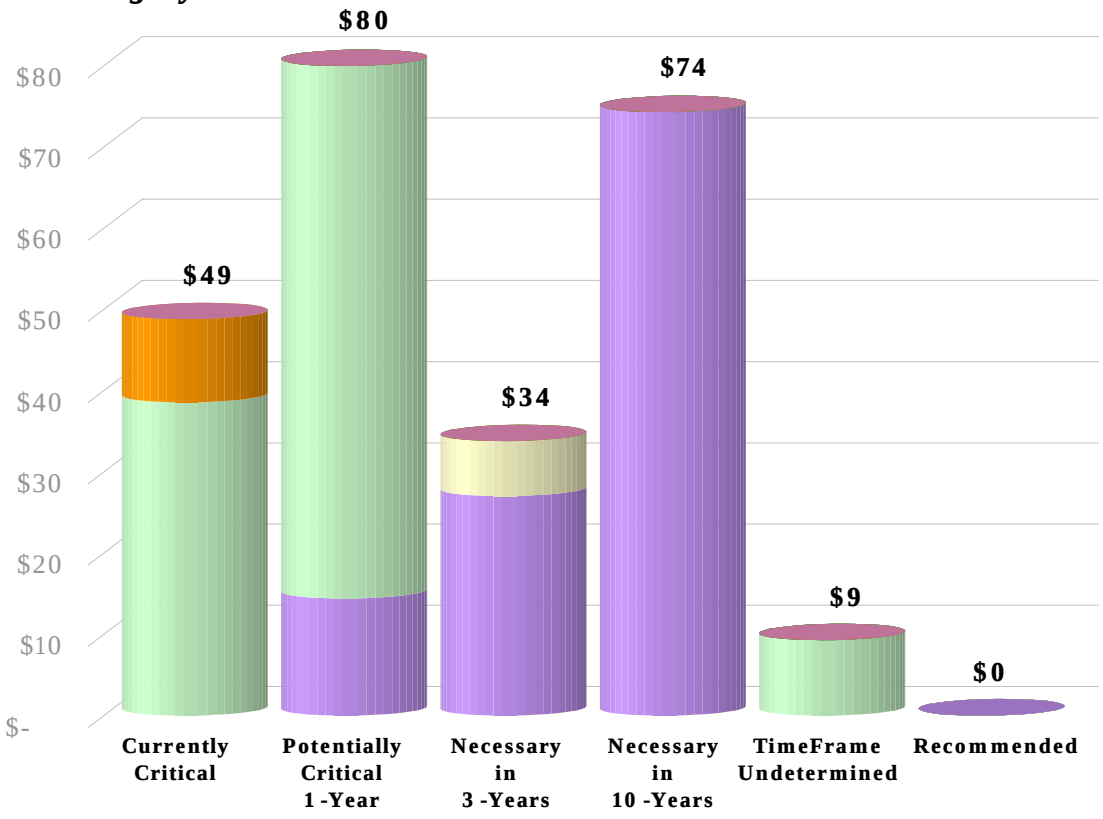
*All costs represented in constant 2005 dollars
** Includes Deferred and Current/Future observations only.

FACULTY OF ARTS AND SCIENCES

51 BRATTLE STREET (inspected in FY 2008/09)

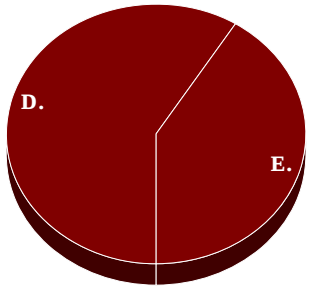
Summary of Deferred & Current/Future Observations * (in thousands of dollars)

*Building System***



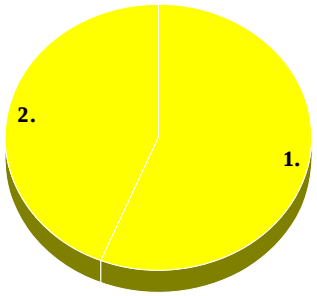
Accessibility	$-	Heating	$-
Life Safety	$10	Mechanical	$-
Grounds	$-	Electrical	$113
Plumbing	$7	Interior	$-
Ventilation	$-	Exterior Shell	$116
Cooling	$-		
		Total:	**$246**

*Institutional Mission***



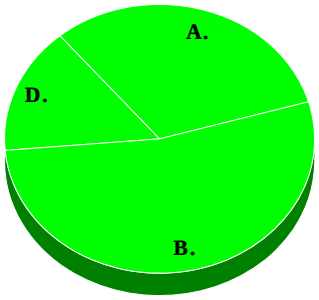
A. Support University Program
B. Student Life Quality
C. Public Interface (Neighbors)
D. Safety or Regulatory
E. Asset Preservation
F. Cost Containment
G. Accessibility
H. Sustainability

*Observation Category***



1. Deferred
2. Current/Future
3. Modernization

*Implementation Strategy***



A. Implement as a stand-alone project - operations initiative
B. Implement as a stand-alone CAPS project > $100,000
C. Address as part of a larger space renovation-operations initiative
D. Address as part of a larger space renovation- CAPS > $100,000

All costs represented in constant 2005 dollars
*** Includes Deferred and Current/Future observations only.*

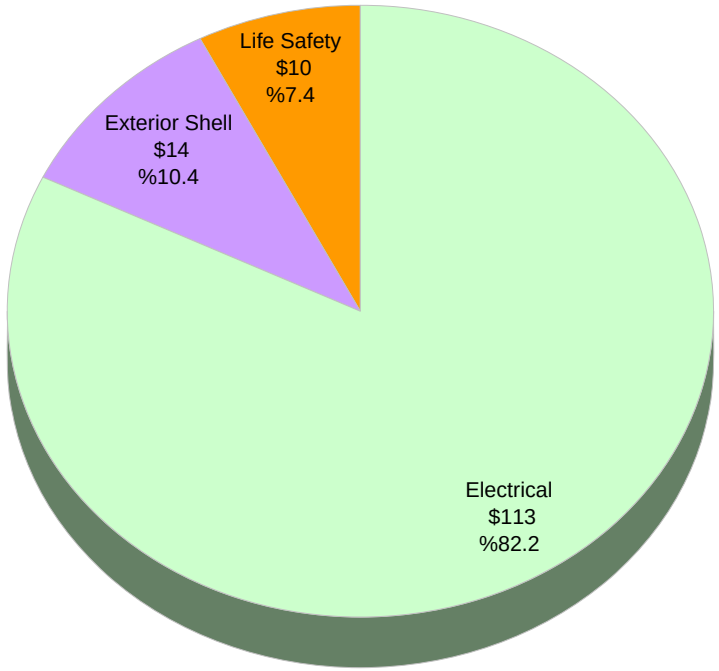
Summary of Deferred Maintenance

FACULTY OF ARTS AND SCIENCES

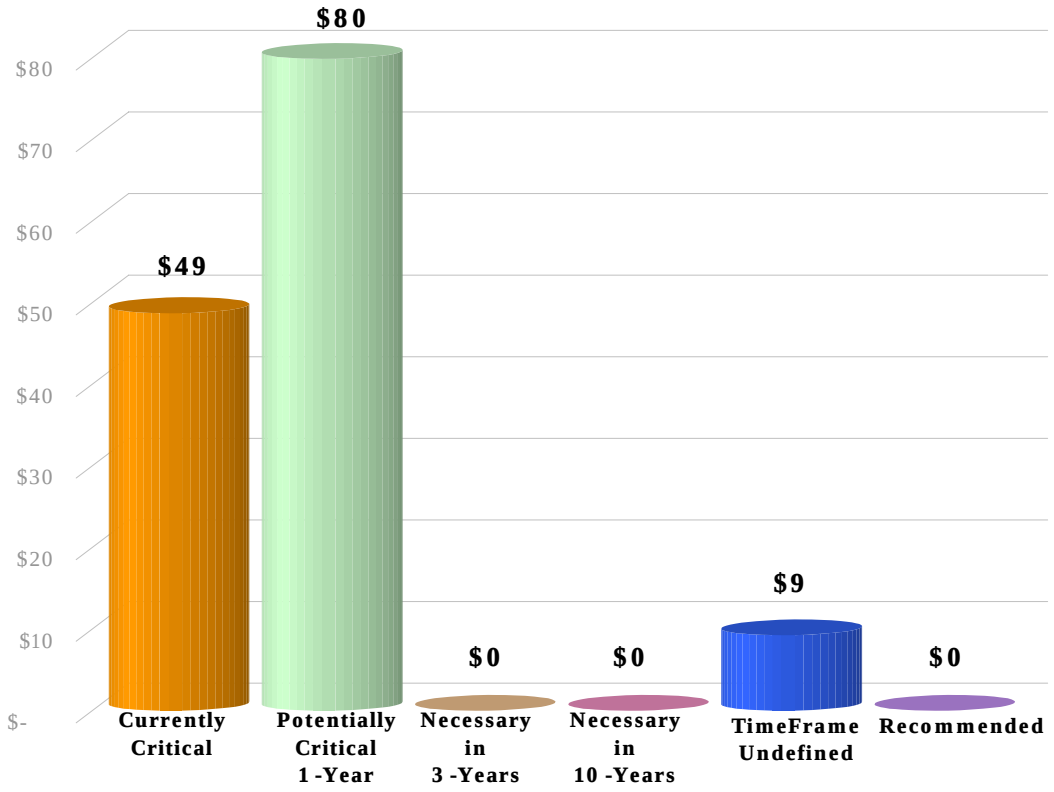
51 BRATTLE STREET (inspected in FY 2008/09)

Summary of Deferred Observations *
(in thousands of dollars)

Summary of Need by Building System**



Summary of Need by Priority**



Estimated Total: $137.93
$3 per GSF

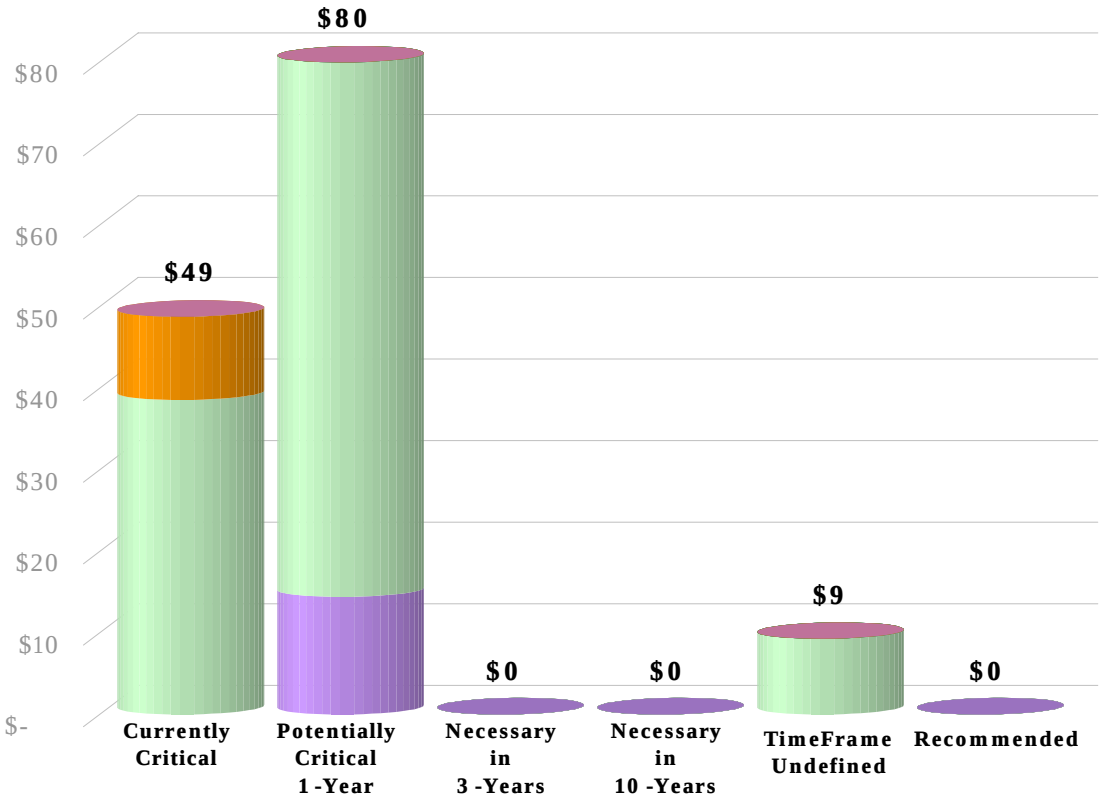
*All costs represented in constant 2005 dollars
** Includes Deferred observations only.

FACULTY OF ARTS AND SCIENCES

51 BRATTLE STREET (inspected in FY 2008/09)

Summary of Deferred Observations *
(in thousands of dollars)

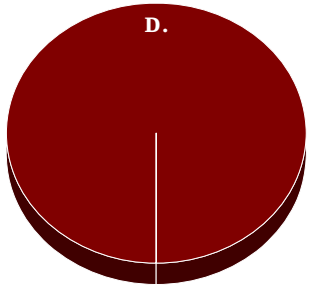
*Building System***



Accessibility	$-	Heating	$-
Life Safety	$10	Mechanical	$-
Grounds	$-	Electrical	$113
Plumbing	$-	Interior	$-
Ventilation	$-	Exterior Shell	$14
Cooling	$-		
		Total:	**$138**

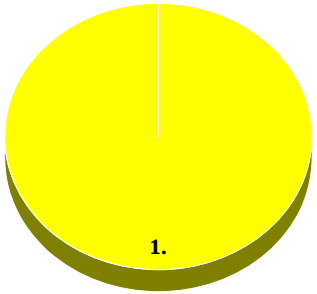
All costs represented in constant 2005 dollars
** Includes Deferred observations only.*

*Institutional Mission***



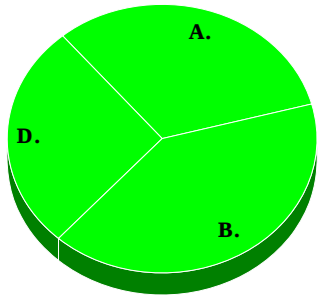
A. Support University Program
B. Student Life Quality
C. Public Interface (Neighbors)
D. Safety or Regulatory
E. Asset Preservation
F. Cost Containment
G. Accessibility
H. Sustainability

*Observation Category***



1. Deferred
2. Current/Future
3. Modernization

*Implementation Strategy***



A. Implement as a stand-alone project - operations initiative
B. Implement as a stand-alone CAPS project > $100,000
C. Address as part of a larger space renovation-operations initiative
D. Address as part of a larger space renovation- CAPS > $100,000

Address: **51 Brattle St.**
GSF: **46,245 sf**
Description: **Multi story masonry**

Construction Date: **1902**
Building Additions:
Major Renovations:

Contact Person
Name: **Patrick Shea**
Phone: **617-998-8440 (office)**
Email: shea@hudce.harvard.edu

Programs Supported

Age of Electrical Systems:
Age of Exterior:
Age of Mechanical Systems:
Age of Heating Systems:
Age of Cooling Systems:
Age of Ventilation Systems:
Age of Plumbing Systems:
Age of Ground Systems:
Age of Life Safety Systems:
Age of Accessibility Systems:

Building Documentation Available

	Yes	*No*	*Location/Contact/Content*
General Floor Plans with Room #'s		X	
Design Drawings		X	
Narrative Systems Descriptions/Overview		X	
Equipment Inventory		X	
ADA Survey		X	
Energy Data Reports		X	
Life Safety Survey		X	
Hazardous Material Survey		X	
Other Relevant and Recent Studies : _____			

Facility Strengths:

Recent Facility Improvements:

Planned Facility Projects or Modernization:

Priority Facility Needs for Investigation:

Observations by Priority

Harvard University

Facility Condition Assessment

Observations Sorted by Asset and Priority

Current Observations, Asset ID

Asset: 51 BRATTLE STREET

Priority

- 1a Currently Critical - correct a cited safety hazard
- 1b Currently Critical - return a system to operation
- 1c Currently Critical - stop accelerated deterioration
- 2a Potentially Critical in a year - life safety exposure
- 2b Potentially Critical in a year - intermittent operations
- 2c Potentially Critical in a year - rapid deterioration
- 3a Necessary but Not Yet Critical - will require attention within the next 3 years
- 3b Necessary but Not Yet Critical - will require attention within the next 10 years
- 4a Recommended - Time-sensitive issue
- 4b Recommended - Non-time-sensitive issue (modernization)

Institutional Mission

- A Support University Program
- B Student Life Quality
- C Public Interface (Neighbors)
- D Safety,Security & Regulatory
- E Asset Preservation
- F Cost Containment
- G Accessibility
- H Sustainability

Observation Category

- 1 Deferred
- 2 Current/Future
- 3 Modernization

Implementation Strategy

- A Implement as a stand alone project - operations initiative
- B Implement as a stand alone CAPS project (>$100,000)
- C Address as part of a larger space renovation - operations initiative
- D Address as part of a larger space renovation - CAPS(>$100,000)

Sustainability Category

- EA Protect Energy & Atmosphere
- EQ Improve Indoor Environmental Quality
- MR Effective Use of Materials and Resources
- NA Not Applicable
- SS Promote a Sustainable Site
- WE Improve Water Efficiency

Project Number	Floor	Location	System	Sub-System	Sub-Sub System	Observation	Correction	Unit	Measure	Total $(000)	Priority	Scheduled Year	Inst. Miss.	Obs. Cat.	Imp. Strat.	Sust. Cat.
fq-01098	B	Electrical Panel Basement	ELECTRICAL	Distribution	Panel Board	There is storage located in front of the electrical panels in the building and this could effect a someone trying to gain access to the panelboards and it should be removed.	Remove stored materials blocking the panels and other electrical equipment.	4	Lump Sum	1.50	1a	FY 2008/09	D	1	?	NA
fq-01093	All	Egress Lighting	ELECTRICAL	Fire & Life Safety	STAT Sec. Lights	The emergency lighting for the building are made up of battery packs with attached lighting heads. It appears that a number of these units have been installed more than 15 years ago. These units have a ten year life expectancy. Even though when tested they function properly, it is doubtful that they would last the full 90 minutes required to fully allow ample time for all of the occupants to exit the building.	Disconnect and remove the old and non functioning emergency lighting units and replace them with new units.	20	Ea.	37.05	1a	FY 2008/09	D	1	D	NA
fq-01097	All	Egress	LIFE SAFETY	ELECTRICAL	Emer. Lights	It was noted that there are areas in the building that do not have the required number of exit signs. Additional exit signs need to be added to provide guidance out of the building. Many of the existing exit signs are well past the end of their expected life and the chevrons might not be acceptable by today's requirements. A number of the exit signs were not illuminated on the day of the inspection.	Provide and install additional LED type exit signs in all required areas that currently do not have them and replace the aged units.	28	Ea.	10.21	1b	FY 2008/09	D	1	A	NA
			Priority 1 SUBTOTAL $(000):							48.75						
fq-01103	5th	Training Pool, Shop Area.	ELECTRICAL	Branch Circuitry	Other	This is a short list of deficiencies seen on a walk through of the building that should be corrected. They have been grouped together to because of the low dollar value. There are some standard receptacle near damp/wet locations that are not of the GFCI type. There are a number of open junction boxes missing cover plates. In at least one location exposed wiring was seen.	Correct the minor electrical items mentioned in the observation. Budget cost for repair.	6	Lump Sum	3.15	2a	FY 2008/09	D	1	A	NA
fq-01101	Var	Electrical Closets	ELECTRICAL	Branch Circuitry	Other	The doors to the electrical rooms in the building are not marked and this is a code violation. The fire pump disconnect switch in the main electrical room was also not permanently marked as required.	The rooms and fire pump disconnect switch must be marked as required.	11	Lump Sum	2.00	2a	FY 2008/09	D	1	A	NA

Harvard University

Facility Condition Assessment

Observations Sorted by Asset and Priority

Current Observations, Asset ID

Asset: 51 BRATTLE STREET

Priority

1a	Currently Critical - correct a cited safety hazard
1b	Currently Critical - return a system to operation
1c	Currently Critical - stop accelerated deterioration
2a	Potentially Critical in a year - life safety exposure
2b	Potentially Critical in a year - intermittent operations
2c	Potentially Critical in a year - rapid deterioration
3a	Necessary but Not Yet Critical - will require attention within the next 3 years
3b	Necessary but Not Yet Critical - will require attention within the next 10 years
4a	Recommended - Time-sensitive issue
4b	Recommended - Non-time-sensitive issue (modernization)

Institutional Mission

A	Support University Program
B	Student Life Quality
C	Public Interface (Neighbors)
D	Safety,Security & Regulatory
E	Asset Preservation
F	Cost Containment
G	Accessibility
H	Sustainability

Observation Category

1	Deferred
2	Current/Future
3	Modernization

Implementation Strategy

A	Implement as a stand alone project - operations initiative
B	Implement as a stand alone CAPS project (>$100,000)
C	Address as part of a larger space renovation - operations initiative
D	Address as part of a larger space renovation - CAPS(>$100,000)

Sustainability Category

EA	Protect Energy & Atmosphere
EQ	Improve Indoor Environmental Quality
MR	Effective Use of Materials and Resources
NA	Not Applicable
SS	Promote a Sustainable Site
WE	Improve Water Efficiency

Project Number	Floor	Location	System	Sub-System	Sub-Sub System	Observation	Correction	Unit	Measure	Total $(000)	Priority	Scheduled Year	Inst. Miss.	Obs. Cat.	Imp. Strat.	Sust. Cat.
fq-01086	V	Various	ELECTRICAL	Distribution	Other	There is a lack of proper Lock-Out/Tag-Out procedures that are occurring in the building. Items such as electrical tape placed on a circuit breaker is and example of this condition. Someone can come along, remove the tape and turn the circuit breaker back on. If there are personnel working on this circuit it has the potential to be dangerous.	Provide and install proper Lock-Out/Tag-Out devices and review these procedures. This will eliminate this from occurring in the building again to help avoid a dangerous situation from happening to one of the occupants, a workman, or someone else who happens to be in the area of the circuit.	1	Lump Sum	0.53	2a	FY 2008/09	D	1	A	NA
fq-01102	all	Basement, Various Areas	ELECTRICAL	Fire & Life Safety	Other	Open penetrations that were not completely sealed were seen in the basement and a couple of other areas around electrical conduit, wire and around communications cables during their installation that do not have fire stopping material installed as required by code. It should be noted that a very good many open holes had already been filled.	Provide and install fire stopping material around all electrical conduit and wire and around communications cables that currently do not have them. Remove any spray foam and replace with the correct material.	45	Ea.	0.91	2a	FY 2008/09	D	1	A	NA
fq-01095	All	All locations	ELECTRICAL	Support Systems	ADA Telephone	Thermostats and some of the fire alarm devices in the building are mounted too high above the finished floor as they do not comply with ADA guidelines. Devices such as thermostats that can be adjusted by the occupants should be mounted either at 48 or 54 inches above the finished floor depending on it being a front reach or a side reach of a wheelchair.	Disconnect the existing thermostats and any other devices to be adjusted or touched by occupants of the building and lower them so they are at the correct height.	30	Ea.	3.13	2a	FY 2008/09	D	1	A	NA
fq-01096	E	Elev. Room	ELECTRICAL	Support Systems	Elevator	The existing elevator controls appear to be aged by electronic standards. They appear to be of the 1990 vintage. Electronics generally have a 10 year life expectancy and in this case are believed to be past the time frame.	Disconnect and remove the existing elevator controls and provide and install new elevator controls.	1	Ea.	55.81	2a	FY 2008/09	D	1	B	NA
re-01364		Exterior Fire Escape	EXTERIOR SHELL	Features	Other	The existing fire escapes require certification and inspections. The existing fire escape requires painting on a bi-annual basis.	We recommend a full inspection of the fire escape to certify that all connections to the masonry will hold the number of people required in the event of an evacuation (allowance $1,500.00 for all four) The fire escapes also are in need of a full scraping and repainting with a steel primer and two costs of a high quality enamel ($1,500.00). This cost does not include any major structural issues found during the inspections.	4	Ea.	14.40	2a	FY 2008/09	D	1	A	NA
			Priority 2 SUBTOTAL $(000):							79.92						

Harvard University

Facility Condition Assessment

Observations Sorted by Asset and Priority

Current Observations, Asset ID

Asset: 51 BRATTLE STREET

Priority

- 1a Currently Critical - correct a cited safety hazard
- 1b Currently Critical - return a system to operation
- 1c Currently Critical - stop accelerated deterioration
- 2a Potentially Critical in a year - life safety exposure
- 2b Potentially Critical in a year - intermittent operations
- 2c Potentially Critical in a year - rapid deterioration
- 3a Necessary but Not Yet Critical - will require attention within the next 3 years
- 3b Necessary but Not Yet Critical - will require attention within the next 10 years
- 4a Recommended - Time-sensitive issue
- 4b Recommended - Non-time-sensitive issue (modernization)

Institutional Mission

- A Support University Program
- B Student Life Quality
- C Public Interface (Neighbors)
- D Safety,Security & Regulatory
- E Asset Preservation
- F Cost Containment
- G Accessibility
- H Sustainability

Observation Category

- 1 Deferred
- 2 Current/Future
- 3 Modernization

Implementation Strategy

- A Implement as a stand alone project - operations initiative
- B Implement as a stand alone CAPS project (>$100,000)
- C Address as part of a larger space renovation - operations initiative
- D Address as part of a larger space renovation - CAPS(>$100,000)

Sustainability Category

- EA Protect Energy & Atmosphere
- EQ Improve Indoor Environmental Quality
- MR Effective Use of Materials and Resources
- NA Not Applicable
- SS Promote a Sustainable Site
- WE Improve Water Efficiency

Project Number	Floor	Location	System	Sub-System	Sub-Sub System	Observation	Correction	Unit	Measure	Total $(000)	Priority	Scheduled Year	Inst. Miss.	Obs. Cat.	Imp. Strat.	Sust. Cat.
jl-02832	N/A	Server Room	COOLING	Split Unit	Other	The server room is reported to be overheating.	Recommend installation of dedicated ductless split unit to cool the server room	1		5.63	3a	FY 2010/11	A	3	A	EQ
fq-01094	All	All	ELECTRICAL	Fire & Life Safety	STAT Fire Alarm	The fire alarm system in the building is aged and beyond its useful life. Systems such as electronic based equipment has an expected life of ten years and the exact age of this system was not known but is believed to be 17 years old. At that age it is more difficult to find parts and qualified technicians to work on the system. The system consists of old and aged fire alarm control panel, smoke detectors antiquated devices and wiring and there is at least one door that exit the building that do not have fire alarm pull stations. There are areas such as toilets that do not have audio/visual signal devise. In two or more locations disconnected and or missing smoke detectors were seen.	A plan to upgrade the fire alarm system should be put into place to protect a building of this age and its occupants that is much more reliable and easier to repair and maintain. Provide and install a new fire alarm control panel, devices, wiring and a communicator modem. Provide an auto dialer via a phone line to Harvard central system. Devices should include but not be limited to replacing pull stations, new smoke detectors, heat detectors, upgrading to ADA approved audio/visual devices, etc. Upgrade wiring to accommodate new devices.	18,245	S.F.	152.29	3a	FY 2010/11	E	3	D	NA
fq-01099	All	Offices, corridors, copy room, etc.	ELECTRICAL	Lighting Service	Interior Fixtures	The building was stated to have all of the inefficient and outdated T-12 fluorescent lighting fixtures removed or retrofitted with new T-8 fluorescent lamps and electronic ballasts. The problem is that several dozen of the ballasts have already been replaced. This should be looked at to find out what is causing this to happen by a qualified electrician and the provider.	Provide a budget for qualified electrician to investigate what the ballasts for the new lighting fixtures have to be replaced so often. Cost is estimated.	1	Week	2.33	3a	FY 2010/11	F	3	A	EA
re-01363		All Facades	EXTERIOR SHELL	Walls	Masonry	This is a masonry building that is in good condition on the exterior. It looks as though quite a bit of re-pointing work has been done over the years due to changes in mortar color. But within the next three years some maintenance will need and should be performed on the brick. This is a budget line item to do re-pointing work or a least inspections of the brick on a regular basis.	Brick re-pointing and inspections as required. This is a budget item that should cover misc. repair work over the next three years.	1	Lump Sum	27.00	3a	FY 2008/09	E	2	A	NA
jl-02834	All	All	PLUMBING	Gas System	Piping	The gas piping system is not labeled or color coded per OSHA.	Label and color code gas piping in the building.	1	Lump Sum	4.50	3a	FY 2008/09	D	2	A	MR

Harvard University

Facility Condition Assessment

Observations Sorted by Asset and Priority

Current Observations, Asset ID

Asset: 51 BRATTLE STREET

Priority

- 1a Currently Critical - correct a cited safety hazard
- 1b Currently Critical - return a system to operation
- 1c Currently Critical - stop accelerated deterioration
- 2a Potentially Critical in a year - life safety exposure
- 2b Potentially Critical in a year - intermittent operations
- 2c Potentially Critical in a year - rapid deterioration
- 3a Necessary but Not Yet Critical - will require attention within the next 3 years
- 3b Necessary but Not Yet Critical - will require attention within the next 10 years
- 4a Recommended - Time-sensitive issue
- 4b Recommended - Non-time-sensitive issue (modernization)

Institutional Mission

- A Support University Program
- B Student Life Quality
- C Public Interface (Neighbors)
- D Safety,Security & Regulatory
- E Asset Preservation
- F Cost Containment
- G Accessibility
- H Sustainability

Observation Category

- 1 Deferred
- 2 Current/Future
- 3 Modernization

Implementation Strategy

- A Implement as a stand alone project - operations initiative
- B Implement as a stand alone CAPS project (>$100,000)
- C Address as part of a larger space renovation - operations initiative
- D Address as part of a larger space renovation - CAPS(>$100,000)

Sustainability Category

- EA Protect Energy & Atmosphere
- EQ Improve Indoor Environmental Quality
- MR Effective Use of Materials and Resources
- NA Not Applicable
- SS Promote a Sustainable Site
- WE Improve Water Efficiency

Project Number	Floor	Location	System	Sub-System	Sub-Sub System	Observation	Correction	Unit	Measure	Total $(000)	Priority	Scheduled Year	Inst. Miss.	Obs. Cat.	Imp. Strat.	Sust. Cat.
jl-02833	Bsmt	Mech Room	PLUMBING	Gas System	Meter	The building gas meter is currently located in the basement adjacent to the fire equipment. The National Fire Protection Association has noted that gas meters are known to leak (even new, undamaged ones), and they are required to be no closer than 3 feet from a source of ignition. The meter in this building is located in the fire gear room, behind the fire pump.	Recommend directing the local utility to relocate the meter outdoors, which eliminates the hazard from an indoor leak. Estimate provides for support work to secure the indoor gas piping, pipe to the new meter, and provide protection as required for the meter, such as bollards, fencing, etc.	1	Lump Sum	2.25	3a	FY 2010/11	D	2	A	EQ
re-01362		Roof	EXTERIOR SHELL	Roof	Membrane	The exact age of the roof was unknown but it looks to be in good condition. It is a un-ballasted EDPM system. There is evidence of some repair work that has taken place but all in all the roof looks clean and in good condition.	This will need to be replaced within the next ten years.	6,599	Lump Sum	74.25	3b	FY 2010/11	E	2	B	EA
jl-02831	1	Boiler Room	HEATING	Boilers	Boiler	The building is heated by aged hot water boilers of average efficiency, nearing the end of their expected lives.	Recommend a planned replacement of the units before they fail in service with new premium efficiency condensing hot water boilers with efficiencies above 95%, of the type that has been recently installed at many other Harvard locations to preclude further energy waste and large amount of emissions. This estimate is meant to include design, permitting, installation, testing and balancing, commissioning, etc., as needed for a complete job.	1	Lump Sum	90.01	3b	FY 2011/12	F	3	A	EA
			Priority 3 SUBTOTAL $(000):							358.25						
fq-01100	Bsmt	At electrical panel	ELECTRICAL	Branch Circuitry	Other	This building feeds another building on campus which is believed to be a code violation of the NEC 230.3. In the event that electrical power needed to be shut down, someone from that building would have to make entry into this building, find the electrical closets, located the circuit breakers and shut them off.	Redirect the service feeders that feed other building from being located inside this building.	1	Ea.	9.26	U	Undefined	D	1	A	NA
			Priority U SUBTOTAL $(000):							9.26						
51 BRATTLE STREET Total $(000):										**496.19**						

Observations by System

Harvard University

Facility Condition Assessment

Observations Sorted by Asset and System

Current Observations, Asset ID

Asset: 51 BRATTLE STREET

Priority

- 1a Currently Critical - correct a cited safety hazard
- 1b Currently Critical - return a system to operation
- 1c Currently Critical - stop accelerated deterioration
- 2a Potentially Critical in a year - life safety exposure
- 2b Potentially Critical in a year - intermittent operations
- 2c Potentially Critical in a year - rapid deterioration
- 3a Necessary but Not Yet Critical - will require attention within the next 3 years
- 3b Necessary but Not Yet Critical - will require attention within the next 10 years
- 4a Recommended - Time-sensitive issue
- 4b Recommended - Non-time-sensitive issue (modernization)
- U Undefined Timeframe - does not meet current codes/standards - grandfathered or would typically addressed as part of a space/building renovation

Institutional Mission

- A Support University Program
- B Student Life Quality
- C Public Interface (Neighbors)
- D Safety,Security & Regulatory
- E Asset Preservation
- F Cost Containment
- G Accessibility
- H Sustainability

Observation Category

- 1 Deferred
- 2 Current/Future
- 3 Modernization

Implementation Strategy

- A Implement as a stand alone project - operations initiative
- B Implement as a stand alone CAPS project (>$100,000)
- C Address as part of a larger space renovation - operations initiative
- D Address as part of a larger space renovation - CAPS(>$100,000)

Sustainability Category

- EA Protect Energy & Atmosphere
- EQ Improve Indoor Environmental Quality
- MR Effective Use of Materials and Resources
- NA Not Applicable
- SS Promote a Sustainable Site
- WE Improve Water Efficiency

Project Number	Floor	Location	System	Sub-System	Sub-Sub System	Observation	Correction	Unit	Measure	Total $(000)	Priority	Scheduled Year	Inst. Miss.	Obs. Cat.	Imp. Strat.	Sust. Cat.
jl-02832	N/A	Server Room	COOLING	Split Unit	Other	The server room is reported to be overheating.	Recommend installation of dedicated ductless split unit to cool the server room	1		5.63	3a	FY 2010/11	A	3	A	EQ
COOLING Subtotal $(000):										5.63						
fq-01098	B	Electrical Panel Basement	ELECTRICAL	Distribution	Panel Board	There is storage located in front of the electrical panels in the building and this could effect a someone trying to gain access to the panelboards and it should be removed.	Remove stored materials blocking the panels and other electrical equipment.	4	Lump Sum	1.50	1a	FY 2008/09	D	1	?	NA
fq-01093	All	Egress Lighting	ELECTRICAL	Fire & Life Safety	STAT Sec. Lights	The emergency lighting for the building are made up of battery packs with attached lighting heads. It appears that a number of these units have been installed more than 15 years ago. These units have a ten year life expectancy. Even though when tested they function properly, it is doubtful that they would last the full 90 minutes required to fully allow ample time for all of the occupants to exit the building.	Disconnect and remove the old and non functioning emergency lighting units and replace them with new units.	20	Ea.	37.05	1a	FY 2008/09	D	1	D	NA
fq-01086	V	Various	ELECTRICAL	Distribution	Other	There is a lack of proper Lock-Out/Tag-Out procedures that are occurring in the building. Items such as electrical tape placed on a circuit breaker is and example of this condition. Someone can come along, remove the tape and turn the circuit breaker back on. If there are personnel working on this circuit it has the potential to be dangerous.	Provide and install proper Lock-Out/Tag-Out devices and review these procedures. This will eliminate this from occurring in the building again to help avoid a dangerous situation from happening to one of the occupants, a workman, or someone else who happens to be in the area of the circuit.	1	Lump Sum	0.53	2a	FY 2008/09	D	1	A	NA
fq-01103	5th	Training Pool, Shop Area.	ELECTRICAL	Branch Circuitry	Other	This is a short list of deficiencies seen on a walk through of the building that should be corrected. They have been grouped together to because of the low dollar value. There are some standard receptacle near damp/wet locations that are not of the GFCI type. There are a number of open junction boxes missing cover plates. In at least one location exposed wiring was seen.	Correct the minor electrical items mentioned in the observation. Budget cost for repair.	6	Lump Sum	3.15	2a	FY 2008/09	D	1	A	NA

Harvard University

Facility Condition Assessment

Observations Sorted by Asset and System

Current Observations, Asset ID

Asset: 51 BRATTLE STREET

Priority

- 1a Currently Critical - correct a cited safety hazard
- 1b Currently Critical - return a system to operation
- 1c Currently Critical - stop accelerated deterioration
- 2a Potentially Critical in a year - life safety exposure
- 2b Potentially Critical in a year - intermittent operations
- 2c Potentially Critical in a year - rapid deterioration
- 3a Necessary but Not Yet Critical - will require attention within the next 3 years
- 3b Necessary but Not Yet Critical - will require attention within the next 10 years
- 4a Recommended - Time-sensitive issue
- 4b Recommended - Non-time-sensitive issue (modernization)
- U Undefined Timeframe - does not meet current codes/standards - grandfathered or would typically addressed as part of a space/building renovation

Institutional Mission

- A Support University Program
- B Student Life Quality
- C Public Interface (Neighbors)
- D Safety,Security & Regulatory
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- F Cost Containment
- G Accessibility
- H Sustainability

Observation Category

- 1 Deferred
- 2 Current/Future
- 3 Modernization

Implementation Strategy

- A Implement as a stand alone project - operations initiative
- B Implement as a stand alone CAPS project (>$100,000)
- C Address as part of a larger space renovation - operations initiative
- D Address as part of a larger space renovation - CAPS(>$100,000)

Sustainability Category

- EA Protect Energy & Atmosphere
- EQ Improve Indoor Environmental Quality
- MR Effective Use of Materials and Resources
- NA Not Applicable
- SS Promote a Sustainable Site
- WE Improve Water Efficiency

Project Number	Floor	Location	System	Sub-System	Sub-Sub System	Observation	Correction	Unit	Measure	Total $(000)	Priority	Scheduled Year	Inst. Miss.	Obs. Cat.	Imp. Strat.	Sust. Cat.
fq-01102	all	Basement, Various Areas	ELECTRICAL	Fire & Life Safety	Other	Open penetrations that were not completely sealed were seen in the basement and a couple of other areas around electrical conduit, wire and around communications cables during their installation that do not have fire stopping material installed as required by code. It should be noted that a very good many open holes had already been filled.	Provide and install fire stopping material around all electrical conduit and wire and around communications cables that currently do not have them. Remove any spray foam and replace with the correct material.	45	Ea.	0.91	2a	FY 2008/09	D	1	A	NA
fq-01101	Var	Electrical Closets	ELECTRICAL	Branch Circuitry	Other	The doors to the electrical rooms in the building are not marked and this is a code violation. The fire pump disconnect switch in the main electrical room was also not permanently marked as required.	The rooms and fire pump disconnect switch must be marked as required.	11	Lump Sum	2.00	2a	FY 2008/09	D	1	A	NA
fq-01095	All	All locations	ELECTRICAL	Support Systems	ADA Telephone	Thermostats and some of the fire alarm devices in the building are mounted too high above the finished floor as they do not comply with ADA guidelines. Devices such as thermostats that can be adjusted by the occupants should be mounted either at 48 or 54 inches above the finished floor depending on it being a front reach or a side reach of a wheelchair.	Disconnect the existing thermostats and any other devices to be adjusted or touched by occupants of the building and lower them so they are at the correct height.	30	Ea.	3.13	2a	FY 2008/09	D	1	A	NA
fq-01096	E	Elev. Room	ELECTRICAL	Support Systems	Elevator	The existing elevator controls appear to be aged by electronic standards. They appear to be of the 1990 vintage. Electronics generally have a 10 year life expectancy and in this case are believed to be past the time frame.	Disconnect and remove the existing elevator controls and provide and install new elevator controls.	1	Ea.	55.81	2a	FY 2008/09	D	1	B	NA
fq-01094	All	All	ELECTRICAL	Fire & Life Safety	STAT Fire Alarm	The fire alarm system in the building is aged and beyond its useful life. Systems such as electronic based equipment has an expected life of ten years and the exact age of this system was not known but is believed to be 17 years old. At that age it is more difficult to find parts and qualified technicians to work on the system. The system consists of old and aged fire alarm control panel, smoke detectors antiquated devices and wiring and there is at least one door that exit the building that do not have fire alarm pull stations. There are areas such as toilets that do not have audio/visual signal devise. In two or more locations disconnected and or missing smoke detectors were seen.	A plan to upgrade the fire alarm system should be put into place to protect a building of this age and its occupants that is much more reliable and easier to repair and maintain. Provide and install a new fire alarm control panel, devices, wiring and a communicator modem. Provide an auto dialer via a phone line to Harvard central system. Devices should include but not be limited to replacing pull stations, new smoke detectors, heat detectors, upgrading to ADA approved audio/visual devices, etc. Upgrade wiring to accommodate new devices.	18,245	S.F.	152.29	3a	FY 2010/11	E	3	D	NA

Harvard University

Facility Condition Assessment

Observations Sorted by Asset and System

Current Observations, Asset ID

Asset: 51 BRATTLE STREET

Priority

- 1a Currently Critical - correct a cited safety hazard
- 1b Currently Critical - return a system to operation
- 1c Currently Critical - stop accelerated deterioration
- 2a Potentially Critical in a year - life safety exposure
- 2b Potentially Critical in a year - intermittent operations
- 2c Potentially Critical in a year - rapid deterioration
- 3a Necessary but Not Yet Critical - will require attention within the next 3 years
- 3b Necessary but Not Yet Critical - will require attention within the next 10 years
- 4a Recommended - Time-sensitive issue
- 4b Recommended - Non-time-sensitive issue (modernization)
- U Undefined Timeframe - does not meet current codes/standards - grandfathered or would typically addressed as part of a space/building renovation

Institutional Mission

- A Support University Program
- B Student Life Quality
- C Public Interface (Neighbors)
- D Safety,Security & Regulatory
- E Asset Preservation
- F Cost Containment
- G Accessibility
- H Sustainability

Observation Category

- 1 Deferred
- 2 Current/Future
- 3 Modernization

Implementation Strategy

- A Implement as a stand alone project - operations initiative
- B Implement as a stand alone CAPS project (>$100,000)
- C Address as part of a larger space renovation - operations initiative
- D Address as part of a larger space renovation - CAPS(>$100,000)

Sustainability Category

- EA Protect Energy & Atmosphere
- EQ Improve Indoor Environmental Quality
- MR Effective Use of Materials and Resources
- NA Not Applicable
- SS Promote a Sustainable Site
- WE Improve Water Efficiency

Project Number	Floor	Location	System	Sub-System	Sub-Sub System	Observation	Correction	Unit	Measure	Total $(000)	Priority	Scheduled Year	Inst. Miss.	Obs. Cat.	Imp. Strat.	Sust. Cat.
fq-01099	All	Offices, corridors, copy room, etc.	ELECTRICAL	Lighting Service	Interior Fixtures	The building was stated to have all of the inefficient and outdated T-12 fluorescent lighting fixtures removed or retrofitted with new T-8 fluorescent lamps and electronic ballasts. The problem is that several dozen of the ballasts have already been replaced. This should be looked at to find out what is causing this to happen by a qualified electrician and the provider.	Provide a budget for qualified electrician to investigate what the ballasts for the new lighting fixtures have to be replaced so often. Cost is estimated.	1	Week	2.33	3a	FY 2010/11	F	3	A	EA
fq-01100	Bsmt	At electrical panel	ELECTRICAL	Branch Circuitry	Other	This building feeds another building on campus which is believed to be a code violation of the NEC 230.3. In the event that electrical power needed to be shut down, someone from that building would have to make entry into this building, find the electrical closets, located the circuit breakers and shut them off.	Redirect the service feeders that feed other building from being located inside this building.	1	Ea.	9.26	U	Undefined	D	1	A	NA
ELECTRICAL Subtotal $(000):										267.94						
re-01364		Exterior Fire Escape	EXTERIOR SHELL	Features	Other	The existing fire escapes require certification and inspections. The existing fire escape requires painting on a bi-annual basis.	We recommend a full inspection of the fire escape to certify that all connections to the masonry will hold the number of people required in the event of an evacuation (allowance $1,500.00 for all four) The fire escapes also are in need of a full scraping and repainting with a steel primer and two costs of a high quality enamel ($1,500.00). This cost does not include any major structural issues found during the inspections.	4	Ea.	14.40	2a	FY 2008/09	D	1	A	NA
re-01363		All Facades	EXTERIOR SHELL	Walls	Masonry	This is a masonry building that is in good condition on the exterior. It looks as though quite a bit of re-pointing work has been done over the years due to changes in mortar color. But within the next three years some maintenance will need and should be performed on the brick. This is a budget line item to do re-pointing work or a least inspections of the brick on a regular basis.	Brick re-pointing and inspections as required. This is a budget item that should cover misc. repair work over the next three years.	1	Lump Sum	27.00	3a	FY 2008/09	E	2	A	NA
re-01362		Roof	EXTERIOR SHELL	Roof	Membrane	The exact age of the roof was unknown but it looks to be in good condition. It is a un-ballasted EDPM system. There is evidence of some repair work that has taken place but all in all the roof looks clean and in good condition.	This will need to be replaced within the next ten years.	6,599	Lump Sum	74.25	3b	FY 2010/11	E	2	B	EA

Harvard University

Facility Condition Assessment

Observations Sorted by Asset and System

Current Observations, Asset ID

Asset: 51 BRATTLE STREET

Priority

- 1a Currently Critical - correct a cited safety hazard
- 1b Currently Critical - return a system to operation
- 1c Currently Critical - stop accelerated deterioration
- 2a Potentially Critical in a year - life safety exposure
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- 3a Necessary but Not Yet Critical - will require attention within the next 3 years
- 3b Necessary but Not Yet Critical - will require attention within the next 10 years
- 4a Recommended - Time-sensitive issue
- 4b Recommended - Non-time-sensitive issue (modernization)
- U Undefined Timeframe - does not meet current codes/standards - grandfathered or would typically addressed as part of a space/building renovation

Institutional Mission

- A Support University Program
- B Student Life Quality
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- G Accessibility
- H Sustainability

Observation Category

- 1 Deferred
- 2 Current/Future
- 3 Modernization

Implementation Strategy

- A Implement as a stand alone project - operations initiative
- B Implement as a stand alone CAPS project (>$100,000)
- C Address as part of a larger space renovation - operations initiative
- D Address as part of a larger space renovation - CAPS(>$100,000)

Sustainability Category

- EA Protect Energy & Atmosphere
- EQ Improve Indoor Environmental Quality
- MR Effective Use of Materials and Resources
- NA Not Applicable
- SS Promote a Sustainable Site
- WE Improve Water Efficiency

Project Number	Floor	Location	System	Sub-System	Sub-Sub System	Observation	Correction	Unit	Measure	Total $(000)	Priority	Scheduled Year	Inst. Miss.	Obs. Cat.	Imp. Strat.	Sust. Cat.
EXTERIOR SHELL Subtotal $(000):										115.65						
jl-02831	1	Boiler Room	HEATING	Boilers	Boiler	The building is heated by aged hot water boilers of average efficiency, nearing the end of their expected lives.	Recommend a planned replacement of the units before they fail in service with new premium efficiency condensing hot water boilers with efficiencies above 95%, of the type that has been recently installed at many other Harvard locations to preclude further energy waste and large amount of emissions. This estimate is meant to include design, permitting, installation, testing and balancing, commissioning, etc., as needed for a complete job.	1	Lump Sum	90.01	3b	FY 2011/12	F	3	A	EA
HEATING Subtotal $(000):										90.01						
fq-01097	All	Egress	LIFE SAFETY	ELECTRICAL	Emer. Lights	It was noted that there are areas in the building that do not have the required number of exit signs. Additional exit signs need to be added to provide guidance out of the building. Many of the existing exit signs are well past the end of their expected life and the chevrons might not be acceptable by today's requirements. A number of the exit signs were not illuminated on the day of the inspection.	Provide and install additional LED type exit signs in all required areas that currently do not have them and replace the aged units.	28	Ea.	10.21	1b	FY 2008/09	D	1	A	NA
LIFE SAFETY Subtotal $(000):										10.21						
jl-02834	All	All	PLUMBING	Gas System	Piping	The gas piping system is not labeled or color coded per OSHA.	Label and color code gas piping in the building.	1	Lump Sum	4.50	3a	FY 2008/09	D	2	A	MR
jl-02833	Bsmt	Mech Room	PLUMBING	Gas System	Meter	The building gas meter is currently located in the basement adjacent to the fire equipment. The National Fire Protection Association has noted that gas meters are known to leak (even new, undamaged ones), and they are required to be no closer than 3 feet from a source of ignition. The meter in this building is located in the fire gear room, behind the fire pump.	Recommend directing the local utility to relocate the meter outdoors, which eliminates the hazard from an indoor leak. Estimate provides for support work to secure the indoor gas piping, pipe to the new meter, and provide protection as required for the meter, such as bollards, fencing, etc.	1	Lump Sum	2.25	3a	FY 2010/11	D	2	A	EQ
PLUMBING Subtotal $(000):										6.75						
51 BRATTLE STREET Subtotal $(000):										**496.19**						

Ten Year Plan

FACULTY OF ARTS AND SCIENCES
Facility Condition Assessment
51 BRATTLE STREET (inspected in FY 2008/09)
Ten Year Plan: Projected Costs by Observation
(in thousands of dollars)

Assumed Rate of Inflation: 3.0%

Asset	ID	System	Description	Original Uninflated Cost (Cost Year)	Year 1 FY 2008/09	Year 2 FY 2009/10	Year 3 FY 2010/11	Year 4 FY 2011/12	Year 5 FY 2012/13	Year 6 FY 2013/14	Year 7 FY 2014/15	Year 8 FY 2015/16	Year 9 FY 2016/17	Year 10 FY 2017/18	Recommended or Undefined
51 BRATTLE STREET	jl-02832	COOLING	The server room is reported to be overheating.	5.6 (FY 2008/09)			$ 6.0								
51 BRATTLE STREET	fq-01094	ELECTRICAL	The fire alarm system in the building is aged and beyond its useful life. Systems such as electronic...	152.3 (FY 2008/09)			$ 161.6								
51 BRATTLE STREET	fq-01096	ELECTRICAL	The existing elevator controls appear to be aged by electronic standards. They appear to be of the 1...	55.8 (FY 2008/09)	$ 55.8										
51 BRATTLE STREET	fq-01093	ELECTRICAL	The emergency lighting for the building are made up of battery packs with attached lighting heads. I...	37.0 (FY 2008/09)	$ 37.0										
51 BRATTLE STREET	fq-01100	ELECTRICAL	This building feeds another building on campus which is believed to be a code violation of the NEC 2...	9.3 (FY 2008/09)											$ 9.3
51 BRATTLE STREET	fq-01103	ELECTRICAL	This is a short list of deficiencies seen on a walk through of the building that should be corrected...	3.2 (FY 2008/09)	$ 3.2										
51 BRATTLE STREET	fq-01095	ELECTRICAL	Thermostats and some of the fire alarm devices in the building are mounted too high above the finish...	3.1 (FY 2008/09)	$ 3.1										
51 BRATTLE STREET	fq-01099	ELECTRICAL	The building was stated to have all of the inefficient and outdated T-12 fluorescent lighting fixtur...	2.3 (FY 2008/09)			$ 2.5								
51 BRATTLE STREET	fq-01101	ELECTRICAL	The doors to the electrical rooms in the building are not marked and this is a code violation. The f...	2.0 (FY 2008/09)	$ 2.0										
51 BRATTLE STREET	fq-01098	ELECTRICAL	There is storage located in front of the electrical panels in the building and this could effect a s...	1.5 (FY 2008/09)	$ 1.5										
51 BRATTLE STREET	fq-01102	ELECTRICAL	Open penetrations that were not completely sealed were seen in the basement and a couple of other a...	0.9 (FY 2008/09)	$ 0.9										
51 BRATTLE STREET	fq-01086	ELECTRICAL	There is a lack of proper Lock-Out/Tag-Out procedures that are occurring in the building. Items su...	0.5 (FY 2008/09)	$ 0.5										
51 BRATTLE STREET	re-01362	EXTERIOR SHELL	The exact age of the roof was unknown but it looks to be in good condition. It is a un-ballasted EDP...	74.2 (FY 2008/09)			$ 78.8								

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Asset	ID	System	Description	Original Uninflated Cost (Cost Year)	Year 1 FY 2008/09	Year 2 FY 2009/10	Year 3 FY 2010/11	Year 4 FY 2011/12	Year 5 FY 2012/13	Year 6 FY 2013/14	Year 7 FY 2014/15	Year 8 FY 2015/16	Year 9 FY 2016/17	Year 10 FY 2017/18	Recommended or Undefined
51 BRATTLE STREET	re-01363	EXTERIOR SHELL	This is a masonry building that is in good condition on the exterior. It looks as though quite a bit...	27.0 (FY 2008/09)	$ 27.0										
51 BRATTLE STREET	re-01364	EXTERIOR SHELL	The existing fire escapes require certification and inspections. The existing fire escape requires p...	14.4 (FY 2008/09)	$ 14.4										
51 BRATTLE STREET	jl-02831	HEATING	The building is heated by aged hot water boilers of average efficiency, nearing the end of their exp...	90.0 (FY 2008/09)				$ 98.4							
51 BRATTLE STREET	fq-01097	LIFE SAFETY	It was noted that there are areas in the building that do not have the required number of exit signs...	10.2 (FY 2008/09)	$ 10.2										
51 BRATTLE STREET	jl-02834	PLUMBING	The gas piping system is not labeled or color coded per OSHA.	4.5 (FY 2008/09)	$ 4.5										
51 BRATTLE STREET	jl-02833	PLUMBING	The building gas meter is currently located in the basement adjacent to the fire equipment. The Nati...	2.3 (FY 2008/09)			$ 2.4								
Total All Observations				**$ 496.2**	**$ 160.2**	**$ -**	**$ 251.2**	**$ 98.4**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 9.3**