Institutional Master Plan Notification Form / Project Notification Form

Submitted Pursuant to Article 80 of the Boston Zoning Code

Massachusetts Eye and Ear Infirmary

Submitted to:
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

Submitted by:
Massachusetts Eye and Ear Infirmary
243 Charles Street
Boston, MA 02114

Prepared by:
Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754

In Association with:
DLA Piper LLP (US)
Tsoi/Kobus & Associates, Inc.
Vanasse Hangen Brustlin, Inc.
McPhail Associates, Inc.

January 5, 2011

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Chapter 1.0
Introduction / Overview

1.0 INTRODUCTION / OVERVIEW

1.1 Introduction

Massachusetts Eye and Ear Infirmary (Mass. Eye and Ear) is a specialty hospital dedicated to excellence in the care of disorders that affect the eye, ear, nose, throat, and adjacent regions of the head and neck. Mass. Eye and Ear provides specialty and sub-specialty care in ophthalmology and otolaryngology and serves as a referral center for outpatient and inpatient medical and surgical care; both departments consistently rank in the top five of U.S. News and World Report's annual Best Hospitals Survey. Mass. Eye and Ear is also a world-renowned research center and teaching affiliate of Harvard Medical School. Mass. Eye and Ear's main campus is located in Boston adjacent to the Charles River at 243 Charles Street (the main clinical building) and 325 Cambridge Street (see Figure 1-1), and is the location of the majority of its approximately 1,700 employees. Mass. Eye and Ear also provides services in the Longwood Medical and Academic Area and at several suburban locations in the Greater Boston area.

Mass. Eye and Ear's Board of Directors recently approved a 10-year Strategic Plan that addresses three key issues for Mass. Eye and Ear's main campus: (1) space limitations, (2) patient experience, and (3) equipment infrastructure. The most pressing actions needed to address these issues are the upgrade and creation of research and clinical space. Addressing the lack of research space on its campus will allow for the expansion and upgrade of its outpatient clinics and operating rooms (ORs) in its main clinical building. Addressing the need for new clinical space beyond what can be accommodated in the main building to meet the needs of the patient population will also help to address patient growth over the past decades and into the future. These actions are the most critical to the long-term future of the organization.

The capital improvement plan outlined in the Strategic Plan will allow Mass. Eye and Ear to begin its third century of public service with greatly improved physical facilities supporting its mission in patient care, research and teaching, as well as maintain and create jobs in the city.

To address the issues identified above, Mass. Eye and Ear is proposing three construction Projects (the Proposed Projects, or Projects) and other campus improvements, as well as leasing of space. With the submission of this Institutional Master Plan Notification Form/Project Notification Form (IMPNF/PNF), Mass. Eye and Ear is initiating Institutional Master Plan (IMP) review under Article 80D of the Boston Zoning Code for its Proposed Projects, and is initiating Large Project Review under Article 80B for the 325 Cambridge Building, John Jeffries Annex and Charles Street Rehabilitation projects.

Figure 1-1
MEEI Site with Surrounding Buildings

Massachusetts Eye and Ear Infirmary
HDR

- The 325 Cambridge Building will replace the existing buildings at 307-311, 313 and 317-325 Cambridge Street (the existing Cambridge Street buildings) with a new approximately 89,700 square foot (sf) (approximately 43,300 net new sf) building that is proposed to include clinical, research, and administration space.

- The approximately 25,000-sf John Jeffries Annex will be built on the parking lot adjacent to the John Jeffries House (a small 46 room bed and breakfast owned and operated by Mass. Eye and Ear) and the Charles Street Garage, and is proposed to include retail space on the first floor and administration space on the upper floors.

- The Charles Street Rehabilitation will include demolition of the original 1899 building and a number of additions and upgrades to the existing building totaling approximately 50,500 net new sf.

None of the three Proposed Projects will include parking. However, Mass. Eye and Ear plans to add up to 75 stackers to the Charles Street Garage to replace spaces lost by the construction of the John Jeffries Annex and to meet increased parking demand as needed.

Accordingly, Mass. Eye and Ear requests that the Boston Redevelopment Authority (BRA) issue two separate Scoping Determinations: one for the proposed IMP, and the other for Large Project Review requirements for the three Proposed Projects.

This IMPNF/PNF also includes smaller projects, campus improvements and upgrades to existing facilities that are not subject to Article 80 Large Project Review. These projects include an approximately 1,500 sf addition to the John Jeffries House to make the first floor suitable for small functions, a change of use to permit a portion of the first floor space in the John Jeffries House to be used for small functions, improvements to sidewalks adjacent to the Mass. Eye and Ear campus, relocation of the entry and exit to the Charles Lot from Charles Circle to Charles Street opposite Fruit Street, and the addition of stackers in the Charles Street Garage for an increase of up to 75 parking spaces.

Mass. Eye and Ear is submitting this ten-year IMP (through 2020) to allow it to adjust to changing trends in health care and its specialty services, accommodate the existing and future patient population while also improving the patient experience, as well as continue to embark on important research initiatives.

1.2 General Information

Institution/Address	Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, MA 02114
Proposed IMP Projects within IMP Term (2010 – 2020)	325 Cambridge Building; John Jeffries Annex; Charles Street Rehabilitation; Campus Improvements and Smaller Projects
Projects Undergoing Large Project Review	325 Cambridge Building; John Jeffries Annex; Charles Street Rehabilitation

1.3 Project Team

Proponent:	Massachusetts Eye and Ear Infirmary 243 Charles Street Boston, MA 02114 (617) 523-7900 Robert Biggio Jennifer Street Michael Collins Elizabeth Sands
Architects:	Tsoi/Kobus & Associates, Inc. One Brattle Square P.O. Box 9114 Cambridge, MA 02238 (617) 475-4000 Alan Fried David Gutzler
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Environmental Consultant:	Epsilon Associates, Inc. 3 Clock Tower Place, Suite 250 Maynard, MA 01754 (978) 897-7100 Cindy Schlessinger Geoff Starsiak
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Parking Consultant:	Walker Parking Consultants 20 Park Plaza, Suite 1202 Boston, MA 02116 (617) 350 5040 Arthur Stadig
Geotechnical Consultant:	McPhail Associates, Inc. 2269 Massachusetts Avenue Cambridge, MA 02140 617-868-1420 Chris M. Erikson

1.4 Description of Massachusetts Eye and Ear Infirmary

1.4.1 Brief History

In 1824, two young eye surgeons named John Jeffries and Edward Reynolds established a charitable eye clinic in Boston. Soon they began to treat ear diseases as well, and by the end of the nineteenth century, their small clinic had evolved into the Massachusetts Eye and Ear Infirmary, a nationally recognized specialty institution.

In 1900, Dr. Frederick Verhoeff, Mass. Eye and Ear's first full-time researcher/pathologist, established the first eye pathology laboratory in the United States and successfully established an endowed research department at Mass. Eye and Ear. Another milestone in Mass. Eye and Ear's early history was the establishment of the first isolation accommodations for infectious patients in the pre-antibiotic era.

Throughout its 185-plus year history, Mass. Eye and Ear has led clinical advances and research. Its emphasis on the pursuit of new knowledge has resulted in many groundbreaking medical and patient-care discoveries. Mass. Eye and Ear has discovered new drugs, perfected new techniques, identified disease-causing genes and much more.

1.4.2 Massachusetts Eye and Ear Today

Massachusetts Eye and Ear Infirmary is a specialty hospital dedicated to excellence in otolaryngology and ophthalmology. Mass. Eye and Ear provides specialty and sub-specialty care and serves as a referral center for outpatient and inpatient medical and surgical care.

Mass. Eye and Ear is a Harvard Medical School (HMS) affiliated hospital, whose faculty hold HMS appointments. In conjunction with HMS, Mass. Eye and Ear is committed to the education of future health care professionals, as well as the education of the public concerning the prevention, diagnosis, and treatment of the diseases in its specialties and concerning the rehabilitation of patients handicapped by these diseases.

In order to provide the highest quality of contemporary care and even better care in the future, Mass. Eye and Ear conducts laboratory and clinical research in its areas of specialty.

Mass. Eye and Ear is dedicated to serving as a source of excellence in patient care, teaching, and research in Massachusetts, the United States, and the world.

1.4.2.1 Clinical Service Areas

Mass. Eye and Ear is dedicated to providing excellent clinical care in its areas of expertise in the following clinical service areas:

Otolaryngology (Ear, Nose, Throat, Head, and Neck)	Ophthalmology (Eye)
Facial/Cosmetic Surgery	Cataract Surgery
Facial Nerve Center	Comprehensive Ophthalmology (Comprehensive Eye Care)
General Ear Nose and Throat (ENT)	Contact Lenses
Head/ Neck Surgery Oncology	Cornea/Refractive Surgery

Otolaryngology (Ear, Nose, Throat, Head, and Neck)	Ophthalmology (Eye)
Hearing Aid Center	Emergency Eye Care
Hyperbaric Medicine	Eye Plastics
Laryngology (Throat)	Glaucoma
Otology (Ears)	Low Vision/Rehab
Pediatric Airway Center	Neuro-ophthalmology
Pediatric ENT	Ocular Oncology
Reconstructive Plastics	Optical Shop
Sinuses	Orbital Surgery
Sleep Disorders/Snoring	Pediatric Eye (provided by the Children's Hospital Ophthalmology Foundation)
Vestibular/Balance Disorders	Retina/Diabetic Eye
Voice/Speech	Uveitis

Mass. Eye and Ear has 17 Operating Rooms and performs approximately 20,000 surgical procedures each year. Mass. Eye and Ear has the Commonwealth's only 24 hour a day emergency room dedicated to treating specialized injuries of the eye, ear, nose, throat, head and neck, and is the Commonwealth's only designated Eye Trauma Center. Mass. Eye and Ear is the only Massachusetts hospital east of Springfield with around-the-clock hyperbaric medicine service to treat firefighters and other victims of smoke inhalation and carbon monoxide poisoning, and assist in wound healing.

1.4.2.2 Research and Teaching

As with patient care, Mass. Eye and Ear is world-renowned for its firm dedication to teaching and research in ophthalmology and otolaryngology. The HMS Departments of Ophthalmology, Otology and Laryngology are seated at Mass. Eye and Ear. The chairs of these Harvard departments are the chiefs at Mass. Eye and Ear, and Mass. Eye and Ear physicians and researchers hold faculty appointments at HMS.

Ranging from efforts in basic sciences and genetics to clinical-based studies, Mass. Eye and Ear's various investigative approaches are creating new avenues of discovery and challenging the boundaries of knowledge about diseases of the eye, ear, nose, throat, head and neck. Mass. Eye and Ear's physicians and scientists have consistently numbered among the pioneers in the fields of ophthalmology and otolaryngology.

Research Laboratories

Mass. Eye and Ear employs 33 senior researchers leading cutting edge research in the following laboratories:

Otolaryngology (Ear, Nose, Throat, Head, and Neck)	Ophthalmology (Eye)
Amelia Peabody Otoimmunochemistry Laboratory	Berman-Gund Laboratory for the Study of Retinal Degenerations
Auditory Prosthesis Laboratory	Clinical Research in Ophthalmology
Clinical Outcomes Research Unit	Howe Laboratory of Ophthalmology
Cochlear Implant Research Laboratory	Ocular Molecular Genetics Institute
Eaton-Peabody Laboratory of Auditory Physiology	Retina Research Institute
Electron Microscopy Laboratory	
Jenks Vestibular Diagnostic Laboratory	
Jenks Vestibular Physiology Laboratory	
Louise and Neil Tillotson Laboratory for Cell Biology of the Inner Ear	
Mosher Laryngology Research Laboratory	
Otopathology Laboratory	
Voice and Speech Laboratory	

The list of research achievements includes:

- The first diagnosis of retinopathy of prematurity;
- Identification of the gene for retinoblastoma;
- Introduction of panretinal photocoagulation;
- Discovery of the first drug to treat herpetic corneal disease;
- Development of proton beam therapy for ocular melanoma;
- Development of Corneal Prosthesis;
- Development of first (PDT) and second (anti-VEGF) pharmacological therapies for macular degeneration;
- Identification of genes associated with Glaucoma;
- The first treatment for retinitis pigmentosa;
- Description of the physiologic response of the auditory nerve to sound stimulation which serves as the basis for cochlear implants;
- Performance of the first cochlear implant in New England;
- Development of the first animal model of Meniere's Syndrome;
- Development of two surgical procedures for Meniere's Disease;
- Development of computer assisted algorithms that form the basis of neonatal screening for hearing loss;
- Development of practical methodology for intra-operative monitoring of the recurrent laryngeal nerve and for facial nerve monitoring;
- Development of a unique surgical method to restore speech, swallowing and normal breathing in patients with paralyzed vocal cords; and
- Growth of inner ear hair cells from stem cells isolated from adult inner ears.

1.4.2.3 Strategic Plan

Last year, the Board of Directors approved a ten year strategic plan: Vision 2020. The plan was developed in order to collaborate, rather than compete with other leading healthcare providers in the region. By teaming up to provide ophthalmology and otolaryngology

services at other hospitals, Mass. Eye and Ear hopes to contain costs, while extending the reach of its world-class care. Vision 2020 focuses on three areas: People, Access and Growth.

People

Mass. Eye and Ear plans to recruit and retain the world's finest physicians, researchers, nurses, administrators, caregivers and staff, who will help improve the lives of people and patients around the world.

Access to Care

Mass. Eye and Ear's plan includes making its world-class care available to those who need it, in locations that are convenient for their lives. During 2009, Mass. Eye and Ear launched several new alliances designed to help achieve that goal. As one of the premiere specialty hospitals in the world, Mass. Eye and Ear enacted a plan to provide specialty and sub-specialty care in ophthalmology and otolaryngology in collaboration with other Boston primary care providers. Additionally, Mass. Eye and Ear acts as a resource in its specialties to other HMS affiliated institutions.

- **Mass. Eye and Ear / Massachusetts General Hospital (Mass General) Departments of Ophthalmology and Otolaryngology.** Mass. Eye and Ear physicians staff entirely the Departments of Ophthalmology and Otolaryngology at Mass General, which attracts patients from throughout the state, nation and world. Mass. Eye and Ear chiefs of these departments also serve as chiefs of Mass General Departments of Ophthalmology and Otolaryngology. The two hospitals work in close conjunction, collaborating on treatment, quality of care initiatives, and research and teaching.

- **Mass. Eye and Ear: A clinical affiliate of Brigham and Women's Hospital.** Mass. Eye and Ear ophthalmologists provide inpatient and eye trauma care at Brigham and Women's Hospital through a provider service agreement. Mass. Eye and Ear provides these services, as well as general eye services in the Longwood Medical and Academic Area (LMA) in collaboration with the Joslin Diabetes Center. Mass. Eye and Ear physicians are presently located at Joslin Diabetes Center, allowing an important clinical presence in the LMA. Additionally, Mass. Eye and Ear physicians provide otology (ear) care at Brigham and Women's Hospital.

- **Children's Hospital Ophthalmology Foundation (CHOF) at Mass. Eye and Ear.** Mass. Eye and Ear collaborates with Children's Hospital Ophthalmology Foundation to provide comprehensive pediatric eye service at Mass. Eye and Ear's main clinical building. CHOF's physicians see patients and provide care in Mass. Eye and Ear clinical space two days each week. This arrangement, with a larger CHOF medical staff, increases access for the youngest, most vulnerable patient population.

- **Mass. Ear and Ear at Braintree Rehabilitation Hospital.** Mass. Eye and Ear physicians diagnose vestibular disorders in collaboration with Braintree Rehabilitation Hospital in Braintree.

- **Mass. Eye and Ear Suburban Sites.** Mass. Eye and Ear also provides services in several stand-alone suburban sites.

Growth

Mass. Eye and Ear plans to expand the breadth of services it offers and the number of people it treats to improve its clinical outcomes, to expand its research base and to provide economic return to reinvest in its clinical, research and teaching mission. On the main campus, this growth plan will be accommodated by the construction of the 325 Cambridge Building, the John Jeffries Annex, and leasing approximately 80,000 to 100,000 sf of new space proximate to Mass. Eye and Ear's campus to house research facilities. In the LMA, Mass. Eye and Ear is also in the process of leasing a facility with approximately 70,000-90,000 sf to consolidate and expand its LMA operations.

Mass. Eye and Ear's IMP addresses the growth plan for clinical space, which includes a 2% annual increase in surgical volume, as well as an addition of approximately 50 full time equivalent (FTEs) jobs during the course of the next decade; and the research space, for which Mass. Eye and Ear anticipates four new research faculty and approximately 22 accompanying staff, as well as $265 million in research funding between 2012 and 2019.

1.4.3 Mission and Objectives

1.4.3.1 Mission and Vision

Mass. Eye and Ear Infirmary is the preeminent world-wide source of advances and leaders in preserving and restoring vision, hearing, balance and voice, as well as in curing disorders of the head and neck.

Mass. Eye and Ear achieves this vision through its mission:

- Providing exceptional clinical care;

- Conducting cutting-edge translational and bench research; and

- Teaching tomorrow's leaders and today's medical community.

1.4.3.2 Values

Mass. Eye and Ear strives to conduct the best possible research in its specialties, while also providing the best possible care to its patients. The values that are upheld through Mass. Eye and Ear's research and clinical activities are described below.

Quality Patient Care

In every decision Mass. Eye and Ear makes, its primary focus is on the delivery of the highest quality of patient care possible and the improvement of future clinical care and outcomes for patients everywhere.

Service Excellence

Mass. Eye and Ear is committed to providing easily accessible care to a wide range of patients, and expanding its reach by forging new relationships and alliances. Mass. Eye and Ear is dedicated to ensuring its patients, physicians, researchers and employees have the best experience possible in a healthcare environment, respecting the unique needs and goals of all.

Research and Academic Leadership

The progress of patient care depends on the innovations created by Mass. Eye and Ear's researchers, and the future of its health care activities presumes superb educational and research programs.

Community Service

Mass. Eye and Ear is committed to serving communities of patients around the corner and around the world. Mass. Eye and Ear is an active participant in the Boston community providing free services to children, the elderly, and special populations. Please see Section 1.8.1.3 for a detailed description of these services as well as information regarding Mass. Eye and Ear's community educational programs and local community investments.

1.4.3.3 Goals

Mass. Eye and Ear's IMP must fulfill a number of goals to allow for Mass. Eye and Ear to continue its mission over the next decade. These goals are:

- Support growth of clinical, research and teaching programs;
- Develop an environment consistent with Mass. Eye and Ear's reputation by increasing and modernizing the hospital's clinical space and improving research facilities;
- Expand satellite locations and key services;
- Improve patient access and experience; and
- Recruit/retain the best and brightest of physicians, scientists and staff.

1.5 Hospital Trends

1.5.1 Recent Trends at Mass. Eye and Ear

Several trends have a major impact on Mass. Eye and Ear—all of which lead to the need for growth of space to accommodate more patients and to better work toward cures and new treatments in Mass. Eye and Ear's specialties.

Aging Population

Mass. Eye and Ear treats diseases of the aging. Hearing loss, vision loss, balance disorders, loss of smell and taste are all conditions brought on by the natural course of aging. As the "baby boomers" hit their senior years, Mass. Eye and Ear has a strong expectation of increased volume in both of its specialties (ophthalmology and otolaryngology). Additionally, the United States has experienced a dramatic increase in patients with diabetes, many of whom suffer from diabetic retinopathy—a condition treated by Mass. Eye and Ear ophthalmologists. In short, the diseases Mass. Eye and Ear treats and those that its scientists are trying to cure have never been more relevant. In order to carry out its mission, Mass. Eye and Ear must expand and upgrade its ORs and pre- and post-operative areas, as well as expand its outpatient clinics. Many of the research laboratories, already in need of renovation, need to be moved from the main clinical building to a new facility in order to accommodate more clinical care.

With the aging demographics of the "baby-boom" generation, it is expected that the specialties of Mass. Eye and Ear will face increasing demands as this demographic requires treatments for declining vision and hearing that are most prevalent in aging populations. To meet the growing needs of this population, Mass. Eye and Ear must adapt its current space and acquire new space suitable for its research and clinical needs.

Ambulatory Surgery

Thanks to advances in technology and medicine, the majority of Mass. Eye and Ear's surgical volume is ambulatory; in other words, patients go home the same day. While Mass. Eye and Ear has 17 ORs and performs approximately 20,000 surgical procedures annually, it now only has 41 inpatient beds, 19 of which are dedicated to pediatric cases. Mass. Eye and Ear's main clinical building at 243 Charles Street was built as a traditional inpatient hospital, designed for more than 200 inpatient beds. The trend toward ambulatory surgery, which has increased seven-fold since 1970, has not only changed work flows, but has allowed for a dramatic increase in patient volume. Mass. Eye and Ear must renovate existing clinical space in its main building and create new clinical space on its campus to create efficiencies and improve the patient experience. This can only be accomplished by moving some research labs out of the main clinical building and into a new research space, as well as creating new clinical space.

Research

Simultaneous with these increases in patient care, the research programs have been productive and growing. The funding for the research portfolio has grown in the last five years to over $21 million in multi-year awards funded. Mass. Eye and Ear received 75 new awards in fiscal year (FY) 2009 for a total amount of $32,900,000 which will be spent within the next five years. This is a 33 percent increase over what was received in FY 2008. The majority of funding is from federal sources, specifically National Institutes of Health (NIH). Mass. Eye and Ear received $7 million from American Recovery and Reinvestment Act stimulus funding.

In FY 2009, Mass. Eye and Ear also submitted almost 200 proposals to sponsors requesting approximately $166,600,000. This amount is almost double what Mass. Eye and Ear applied for in FY 2008 and is mostly to NIH. Typically, organizations receive 20 percent of the funds for which they have applied. Mass. Eye and Ear historically receives approximately 30 percent of the NIH funds for which it applies, leading Mass. Eye and Ear to believe it could receive up to $23 million in new research funding in 2010.

At Mass. Eye and Ear, the physicians treating patients are also trying to cure that patient's disease. Most of the physicians at Mass. Eye and Ear are clinical researchers. Collaboration among physicians and scientists is the engine that makes Mass. Eye and Ear run. Much of Mass. Eye and Ear's research is translational or "bench to bedside." In other words, Mass. Eye and Ear researchers and physicians, in collaboration with each other and colleagues from other institutions, bring the innovation from the laboratory all the way to patient care. Many pursue clinical trials and recruit clinical trial participants from Mass. Eye and Ear's clinical practice. These clinical trials benefit both science and patients.

As an example, last year, Mass. Eye and Ear physicians, audiologists and surgeons conducted the first auditory brainstem implant surgery in New England. This implant restores enough hearing to allow patients who are profoundly deaf from neurofibromatosis, to hear doorbells, horns, loud knocks and to improve their quality of life with better communication. This is just one recent example. Physicians and scientists at Mass. Eye and Ear are continuously developing new techniques, procedures and innovations that have a great impact on the quality of patients' daily lives.

This powerful combination of patient care and research requires that most laboratories be kept within short walking distance to the main campus, allowing physicians and scientists to easily and efficiently move between the clinical and research spaces throughout the day.

Additional Trends Impacting Mass. Eye and Ear

In addition to the above trends, Mass. Eye and Ear has also seen the following changes since 1970:

- The number of ophthalmology patients has increased by more than two-thirds.
- The number of people seeking ear, nose, throat, head and neck care has tripled.
- Mass. Eye and Ear is now the second busiest Boston hospital for pediatric surgical procedures.
- The full-time medical staff has increased from 13 to 115, and now Mass. Eye and Ear has almost 200,000 patient visits annually from Boston, the Commonwealth of Massachusetts, the United States and increasingly, from all over the world.

There have also been changes in Department of Public Health (DPH) requirements since 1970, as described below:

- Move from multiple bed inpatient rooms to single bed inpatient rooms;
- Move to all ADA-compliant public toilet rooms;
- Increase in the number of program requirements for Inpatient Units, such as documentation areas, charting areas, and appropriate visitor lounges;
- Increase in size requirements for existing programs for Inpatient Units such as clearances for patient beds and stretchers, equipment storage, bathing facilities, staff lounges, locker rooms, and toilets;
- Increase in size requirements for programs for Outpatient Facilities such as clearances in exam rooms, oversized toilet rooms, and support areas; and
- Increase in size requirements for programs in Surgical Facilities such as operating rooms, pre- and post-operative bays, and their support areas.

1.5.2 Mass. Eye and Ear's Projected Growth Trends

Mass. Eye and Ear focuses on health issues that are more often found in an aging population. Therefore, as the older population becomes a larger proportion of the overall population, the need for Mass. Eye and Ear's services increases. The 60-74 age group is projected to increase by more than 30 percent between 2010 and 2020, a far larger increase than any other age group. The second fastest growing age group is the 75 and older group, with a projected increase of more than ten percent. Individuals in these age groups are the ones in the most need for Mass. Eye and Ear's services.

Mass. Eye and Ear anticipates a growth of approximately 22 percent in patient volume between 2010 and 2020 on the Charles Street campus. To accommodate this growth, Mass. Eye and Ear anticipates a growth in employment of approximately 3.5 percent on the Charles Street campus.

Services that are projected to grow faster than the state's population include: age-related macular degeneration, blindness, glaucoma, olfactory impairment, tongue cancer, sleep apnea, and other conditions.

In addition, Mass. Eye and Ear anticipates a significant growth in research funding. Mass. Eye and Ear has conservatively projected total research spending to grow from $32,600,000 in FY 2009 to $43,100,000 per year in 2020, a 32 percent growth in research spending. It is anticipated that growth in Mass. Eye and Ear research space over the next ten years will lead to an additional $87,500,000 in the pursuit of finding cures in the areas of otolaryngology and ophthalmology.

1.6 Existing Campus and Facilities

Mass. Eye and Ear's Charles Street Campus has two main components. Its main facility is located at 243 Charles Street, and consists of an older building constructed in 1899 (the 1899 Building), a larger building constructed in 1970-74, and a Connecting Building, which is located partly on Mass. Eye and Ear's land and partly on Mass General's campus. Around the corner on Cambridge Street, Mass Eye and Ear owns three buildings at 309-311, 313, and 317-325 Cambridge Street (see Figure 1-1, above). Mass. Eye and Ear's campus also includes the Charles Street Garage and the adjacent John Jeffries House, as well as surface parking across from 243 Charles Street that is leased from the Department of Conservation and Recreation.

A description of Mass. Eye and Ear's owned and leased properties is provided below.

1.6.1 Property Owned by Mass. Eye and Ear

Mass. Eye and Ear owns seven properties in Boston. Research and clinical activities are located in the 243 Charles Street building and adjacent Connecting Building. The Connecting Building is partially owned and partially leased. Administrative space is provided in the 243 Charles Street building. Research activities are also housed in 317-325 Cambridge Street. 309-311 includes administration space. 313 Cambridge Street, which was recently purchased, is currently being vacated. The John Jeffries House is a bed and breakfast and is also used for functions. Table 1-1 provides information on Mass. Eye and Ear's properties.

1.6.1.1 Facility Limitations

Mass. Eye and Ear's research facilities are presently housed in the 243 Charles Street building that was constructed in 1899, which has exceeded its useful life, the Connecting Building Research Wing, a research annex that was constructed in 1954, the Mass. Eye and Ear main clinical building that was built from 1970-74, and the 325 Cambridge Building. These research facilities have outdated designs and small rooms that result in an inefficient layout of research space. Most physicians at Mass. Eye and Ear are researchers, and therefore Mass. Eye and Ear needs to keep research functions at the main campus, preferably within a short walking distance of the main clinical building, allowing Mass. Eye and Ear physicians to continue their active research programs while also treating patients.

Due to the age, physical limitations and amount of the current space, it is difficult for Mass. Eye and Ear to recruit new faculty, thereby limiting its ability to respond to growing clinical demand and research opportunities. The lack of available space suitable for Mass. Eye and Ear's needs adjacent to its campus have limited Mass. Eye and Ear's physical growth; to continue its mission, Mass. Eye and Ear needs new space. The existing facilities cannot meet the needs of the new research associates and the significant amount of funding that Mass. Eye and Ear conservatively anticipates over the next decade. In addition, administrative services that require face-to-face interaction, and therefore need to be located within or adjacent to the Charles Street campus, will need to be accommodated as space is made for clinical and research functions. Mass. Eye and Ear also requires space for training which it cannot accommodate within its existing buildings due to space and technological limitations, and has had to lease temporary space in the surrounding area to accommodate these functions for the near term.

Mass. Eye and Ear's clinical limitations are related to the limited space available for the existing patient population that has grown significantly, and the projected patient population into the future. In addition, Mass. Eye and Ear sees the need to further improve the family and support areas in the main building, including the main entrance to 243 Charles Street, currently located on Fruit Street, which can only be accessed by travelling through Mass General's campus, waiting and support areas which are insufficient for the volume of patients served, and a reorganization of the internal spaces to ease access and provide sufficient support space.

The existing Mass. Eye and Ear facilities lack the space required to support its short and long range service needs largely due to the newer building codes now required for the design and construction of healthcare facilities. Newer codes require that operating rooms be 20%-30% larger than many of the existing rooms, in-patient rooms must be transitioned from two bed semi-private rooms to single bed private rooms, and the Emergency Department needs be expanded to accommodate larger treatment rooms and wider corridor widths. These and other space challenges, when coupled with rapid growth in outpatient volume, are combining to create a severe shortfall in clinical space for the treatment of Mass. Eye and Ear's patients.

1.6.2 Space Leased by Mass. Eye and Ear

As mentioned above, the Connecting Building is partially owned and partially leased by Mass. Eye and Ear. Mass. Eye and Ear leases space in the Schrafft Center in Charlestown which is used for administrative purposes. Table 1-2 provides information on Mass. Eye and Ear's leased properties in Boston. Mass. Eye and Ear also leases space in several suburban locations, primarily for clinical use.

1.6.3 Parking

Mass. Eye and Ear both owns and leases parking in the area proximate to its campus. The 135-space Charles Street Garage and adjacent 12-space surface parking lot are owned by Mass. Eye and Ear. The 325-space Storrow Drive parking lots, which include the Storrow Lot and Charles Lot, are leased from the Department of Conservation and Recreation, while 56 parking spaces are leased from the Museum of Science.

1.6.3.1 Parking Limitations

Mass. Eye and Ear's parking facilities are heavily utilized during peak times of the day, and access to the Charles Lot from Cambridge Street can be confusing, especially to first time patients and visitors. As part of its IMP, Mass. Eye and Ear plans to make access and egress improvements to the Charles Lot, as well as add new parking to the Charles Street Garage by installing stackers.

1.7 Summary of Institutional Master Plan / Proposed Projects

Over the next ten years, Mass. Eye and Ear proposes a facilities plan to address the growing need for the specialty care that Mass. Eye and Ear offers. Research and clinical space are the greatest need, while administration and support space is also important as Mass. Eye and Ear's patient-base increases. The IMP proposed new construction includes the following:

- 325 Cambridge Building – Mass. Eye and Ear is proposing the development of an approximately 89,700 sf (approximately 43,300 net new sf) building on the site of the existing buildings, with clinical and research space. Although this building will only modestly expand the Mass. Eye and Ear campus, this replacement building will expand and upgrade Mass. Eye and Ear's clinical and research facilities, expanding the overall clinical space available for patients on Mass. Eye and Ear's campus and providing much needed upgraded space for research activities. As mentioned in Section 1.5.1, it is important that research space is located proximate to clinical space since most physicians at Mass. Eye and Ear are also clinical researchers.

Table 1-1 Owned Facilities

Hospital-owned Facilities	Year Built	Address	Principal Uses	Floors Above / Below Grade	Height in Feet*	Zoning GFA SF	Parking	Condition
243 Charles Street	1899/1927/ 1974	243 Charles Street	Hospital/Admin	15/1	250	336,930	0	Good
309 Cambridge Street	1940	309-311 Cambridge Street	Admin	2/0	22	1,848	0	Average
313 Cambridge Street	1896	313 Cambridge Street	--**	5/0***	57	5,000†	0	Poor
325 Cambridge Street	1924	317-325 Cambridge Street	Admin/Research	9/1	113	39,538	0	Average
Connecting Building‡	1954	Fruit Street	Hospital/Admin	8/1	124	36,898	0	Average
John Jeffries House	1920	14 David G. Mugar Way	Bed and Breakfast	4/1	40	22,664	12	Good
Charles Street Parking Garage	1919	144 Charles Street	Parking	4	51	47,712	135	Good
TOTAL						**490,590**		

* Heights are approximate and are measured to the top of the highest occupiable floor per the Boston Zoning Code.
** 313 Cambridge Street was purchased on December 15, 2009, and is currently being vacated.
*** The number of floors above and below grade is estimated.
† The GFA SF of the 313 Cambridge Street building is estimated.
‡ The Connecting Building is partly owned/partly leased by Mass. Eye and Ear. MGH also partly owns the building.

Table 1-2 Leased Space in Boston

Leased Space	Address	Uses	Square Feet	Lease Expiration
Connecting Building (2 floors)	Fruit Street	Hospital/ Administration	16,195	N/A*
Schrafft Center	529 Main Street	Administration	5,936	2014
Total			**22,131**	

* The Connecting Building is partly owned/partly leased by Mass. Eye and Ear. MGH also partly owns the building.

- John Jeffries Annex – This approximately 25,000 sf, four-story building will be constructed on the surface parking lot adjacent to the John Jeffries House and the Charles Street Parking Garage. The building is proposed to be used for administration space. As mentioned above, these services require face-to-face interaction with the employees, medical staff, and/or patients of Mass. Eye and Ear on a daily basis and therefore must remain within a short walking distance to the main building. The construction of this building will relieve space pressure at the Charles Street Building, and further the renovation and upgrade of clinical and research facilities.

- Charles Street Rehabilitation – The original six-story building, constructed in 1899, will be demolished and replaced with a new structure in its footprint, with a height that is approximately equivalent to that of Mass. Eye and Ear's main building, providing upgraded space for the clinical and support functions at the main facility. The project also includes other small additions to the existing building and the relocation of the main entrance to Charles Street. In addition, portions of the existing building will undergo rehabilitation. Total net new space will be approximately 50,500 sf.

The other improvements proposed in this IMP include:

- An approximately 1,500 sf addition to the John Jeffries House which will serve as a function space;

- A change in use of a portion of the John Jeffries House; and

- The addition of stackers in the Charles Street Garage which will accommodate up to approximately 75 additional vehicles.

No new beds are proposed; however, due to mandates from the state, Mass. Eye and Ear requires additional space to accommodate the existing beds, since double rooms are being converted to singles.

In addition to the new space provided by the IMP Projects, Mass. Eye and Ear expects to require additional leased research space off-site proximate to the main campus. Mass. Eye and Ear plans to lease approximately 80,000 to 100,000 sf for research, depending upon the availability of suitable real estate. In the LMA, Mass. Eye and Ear is also in the process of leasing a facility with approximately 70,000-90,000 sf to consolidate and expand its LMA operations.

While the location of the future leased research space proximate to Mass. Eye and Ear's campus is unknown, Mass. Eye and Ear intends to limit its search to the area north of Cambridge Street, between Staniford and Charles streets.

Chapter 2 includes a more detailed discussion of the IMP Projects.

As a first step to address the anticipated growth needs of Mass. Eye and Ear over the next ten years, Mass. Eye and Ear is initiating the IMP process as well as the Large Project Review process. This IMPNF/PNF is being submitted in accordance with Article 80D-5 and Article 80B-5 of the City of Boston Zoning Code to initiate the IMP and Large Project Review processes. An IMP will be submitted after issuance of a Scoping Determination by the BRA for ultimate approval by the BRA and the City of Boston Zoning Commission (BZC). A Draft Project Impact Report (PIR) will also be submitted after issuance of a Scoping Determination by the BRA for approval by the BRA.

1.8 Public Benefits

1.8.1 Community Benefits

1.8.1.1 Overview

Mass. Eye and Ear was founded in 1824 as a charitable clinic to provide eye and ear care to Boston's needy. Although the health care field and medicine have undergone many changes during the last 185 years, Mass. Eye and Ear's commitment to provide the highest quality eye and ear, nose and throat care to those in need of it, regardless of a person's ability to pay, has not wavered.

During FY 2008, Mass. Eye and Ear dedicated a portion of its financial and personnel resources to treat, preserve and restore vision, hearing and voice in people from Boston, New England, the United States and the world who otherwise could not afford the care. As a unique resource, Mass. Eye and Ear treats a large number of patients from a broader geographic area than many other Massachusetts hospitals. In addition, as mentioned above, Mass. Eye and Ear acts as a resource in its specialties to other HMS affiliated institutions.

In additional to all of the services that Mass. Eye and Ear provides to the community as either a community benefit or a community service program, it also provided approximately $2.3 million for the following:

- Unreimbursed Medicare Services;
- Unreimbursed Health Safety Net Services;
- Services that were written off as part of Mass. Eye and Ear's internal financial assistance program;
- Payments made to fund the Health Safety Net; and
- Payments to cover Mass. Eye and Ear's portion of the operational assessment of the Division of Health Care Finance and Policy.

Mass. Eye and Ear's Community Benefits Mission Statement was re-examined and re-approved by its Board of Directors on October 22, 2002, and is as follows:

> "Be it resolved that the Massachusetts Eye and Ear Infirmary ("the Infirmary") hereby reaffirms its commitment to serve the identified health care needs of its constituent communities/patient populations ('the designated community').
>
> That designated community is further defined for this purpose as residents of the Greater Boston area with, or at risk of, disorders of vision, hearing, voice or speech, with a special emphasis on underserved populations.
>
> That such a commitment is recognized as an integral part of the mission of the Infirmary.
>
> That efforts to fulfill this commitment will build upon traditional partnerships between the Infirmary and the designated community, recognizing the value of such collaboration.
>
> That Infirmary will develop, implement, and update as necessary a formal plan for fulfilling this commitment, which will include allocation of appropriate resources to address identified health care needs of the designated community."

Mass. Eye and Ear's Community Benefits Mission Statement was initially reviewed and approved by Mass. Eye and Ear's Board of Directors on September 7, 1994. The Board of Directors receives regular updates on the hospital's community benefits activities.

1.8.1.2 Internal Oversight and Management of the Community Benefits Program

Mass. Eye and Ear established a Community Benefits Advisory Committee in early 1995 to promote community and hospital-based involvement in the development of its Community Benefits program. The Community Benefits mission statement serves as the Community Benefits Advisory Committee's guiding principles.

The committee consists of representatives from Boston-area nonprofit agencies and organizations, members of Mass. Eye and Ear's medical, resident and management staffs, members of the Mass. Eye and Ear Board, and Mass. Eye and Ear Trustees. Mass. Eye and Ear's Office of Public Affairs provides the main staffing support. The committee's membership is intentionally dynamic, allowing for the committee to expand or contract as needed.

1.8.1.3 Community Benefit Summaries

Community benefits from Mass. Eye and Ear are provided in kind and financially to the surrounding community and beyond. Mass. Eye and Ear provides a number of services to the community, including vision screenings, providing space for support groups, cancer screenings, and other services that are described below.

Services for Children

Neighborhood House Charter School Vision and Hearing Care Program

The Neighborhood House Charter School Vision and Hearing Care Program provides vision and hearing screenings and follow-up care to the students of this growing school. The program has grown as the school's population has grown. Services were initially provided to 50 students. Mass. Eye and Ear now cares for the current student population of more than 400 children, ages 4 through 13, in grades K-8, in their new location on Queen Street. Mass. Eye and Ear's program involved conducting vision and hearing screenings and then working with the students' parents/guardians to ensure that those who need follow-up care receive it, regardless of their ability to pay. All children who failed hearing and vision screenings were invited to come to the Mass. Eye and Ear for free care if care by their own pediatricians was unavailable.

Camp Harbor Vision Screenings

Mass. Eye and Ear volunteers traveled to Long Island in Boston Harbor twice to provide vision screenings to children at Camp Harbor View. The camp opened in 2007 at the request of Mayor Menino and provides children living in Boston with a supportive and structured summer environment. Camp Harbor View now serves more than 600 children from Boston's at-risk neighborhoods.

South Elementary School Vision Screening

Mass. Eye and Ear ophthalmology department members volunteered their time in March 2008 to conduct a vision screening at the South Elementary School in Stoneham, where they screened 80 children for vision disorders such as amblyopia, strabismus and significant refractive error.

Services for the Elderly

Hearing Aid Orientation Classes

Hearing Aid orientation classes were held on Fridays at Mass. Eye and Ear and its satellite location in Stoneham for those new to hearing aids. Family members and friends of patients were also encouraged to attend. The classes help to orient the patient to hearing

aid wear and offers the opportunity for discussion with family members and friends to help them better understand the difficulties experienced by individuals with hearing loss and to improve communication.

Public Forum on Hearing

The Department of Audiology hosted its 8th Annual *Have You Heard?* Public Forum on Hearing and Balance on Saturday, September 27, 2008 in the Meltzer Auditorium. Presentations included an update on medical and surgical therapies for hearing loss, understanding hearing aid technologies and features, and vestibular research at Mass. Eye and Ear. This free seminar was for anyone interested in learning more about the ear and hearing, treatments for hearing loss and current research.

Helping With the Weymouth Lions' Eye Mobile

Mass. Eye and Ear ophthalmology residents volunteered their time to provide screenings on the Weymouth Lions' Eye Mobile for eye conditions such as glaucoma, cataracts, presbyopia, refractive error and macular degeneration. The goal of the program was to identify people who would benefit from a more thorough exam in an ophthalmologist's office.

MCOA Annual Conference Participation

The Massachusetts Association of Councils on Aging (MCOA) and Senior Center Directors, a network of statewide organizations that work on behalf of seniors and their families, held its annual conference in October 2006. With an audience of more than 700 representatives from local Councils on Aging, the conference offered 80 workshops to attend and 70 exhibitors to visit. Mass. Eye and Ear hosted two workshops and an information table.

Services for Other Special Populations

Head and Neck Cancer Screening

In recognition of Oral, Head and Neck Cancer Week, Mass. Eye and Ear provided free head and neck cancer screenings to raise awareness about the importance of early detection.

R.O.S.E. Fund Collaboration

As part of the collaboration with the R.O.S.E. (Regaining One's Self-Esteem) Fund, Mass. Eye and Ear continued to provide medical and surgical care to a 25-year-old patient who had been severely burned with acid in 2004. Following a series of reconstructive facial procedures, she underwent complex ocular surgery. Another young woman was helped after a domestic abuse incident.

Community Benefits Health Fair

Mass. Eye and Ear was one of several member hospitals that participated in the Conference of Boston Teaching Hospitals' (COBTH) third annual State House Community Benefits Day. This year's theme was "Partnerships for Healthy Communities." The day recognized Boston Mayor Thomas Menino's commitment to public health issues and honored him with its Public Health Champion Award. Mass. Eye and Ear President and CEO John Fernandez, along with a number of other hospital CEOs and State Senate President Therese Murray, praised Mayor Menino for his efforts. Mass. Eye and Ear volunteers provided sunglasses and sunscreen, as well as educational materials about preventing noise-induced hearing loss and treating swimmer's ear.

Support Groups

Mass. Eye and Ear provides meeting space for a number of support groups, including the Laryngectomees Support Group, Facial Paralysis Support Group, and Glaucoma Support Group.

Flu Clinic Assistance

Mass. Eye and Ear nurses assisted in several community flu clinics during fiscal year 2008 and helped to administer more than 470 doses at a flu vaccine clinic at the State House in December 2007. The clinic was organized by the Council of Boston Teaching Hospitals.

Operation Able

Operation Able is a dedicated non-profit organization providing computer training to the economically challenged and to individuals over the age of 45 at training sites in Boston and Woburn. Mass. Eye and Ear participates with Able by conducting mock interviews with soon-to-be graduates in preparation for real job interviews and interviewing graduates of the program for positions at Mass. Eye and Ear. A representative of Human Resources serves on the Employer Advisory Committee, which helps identify employer needs so training can focus towards fulfilling these needs. Two Human Resource Generalists serve as volunteers for Operation Able.

Education Opportunities

P.R.I.S.M. Students Learn About Balance

Students from HMS's Program for Research and Investigation in Science and Math (P.R.I.S.M.) visited the hospital in July to learn about the vestibular system through presentations and tours of the Jenks Vestibular Physiology Laboratory and the Jenks Vestibular Diagnostic Laboratory. The tour included lectures from a variety of staff and fellows. Each year, this program is arranged for the students as part of the hospital's community benefits program.

Work and Family Series

This program includes family support and ongoing educational workshops to help employees and their families address elder and child care issues. Examples of courses include "Legal and Financial Issues for Older Adults."

Vision Rehabilitation Centers

Vision Rehabilitation staff presented a lecture, "Evolving Vision Rehabilitation Model of Care Addresses the Whole Patient" at five locations in the Boston area. This lecture focused on senior citizens and allowed for discussion on vision related issues.

Vision Rehabilitation Center/South Shore Senior Center Directors Meeting

Vision Rehabilitation staff were invited to discuss "Visually Impaired Elders and Services Available" at this gathering of South Shore senior center directors.

Northeastern Co-Op Program

Mass. Eye and Ear is a long time participant in the Northeastern Co-Op program. Mass. Eye and Ear generally take about a dozen students a year, and is also employing a Suffolk Co-Op student this year. Further, Mass. Eye and Ear teams up with Mass General who has Boston Summer Scholars through John Hancock's program.

Local Community Investment

United Way Campaign

Employees organized the annual United Way Campaign, which resulted in nearly $16,000 in contributions to this national organization.

YMCA Black Achievers

Black Achievers is a national program of the YMCA. The goal is to recognize black employees for their career accomplishments who, in partnership with their employers, commit their time and talents to the development of young people. Mass. Eye and Ear is a proponent of this program.

Foundation Fighting Blindness Sponsor

Mass. Eye and Ear was a sponsor of the 19th Annual Gala - Shades of Spring – benefiting the Foundation Fighting Blindness. The urgent mission of the Foundation Fighting Blindness, Inc. is to drive the research that will provide preventions, treatments and cures for people affected by retinitis pigmentosa (RP), macular degeneration, Usher Syndrome, and the entire spectrum of retinal degenerative diseases.

Other Services

Free/Discounted Parking for Community/Public Service Events

Mass. Eye and Ear provides free or discounted parking in its lots for members of the community attending educational events at the hospital, for support groups and for other organizations, including Community Boating.

Shuttle Service Program

Security and transportation staff shuttle patients who have no way of getting to and from Mass. Eye and Ear on their day of surgery.

Taxi Vouchers for Needy Patients

Free taxi transportation is provided for patients and families in emergency situations until arrangements can be made through Medicaid, the senior shuttle, The Ride, etc. Approximately 20-35 vouchers are provided each month.

Free Eyeglasses Program

The Mass. Eye and Ear optical shop provides free eyeglasses to patients who fit the free care guidelines and are unable to pay for eyeglasses.

Social Services Caring Above and Beyond

The Department of Social Work provides funding for emergency food, transportation, parking and other incidentals to patients throughout the year.

Social Services Consultation for Non-Mass. Eye and Ear Patients

The Department of Social Work provides information and referral for homecare, financial resources, and vision and hearing resources for non-Mass. Eye and Ear patients in the community.

Hearing Aid Center

Mass. Eye and Ear's Hearing Aid Center provides an estimated $5,000 each year in free hearing aids for those in needs.

Howe Library Assistance

The Medical Librarians at Mass. Eye and Ear's Howe Library assist the general public and those who request information from Mass. Eye and Ear's website in finding medical material concerning any medical problem of interest. This could be as extensive as a computer search or as minimal as a quick scan of a book or searching on the Internet.

Diabetes Education

Mass. Eye and Ear participated in the Diabetes Expo on March 15, 2008 at the Seaport World Trade Center. A display booth highlighted many of the services offered at the hospital for diabetic patients – especially those with diabetic eye disorders and diabetic non-healing wounds. Mass. Eye and Ear also had residents and medical students in the Lions Mobile conducting vision screenings.

Health and Fitness Expo

Mass. Eye and Ear participated in the Partners Health & Fitness Expo at the Hynes Convention Center. Mass. Eye and Ear had a display booth set up and gave out safety flyers, as well as information on all services and upcoming seminars.

MCOA Educational Opportunity

The Massachusetts Association of Councils on Aging and Senior Center Directors, a network of statewide organizations that work on behalf of seniors and their families, held its annual conference in Sturbridge on October 3–5. With an audience of more than 700 representatives from local Councils on Aging, the conference offered 80 workshops to attend and 70 exhibitors to visit. Mass. Eye and Ear hosted two workshops and an information table.

1.8.2 Workforce Development and Training

Mass. Eye and Ear provides a number of workforce development and training programs for its employees to allow them to continue their education, improve their knowledge, and become more effective in the workplace. These programs are described below.

HealthStream Learning Management System

All employees are introduced to Mass. Eye and Ear's HealthStream e-Learning system during new hire orientation. This system offers free internet based access to 175 courses covering a wide range of topics, such as providing age appropriate care, diversity and cultural competence, safety and security, emergency preparedness, advance directives and hand hygiene. The library also includes Spanish courses and allows for self enrollment and self guided pacing. Clinical staff can obtain continuing education credits at no cost in order to maintain or reapply for clinical licensing.

Technology Training

Employees are trained on a variety of systems pending job title and responsibilities. All employees are offered basic training on e-mail usage, the time and attendance record keeping system and the employee self serve portal. In addition, employees may be encouraged to complete additional computer training internally or externally through the Mass General Hospital Computer training program.

Ophthalmic Medical Personnel Training Program

Mass. Eye and Ear has designed a 24 week program to train ophthalmic medical personnel (OMP) by providing didactics on the fundamental topics in ophthalmology as well as instruction in essential exam skills and techniques. Core Course Curriculum includes Ocular Anatomy/Physiology, Eye Disease, Ocular Pharmacology, Optics, Ocular Motility, Eye Trauma, Patient Services, Universal Precautions and Low Vision. Technical Skills taught include History Taking, Vision Testing, Lensometry, Cover/Alternate Cover Test, Visual Fields, Tonometry, Pupil Testing, Slit Lamp, Refractometry, Basic Spectacle Principles, Ocular Photography, A-Scan Ultrasound, and Ophthalmic Imaging. Each session is designed to develop basic competency in each clinical area.

This core curriculum and competency based clinical skills training will provide the educational foundation for students to enhance their present role as an OMP and/or train the new OMP to become proficient in contributing to the care of the ophthalmic patient.

Continuing Education/Tuition Reimbursement Program

Mass. Eye and Ear recognizes that education and training are important to retaining quality employees whose growth and development will add to Mass. Eye and Ear's standards of excellence. Mass. Eye and Ear encourages employees to take advantage of opportunities to maintain or increase knowledge and skills in a present job or to prepare for career advancement. Regular full-time employees (36-40 hours per week) are eligible to apply for tuition assistance for courses from an accredited institution within an accredited degree or certificate program beginning after at least six months of continuous, regular full-time employment. Regular part-time employees (20-35.9 hours per week) are eligible to apply for tuition assistance for courses which begin after at least one year of continuous regular part-time employment.

Mass. Eye and Ear will generally approve programs/courses providing employees with a graduate equivalency diploma (GED) or adult diploma, leading to Associate's and Bachelor's degrees in business, sciences or social sciences and/or programs leading to a Master's degree. In addition, required or highly recommended coursework for the employee's advancement within Mass. Eye and Ear would be accepted.

1.8.3 Employment

Mass. Eye and Ear currently employs approximately 1,700 people (approximately 1,400 full-time equivalents (FTEs)), including associated personnel, at its facilities throughout the greater Boston area. Approximately 1,475 employees (approximately 1,200 FTEs) work on the Charles Street campus. Approximately 25 percent of Mass. Eye and Ear's Charles Street campus employees are Boston residents. Table 1-3 provides a breakdown of FTEs for each Boston neighborhood.

Over the next ten years, Mass. Eye and Ear plans to spend an additional four percent per year on salary and wages and four percent on fringe benefits to employees.

Table 1-3 Boston Employees by Zip Code

Neighborhood	Approximate FTEs
Beacon Hill	61
North End	2
Fenway	16
Back Bay	15
South End	15
Roxbury	17
Dorchester	66
Mattapan	23
South Boston	12
East Boston	12
Charlestown	7
Jamaica Plain	12
Roslindale	8
West Roxbury	9
Allston	11
Brighton	8
Hyde Park	21

The construction of the 325 Cambridge Building will result in approximately 250 construction jobs. It is anticipated that the full IMP Projects will result in approximately 2,430 construction jobs as well as an additional 50 full time equivalent jobs during the course of the next decade in the 243 Charles Street building, and four new research faculty and approximately 22 accompanying staff in the 325 Cambridge Building. Associated with these new faculty hires will be hiring of allied health professionals, additional laboratory staff, and administrative and support staffing (IT, accounts payable, housekeeping, etc.).

1.8.4 Linkage

Mass. Eye and Ear will contribute to the Neighborhood Housing Linkage Trust and Jobs Linkage Trust.

1.8.5 Additional Economic Benefits

Mass. Eye and Ear spent approximately $25,837,912 on goods and services associated with vendors within the city of Boston in FY 2009, and anticipates an annual increase of six percent each year over the next ten years. Over this period, Mass. Eye and Ear expects to purchase over $324 million of goods and services from vendors located in City of Boston.

Chapter 2.0
Proposed IMP Projects

2.0 PROPOSED IMP PROJECTS

This chapter provides descriptions of the Projects proposed by Mass. Eye and Ear within the term of its IMP, 2010–2020. This includes several Proposed Projects, Campus Improvements and On-going Upgrades to Existing Facilities.

2.1 IMP Projects

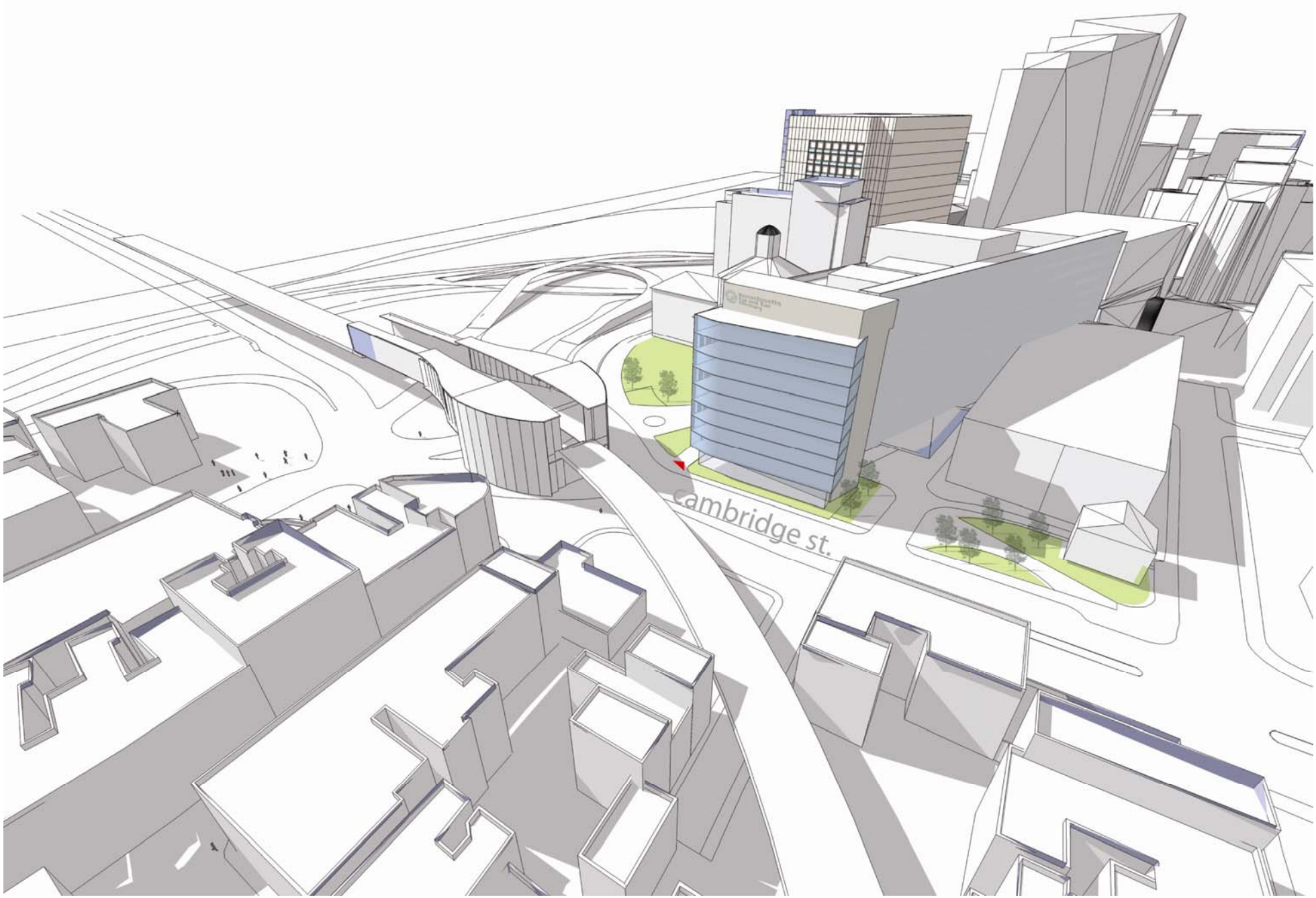
This section provides descriptions of the Proposed Projects, those projects entailing more than 20,000 square feet (sf). These Proposed Projects will also undergo Large Project Review concurrently with IMP review. Figures 2-1 shows the location of the Proposed Projects. Figures 2-2 to 2-4 depict the Proposed Projects in comparison to existing conditions. Table 2-1 summarizes the Proposed Projects.

Table 2-1 Proposed Projects Program

Project	Address	Proposed Use	Approximate Gross Floor Area (sf)
325 Cambridge Building	325 Cambridge Street	Clinical/ Research/ Administration	89,700
Demolition of 309-311, 313 and 317-325 Cambridge Street			(46,400)
Net New Construction			43,300
John Jeffries Annex	Charles Street/David G. Mugar Way	Admin	25,000
Charles Street Rehabilitation	243 Charles Street	Hospital/ Administration/ Research	
Entry Addition			3,400
Loading Dock Addition			700
Elevator Addition			5,100
Northwest Addition			69,100
Light well Infill Addition			5,000
South Entry Addition			1,700
Demolition of existing structure			(34,500)
Net New Construction			50,500

Figure 2-1
Site Plan with Proposed Projects

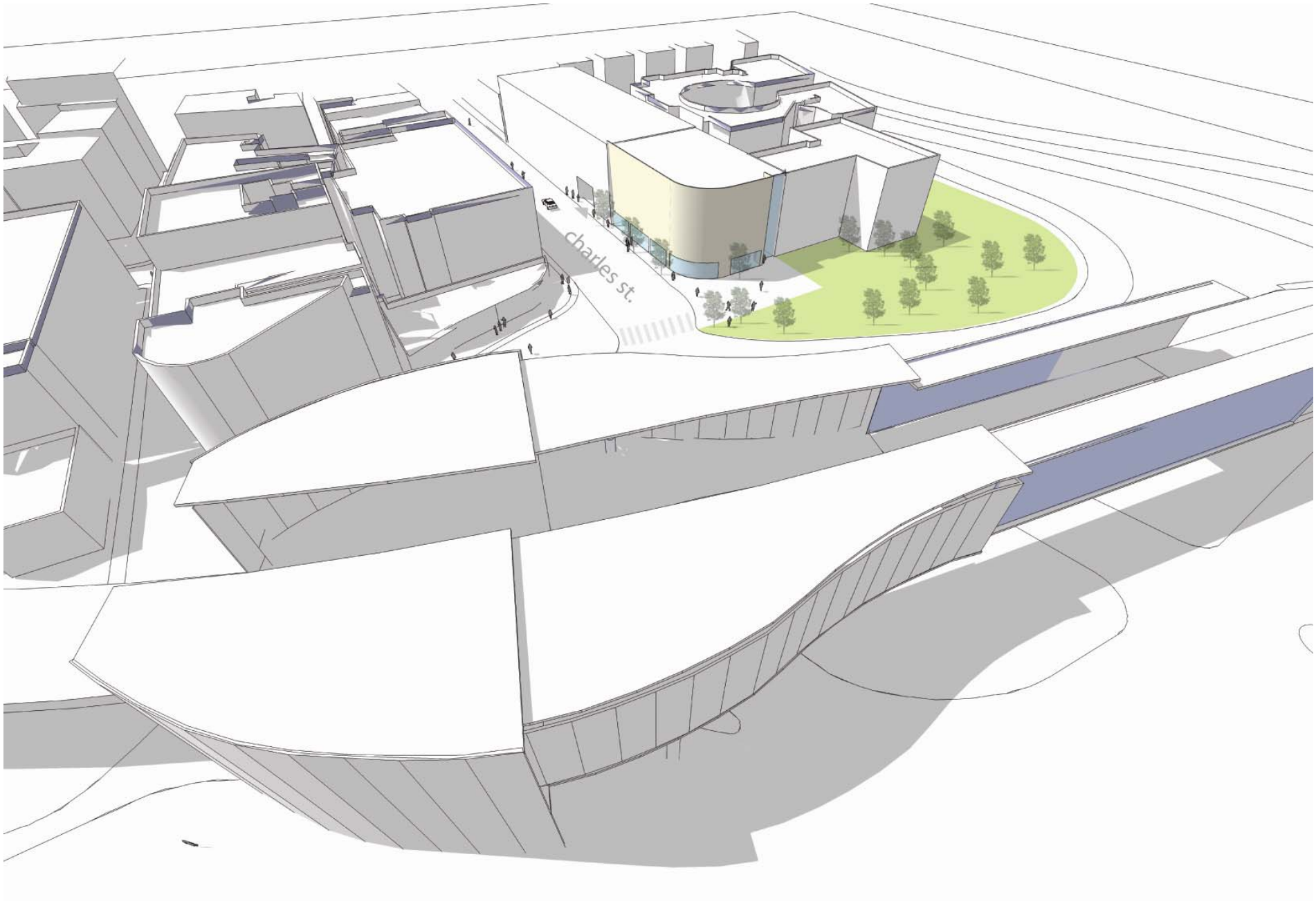
Massachusetts Eye and Ear Infirmary HDR



Note: Materials have not been chosen for the project, nor has the design been completed. The materials shown in these images are for illustrative purposes only.

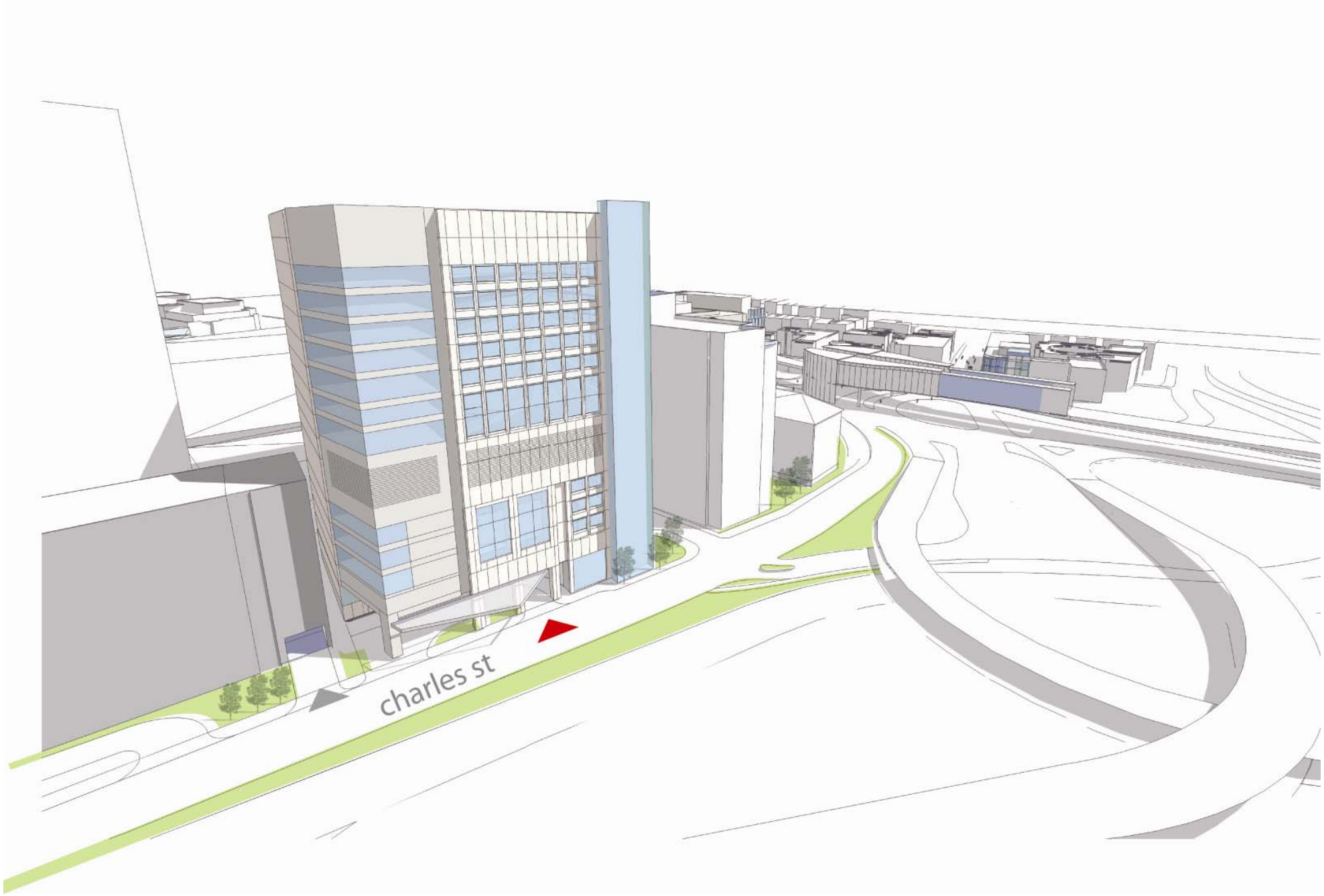
Figure 2-2
325 Cambridge Building

Massachusetts Eye and Ear Infirmary
TK&A
HDR TSOI / KOBUS & ASSOCIATES ARCHITECTS



Note: Materials have not been chosen for the project, nor has the design been completed. The materials shown in these images are for illustrative purposes only.

Figure 2-3
John Jeffries Annex



Note: Materials have not been chosen for the project, nor has the design been completed. The materials shown in these images are for illustrative purposes only.

Figure 2-4
Charles Street Rehabilitation

Massachusetts Eye and Ear Infirmary TK&A TSOI / KOBUS & ASSOCIATES ARCHITECTS

2.1.1 325 Cambridge Building

The 325 Cambridge Building will be constructed in place of the existing 309-311, 313 and 317-325 Cambridge Street buildings. The 325 Cambridge Building will be a 10-story building that will match the height of the adjacent Mass General's Yawkey Center for Outpatient Care (see Figure 2-2). The approximately 89,700-sf proposed building (approximately 43,300 net new sf) will accommodate needed clinical and research space proximate to the main building. The new, modern building will add much needed clinical space and will foster greater collaboration among research staff while providing the space needed for efficient and technologically innovative research. The ground floor of the building will include retail space.

Prior to the demolition of the existing buildings on the site, and to the construction of the 325 Cambridge Building, uses within the existing buildings will need to be relocated. Certain uses that are not necessary on the Charles Street campus will be relocated to the Schrafft Center. Research and other departments that need to be located on or adjacent to the Charles Street campus will temporarily be relocated during construction.

2.1.2 John Jeffries Annex

The John Jeffries Annex will be an approximately 25,000-sf, four-story building constructed on the existing surface parking lot adjacent to the John Jeffries House (see Figure 2-3). The building will be approximately the same height as the adjacent John Jeffries House and Charles Street Parking Garage.

The ground floor of the building will include retail space. The upper floors will house administrative functions that are being moved from the 243 Charles Street building to make space for more clinical space. These services require face-to-face interaction with the employees, medical staff, and/or patients of Mass. Eye and Ear on a daily basis and therefore must remain proximate to the Charles Street campus.

2.1.3 Charles Street Rehabilitation

The Charles Street Rehabilitation seeks to add and update the existing clinical and administration space. The first phase of the project includes approximately 15,900 sf of additions to the existing building, including an addition to the loading dock, additions to the entry on Charles Street, an addition to the South Entry, two new elevators, and the infill of three floors of the light well through the upper floors of the building. Renovations of a portion of the existing interior space will also occur.

The second phase of the project includes the demolition of the 1899 building, and the construction of a structure to be built in its place that will expand the floor plates of the main building, providing additional clinical and administrative space. The project will also relocate the main entry from the congested Fruit Street to Charles Street. The new entrance will be recessed inside the existing footprint, providing covered shelter for up to six

vehicles and providing a location for valet services to effectively transfer the vehicles. The project will add approximately 50,500 sf of net new space. Figures 2-4 and 2-5 show a bird's eye view and eye-level view of the project, respectively.

As stated in Chapter 1, Mass. Eye and Ear has seen a dramatic transition from inpatient to ambulatory care. To best serve this new and expanding mobile patient population, Mass. Eye and Ear must turn its attention to new and improved clinical facilities, efficient access, convenient wayfinding and appropriate clinical adjacencies. The Charles Street Rehabilitation includes changes to access and wayfinding starting with the covered entrance, moving to the enhanced vertical circulation and culminating in a realigned ambulatory clinical and inpatient services area that better serves Mass. Eye and Ear's patients in an efficient and effective manner. The newly renovated space and the new 325 Cambridge Building will add capacity to accommodate the existing strained facilities and the projected future patient population.

2.1.4 Existing Zoning

There is no existing Institutional Master Plan for Mass. Eye and Ear's campus in Boston. Mass. Eye and Ear's campus is located within several different zoning districts.

- Mass. Eye and Ear's main building, 243 Charles Street, and the Connecting Building are located in an H-4 district. The Connecting Building, which is shared by Mass. Eye and Ear and Massachusetts General Hospital (MGH), is also located within the MGH Institutional Master Plan Area.

- 309–311 Cambridge Street, 313–315 Cambridge Street and 317–325 Cambridge Street are located in the Cambridge Street North Side Protection Area within the Cambridge Street North District, which is governed by Article 47A of the Boston Zoning Code (the "Code").

- The Charles Street Garage (144 Charles Street) is located in an L-2-65 (local business) district. The John Jeffries House and adjacent parking lot are located partially in an L-2-65 district and partially in an H-2-65 (residential apartment) district.

- The John Jeffries House and adjacent parking lot, as well as the Charles Street Garage, are also located within the Groundwater Conservation Protection Overlay District, which is governed by Article 32 of the Code.

2.1.5 Anticipated Schedule

Construction for the 325 Cambridge Building is anticipated to commence in 2012 with expected completion in 2014. Construction of the John Jeffries Annex is anticipated to begin in 2014 with completion in 2016. Construction of the Charles Street Rehabilitation will include two phases, the first which includes the infill of the light well, small additions,

and rehabilitation of parts of the existing building will commence in 2011 with expected completion in 2014. Phase two, which includes the demolition of the 1899 building and infill construction in its place is anticipated to begin in 2017 with completion in 2019. The sequencing of these projects may change based on the timing of locating leased space for research or other factors.

2.1.6 Anticipated Permits

While Project design has not advanced sufficiently to definitively identify all the Proposed Projects approvals, Table 2-2 includes a list of public permits and approvals that may be required.

Table 2-2 List of Anticipated Permits: Proposed Projects

AGENCY	APPROVAL
City of Boston	
Boston Air Pollution Control Commission	Parking Freeze Permit/Exemption Certificate (if required)
Boston Redevelopment Authority	Institutional Master Plan Review/Large Project Review
Boston Zoning Commission	Institutional Master Plan Approval
Boston Civic Design Commission	Schematic Plan Design Review
Boston Transportation Department	Transportation Access Plan Agreement; Construction Management Plan
Boston Landmarks Commission	Demolition Delay Permit
Boston Water and Sewer Commission	Water and sewer connection permits; Site Plan Review; Approval of groundwater mitigation measures; Construction Dewatering Permit (if required)
Public Works Department	Curb Cut Permit
Public Improvement Commission	Improvements within public streets or sidewalks (if required)
Joint Committee on Licenses	Flammable storage license (for garage), if necessary
Inspectional Services Department	Building and occupancy permits
Boston Fire Department	Fuel Storage Permit, if required for any fuel storage tanks
State	
Department of Public Health	Determination of Need (if required); Plan Review
Department of Environmental Protection Division of Water Pollution Control	Sewer extension/connection permit(s)
Department of Environmental Protection Division of Air Quality	Fossil Fuel Utilization Approval (if required)

Table 2-2 List of Anticipated Permits: Proposed Projects (continued)

AGENCY	APPROVAL
Massachusetts Water Resources Authority	Sewer Use Discharge Permit; Construction Dewatering Permit (if required)
Department of Conservation and Recreation	Sidewalk relocation/discontinuance; Possible curb cut relocations
Massachusetts Historical Commission (MHC)	Determination of No Adverse Effect or Memorandum of Agreement (pursuant to MHC regulations)
Federal	
Environmental Protection Agency	NPDES General Permits Filings (if required)

2.2 Campus Improvements and Ongoing Upgrades to Existing Facilities

2.2.1 Campus Improvements

Mass. Eye and Ear plans to make improvements to the campus and surrounding area. These improvements include new sidewalks adjacent to the campus on Cambridge, Charles and Fruit streets. The movement of the main entrance from Fruit Street will not only improve access for Mass. Eye and Ear patients, but alleviate traffic backups on the adjacent Fruit Street. Also, a new driveway to the Charles Lot will be provided on Charles Street at the intersection with Fruit Street.

2.2.2 Upgrades to Existing Facilities

Mass. Eye and Ear plans to make upgrades to the John Jeffries House and the Charles Street Garage. The John Jeffries House will include a change in use to accommodate dining service in a portion of the building. A new approximately 1,500-sf addition to the building will also be constructed to create a small function room. The function room is anticipated to be used for small conferences during the weekdays, and possibly for events during the night and weekends, such as small weddings.

To accommodate a portion of the current and future parking needs, Mass. Eye and Ear plans on installing stackers in a portion of the Charles Street Garage. The stackers will be able to accommodate up to 75 additional cars without adding additional space to the existing garage.

2.3 Future Leased Space

Mass. Eye and Ear intends to lease approximately 80,000 to 100,000 sf of space at an as-of-yet undetermined location(s) proximate to its main campus for research space. The leased space will allow Mass. Eye and Ear to provide needed research space proximate to its clinical space. The future location and schedule of the lease(s) are not currently known. Mass. Eye and Ear will react to leasing opportunities as they arise, as demand and priorities allow, and as appropriate function match with available space.

While the location of the future leased research space proximate to Mass. Eye and Ear's campus is unknown, Mass. Eye and Ear intends to limit its search to the area north of Cambridge Street, between Staniford and Charles streets.

The space is expected to be leased within five years.

In addition, Mass. Eye and Ear is developing plans for an expanded presence in the LMA. In the LMA, Mass. Eye and Ear is in the process of leasing a facility with approximately 70,000-90,000 sf through which it envisions expanding its relationship with existing hospitals and expanding the availability of clinical services in the LMA.

Such leased facilities will not require an amendment to the IMP, as long as the Use category of underlying zoning which most closely describes the use of such facility, is either allowed 'as-of-right' by underlying zoning in the jurisdiction, or is allowed by zoning relief obtained by the property owner/landlord.

2.4 Campus Vision and Potential Projects

Mass. Eye and Ear anticipates that the completion of the Proposed Projects described above by the end of the IMP term will provide sufficient space to accommodate growth over the decade beyond 2020 on the Charles Street campus.

Chapter 3.0
Assessment of Development Review Components

3.0 ASSESSMENT OF DEVELOPMENT REVIEW COMPONENTS

The Proposed Projects together exceed the thresholds for Large Project Review under Article 80B of the Boston Zoning Code. The following sections provide summary statements of anticipated impacts of these Projects in the impact areas identified in Section 80B-3, including Transportation, Environmental Protection, Urban Design, Historic Resources, and Infrastructure Systems.

3.1 Transportation

This section provides a description of the existing transportation system serving Mass. Eye and Ear. It also presents a projection of trip generation for the Proposed Projects that are included in the Institutional Master Plan (IMP).

3.1.1 Existing Transportation

This section describes the existing transportation system serving Mass. Eye and Ear (see Figure 3.1-1). Several modes of transportation are available, including public transit, pedestrian and bicycle accommodations, the roadway network, parking, Mass. Eye and Ear loading and emergency vehicle access, and Mass. Eye and Ear's current transportation demand management (TDM) program.

3.1.1.1 Public Transit

Mass. Eye and Ear is well served by public transit. The MBTA's Red Line rapid transit Charles/MGH station is located in Charles Circle, about one block from the entrance to Mass. Eye and Ear's main facility at 243 Charles Street and about a half block from the 325 Cambridge Street facility. The MBTA Red Line is a high capacity, heavy rail transit service connecting Cambridge, Somerville, Boston, Quincy, and Braintree. It provides connections to the Green Line at Park Street and the Orange Line at Downtown Crossing, the next two stations south of the Charles/MGH station. Access to commuter rail south of the city is provided at South Station, the third station south of Charles/MGH. In 2006, the Red Line carried nearly 214,000 daily riders.[1] In 2007, an average of more than 9,000 passengers boarded the Red Line at the Charles/MGH station daily.[2]

The Charles/MGH station was reconstructed in 2007 to become fully handicap accessible. The elevated station has outside platforms that are accessed from the street level located in an island between the eastbound and westbound sides of Cambridge Street. Protected

[1] MBTA 2006 statistics.

[2] MBTA 2007 statistics.

Figure 3.1-1
Transportation System Serving MEEI

Massachusetts Eye and Ear Infirmary

VHB

crosswalks provide access to both sides of Cambridge Street. Prior to reconstruction, the station was not handicap accessible because access was only possible via stairways and elevated walkways across Charles Circle.

The Red Line system operates between approximately 5:00 am and 1:00 am. During the weekday peak period, the Red Line operates with 4.5-minute headways through the Charles/MGH station.

Direct access to commuter rail to the north of the city and to the Orange and Green lines is available at North Station, which is a little over a half mile walk from Mass. Eye and Ear. Local and commuter bus service to the North Shore is available at Haymarket Station, which is about three-quarters of a mile walk from Mass. Eye and Ear.

3.1.1.2 Pedestrian and Bicycle Accommodations

All of the roadways near Mass. Eye and Ear have sidewalks and crosswalks at signalized intersections. A crosswalk across Charles Street south of Fruit Street provides access between the Storrow parking lots on the west side of Charles Street and the Mass. Eye and Ear front entrance on Fruit Street.

A major bikeway is available along the Charles River Esplanade on the south side of the River. It provides bicycle access to the west, including Back Bay, Allston, Brighton, Cambridge, Watertown and Newton. There are no bicycle accommodations on the city streets near Mass. Eye and Ear. Mass. Eye and Ear provides two bicycle parking locations with capacity for 36 bikes. A rack near the Fruit Street entrance accommodates 14 bikes and there is storage for 22 bikes in the Charles Lot. Both locations have excess capacity. In the summer, the Fruit Street rack averages about 10 bikes and the Charles Lot averages about six.

3.1.1.3 Traffic

The roadways providing local access to Mass. Eye and Ear include Fruit Street, Charles Street, North Grove Street, Parkman Street, and Blossom Street. Mass. Eye and Ear is easily accessible from the regional roadway network, which includes Storrow Drive, the Longfellow Bridge, and Cambridge Street. Each of these roadways is described below.

- **Fruit Street** – Fruit Street provides direct access to the main entrance and the emergency department at Mass. Eye and Ear. It is one-way westbound from North Grove Street to Charles Street. It provides one travel lane and no parking is allowed on either side. A cutout at the Mass. Eye and Ear front entrance accommodates ambulances. Mass. Eye and Ear also provides valet parking from its front entrance. The Liberty Hotel and Mass General's Building for the Third Century (B3C) currently under construction have been set back from Fruit Street right-of-way so as to not preclude its future operation as a two-way street.

- **Charles Street** – Charles Street is one-way northbound from Cambridge Street (Charles Circle) to Leverett Circle and the ramps to I-93 southbound and northbound. It provides two travel lanes and a lane for handicap parking adjacent to Mass. Eye and Ear. South of Charles Circle, Charles is one-way southbound, providing access to Beacon Hill and Back Bay.

- **North Grove Street** – North Grove Street is the main entrance to Mass General from Cambridge Street and provides access to Fruit Street and the Mass. Eye and Ear main entrance. It operates one-way northbound with three travel lanes. It also provides access to Mass General's Emergency Department.

- **Parkman Street** – Parkman Street is a two-way roadway connecting Blossom Street with North Grove Street and Fruit Street. It provides a second access to the Mass General campus and Mass. Eye and Ear main entrance.

- **Blossom Street** – Blossom Street is a major connector road between Cambridge Street, and Charles Street and Storrow Drive approaching Leverett Circle. It is two-way and has two travel lanes in each direction. It provides access for traffic exiting Mass. Eye and Ear back to Cambridge Street to reach downtown, the Longfellow Bridge to Cambridge, and Storrow Drive westbound.

- **Storrow Drive** – Storrow Drive is the major east-west regional roadway serving the area. It is a limited access roadway and provides access to the Turnpike Extension in Allston-Brighton and I-93 at Leverett Circle. Ramps provide full access between Charles Circle and Storrow Drive in all directions. It contains three travel lanes in each direction approaching Charles Circle.

- **Longfellow Bridge** – The Longfellow Bridge crosses the Charles River connecting Boston and Cambridge. It carries two travel lanes in each direction for vehicles as well as the MBTA's Red Line. There are connections to Memorial Drive on the Cambridge side of the River and to Storrow Drive on the Boston side of the River. It connects Main Street and Broadway in Cambridge with Cambridge Street in Boston.

- **Cambridge Street** – Cambridge Street is the main connection between Government Center and Downtown Boston, and Storrow Drive and the Longfellow Bridge. It generally provides two travel lanes in each direction and separate left-turn lanes at major signalized intersections. It provides access to Parkman Street and the Mass General and Mass. Eye and Ear campuses.

3.1.1.4 Parking

The following sections detail the hospital parking supply and its utilization, and the public parking supply within walking distance to Mass. Eye and Ear.

Mass. Eye and Ear Parking

Mass. Eye and Ear owns the Charles Street Parking Garage at 144 Charles Street and a surface lot at 14 David G. Mugar Way just south of Charles Circle. It leases parking in three locations:

- Storrow Lot between the westbound (outbound) and eastbound (inbound) lanes of Storrow Drive just north of Cambridge Street and the Longfellow Bridge;
- Charles Lot between the eastbound (inbound) lanes of Storrow Drive and Charles Street north of Cambridge Street; and
- Museum of Science Parking Garage on Monsignor O'Brien Highway.

The inventory of spaces owned and leased by Mass. Eye and Ear is shown in Table 3.1-1. The table includes the allocation of spaces to various users and peak utilization. Mass. Eye and Ear provides 528 parking spaces, including 292 spaces for patient and visitor parking (including 12 handicap parking spaces), 25 physician spaces, and 129 employee spaces. Mass. Eye and Ear patient and visitor parking areas approach or are at full occupancy at peak times (late morning and early afternoon).

The following provide a more detailed description of on-campus parking facilities:

- **Storrow Lot** – The Storrow Lot is a 146-space surface parking facility located between the eastbound and westbound lanes of Storrow Drive. Pedestrian access is via the crosswalk on Charles Street just south of Fruit Street, and stairways and a cantilever walkway attached to the northerly edge of the Storrow Drive westbound on-ramp. This walkway provides access over the Storrow Drive eastbound lanes.
- **Charles Lot** - This 179-space surface parking lot is located under the Storrow Drive westbound on- and off-ramps. Access to this lot is via the crosswalk on Charles Street just south of Fruit Street. A stairway leads down to the parking lot from Charles Street. A ramp is also available to provide access to 11 handicap spaces. The Charles Lot also provides two Zipcar spaces.
- **Charles Street Parking Garage** - The Charles Street Parking Garage is a valet-operated facility with 135 spaces. A majority of the spaces are used by Beacon Hill residents on a monthly basis. This usage is expected to remain stable in the future. The remainder of the available spaces are used for MEEI employees and transient parking. The planned addition of up to 75 stackers during the term of the IMP will allow for the relocation of hospital employees from the Storrow and Charles lots to the Garage to make more spaces available in the lots to patients and visitors.

Table 3.1-1 Mass. Eye and Ear Parking Supply

Facility	Location	Number of Spaces								
				Patient/Visitor						
		Total	Handicap	Self-park	Valet	Employee	Physician	Other	Peak Occupancy[1]	Mode to Campus
Owned										
Charles Street Garage	144 Charles Street	135			33[2]	23		79[3]	135	Walk
Surface Parking Lot	14 David G. Mugar Way	12				12			12	Walk
Leased										
Storrow Lot	Between Inbound and Outbound Storrow Drive	146	1	82		38	25		150	Walk
Charles Lot	Between Inbound Storrow Drive and Charles Street	179	11	149	16			3[4]	195	Walk
Museum of Science	Monsignor O'Brien Highway	56				56			54	Walk/ Shuttle[5]
Total		528	12	231	49	129	25	82	546	

1. Late morning.
2. Includes non-Mass. Eye and Ear short-term parking.
3. There are 171 monthly parkers but not all park everyday; many are overnight parkers.
4. Shuttle and Zip Car Parking.
5. Partners Shuttle.

- **Museum of Science Garage** - Mass. Eye and Ear leases 56 spaces at the Museum of Science Garage for employee parking. Access between the Garage and Mass. Eye and Ear is by walking or use of the Partners Shuttle which also serves Mass General leased spaces in the Museum Garage.

Area Public Parking

Public parking in the area is available in several locations as shown in Table 3.1-2. In addition to the 11 handicap spaces in Mass. Eye and Ear's Charles Street Lot, there are an additional seven on-street handicap spaces adjacent to Mass. Eye and Ear on Charles Street. There are 216 two-hour meters in the area around Mass. Eye and Ear, about 2,000 spaces for Mass General patients and visitors, and about 1,000 public spaces in Charles River Plaza and the Cambridge Street Garage on the corner of Cambridge Street and Blossom Street.

Table 3.1-2 Area Public Parking

Location	Facility Type	Number of Spaces	Type of Spaces
Charles Street adjacent to Mass. Eye and Ear	On-Street	7	Handicap
Cambridge Street between Blossom Street and Charles Street	On-Street	26	Metered
Charles Street between Cambridge Street and Revere Street	On-Street	18	Metered
North Anderson Street	On-Street	12	Metered
Blossom Street	On-Street	63	Metered
Yawkey Center Garage	Below Grade	625	Mass General Patients/Visitors
		100	Liberty Hotel
Fruit Street Garage	Above Grade	720	Mass General Patients/Visitors
Parkman Street Garage	Above Grade	622	Mass General Patients/Visitors
Wang Ambulatory Care Center Lot	Surface Lot	90	Mass General Valet
Charles River Plaza	Surface Lot	160	Market Rate
Cambridge Street Garage	Below Grade	794	Market Rate

3.1.1.5 Loading and Emergency Vehicle Access

Off-street loading for Mass. Eye and Ear is provided on the north side of the building adjacent to the Mass General Founders House building and the driveway to Mass General's new loading dock in B3C. It can accommodate up to two vehicles at a time. Access is via Charles Street.

Emergency vehicle access to Mass. Eye and Ear is provided at its front entrance on Fruit Street. A one-vehicle cutout is provided directly in front of the Mass. Eye and Ear door to accommodate emergency vehicle unloading and loading. Access to the Mass. Eye and Ear emergency entrance is via Fruit Street from Parkman Street or North Grove Street.

3.1.1.6 Transportation Demand Management

The Mass. Eye and Ear transportation demand management (TDM) program includes the following measures:

- MBTA Corporate Pass Program, providing tax-free withholding from employees pay for transit passes;
- A 10 percent transit pass subsidy;
- Carpool matching;
- Preferential parking for carpools;
- Two Zipcar spaces in the Charles Street Lot;
- Provides an institutional sponsored Zipcar membership for all employees; and
- Transit routes and schedules publicized.

3.1.2 Trip Generation

Projected trip generation for the Proposed Projects was calculated based on the Institute of Transportation Engineers (ITE) publication, *Trip Generation*[3]. Trip generation was calculated for each of the existing and proposed uses. The projected change in the number of trips resulting from the Proposed Projects is the difference between the trip generation for the existing buildings and the trip generation for the future buildings.

ITE trip generation rates are vehicle trip rates generally reflective of suburban locations having little or no transit service, nearby pedestrian amenities, or TDM programs. The projected vehicle trips resulting from the application of ITE rates were converted to person

[3] *Trip Generation*, Institute of Transportation Engineers (ITE), 8th Edition, Washington, D.C., 2008.

trip rates by applying an assumed vehicle occupancy rate of 1.05. These person trips were then multiplied by the appropriate vehicle mode share for the Mass. Eye and Ear campus to obtain vehicle trips.

Trip generation was calculated using ITE[4] trip generation rates as follows:

- Trips for hospital functions (Charles Street Rehabilitation) were calculated using rates per employee for Hospitals (Land Use Code 610).
- Trips for the existing 325 Cambridge Building research space and future leased spaces were calculated using trip rates per 1,000 square feet (sf) of space for Research and Development (Land Use Code 760).
- Trips for the upper floor of the existing building at 309 Cambridge Street and for the John Jeffries Annex upper floors were calculated using trip rates per 1,000 sf for General Office (Land Use Code 710).
- Trip rates per 1,000 square feet of gross leasable area (gla) for Specialty Retail Centers (Land Use Code 814) were used for existing and proposed retail space.

Table 3.1-3 shows the existing, future and change in daily person trip generation for each project, and Table 3.1-4 shows the vehicle trip generation for each project. No trips were calculated for the 1,500-sf addition to the John Jeffries House because of its small size and general weekday function as an accessory use for Mass. Eye and Ear operations. Trips for the leased research and development (R&D) space were calculated for half the leased space based on the assumption that half the space would be located in newly constructed space and half would be located in existing space. The trips generated in the already existing space would replace trips generated by the previous use in that space.

The Mass. Eye and Ear Proposed Projects and leased space are expected to generate an additional 1,322 to 1,407 person trips daily. Approximately 367 to 385 non-work vehicle trips are projected on a daily basis to the Mass. Eye and Ear campus. Vehicle trips were calculated only for non-work trips because most Mass. Eye and Ear staff, except for doctors, park off-site. The number of vehicle trips for each Mass. Eye and Ear use was calculated by multiplying the number of person trips by the non-work trip share, multiplying the result by the vehicle mode share, and dividing that result by the vehicle occupancy rate. All trips for retail were converted to vehicle trips, although most retail workers do not commute to downtown Boston by automobile because of the cost of parking.

[4] Trip Generation, 8th Edition, Institute of Transportation Engineers, Washington, D.C., 2008.

Table 3.1-3 Daily Person Trips for Proposed Projects[1]

Building/Use	Existing Size	Existing Number of Trips	Proposed Size	Proposed Number of Trips	Change in Number of Trips[2]
243 Charles Street (existing and future) and part of the 325 Cambridge Building (future)					
Hospital	1,475 Employees	8,054[3]	1,525 Employees	8,328[3]	+274
325 Cambridge Street					
Hospital Clinics	N/A	N/A	40,000 sf	(Included above)	(Included above)
Research & Development	43,600 sf[4]	372[5]	42,800 sf	347[5]	-25
General Office	900 sf	10[6]	0	0	-10
Retail	1,900 gla[7]	88[8]	6,900 gla	322[8]	+234
Subtotal	46,400 sf	470	89,700 sf	669	199
John Jeffries Annex					
General Office	0 sf	0	18,750 sf	216	+216
Retail	0 gla	0	6,250 gla	292	+292
Subtotal		0	25,000 sf	508	508
R&D Leased Space	0	0	80,000 – 100,000 sf	341 - 426[9]	341- 426
Total for Four Projects		8,524		9,846- 9,931	+1,322- 1,407

1. Calculated using vehicle trip rates published in *Trip Generation*, Institute of Transportation Engineers (ITE), 8th Edition, Washington, D.C., 2008. An assumed vehicle occupancy rate of 1.05 persons per vehicle was applied to the resulting vehicle trips to obtain person trips.
2. Change in number of trips associated with IMP Proposed Projects.
3. Based on average trip rate for land use code 610, Hospital.
4. Gross square feet.
5. Based on average trip rate for land use code 760, Research and Development Center.
6. Based on average trip rate for land use code 710, General Office Building.
7. Gross leasable area.
8. Based on average trip rate for land use code 814, Specialty Retail Center (described as retail shops that specialize in quality apparel, hard goods and services, such as real estate offices).
9. Half of the leased space is assumed to be in already existing space and half is assumed to be in new space. Only the new space is expected to generate additional trips. Trips generated by R&D use in existing space are expected to replace the trips generated by that space with its previous use.

Table 3.1-4 Daily Non-Work Vehicle Trips for Proposed Projects

Use	Person Trips[1]	Non-Work Trip Share[2]	Vehicle Mode Share[2]	Vehicle Occupancy Rate[2]	Vehicle Trips[3]
Hospital	274	58%	72%	1.00[4]	114
Research & Development	316-401	36%	73%	1.25	66-84
General Office	206	36%	73%	1.25	43
Retail	526	100%[5]	41%	1.50	144
Total	1,322-1,407				367-385

1. Table 3.1-3.
2. Non-work trip share, vehicle mode share and vehicle occupancy rate for hospital use are taken from the Mass General New Ambulatory Building DPIR, dated May 31, 2001. Non-work trip share, vehicle mode share and vehicle occupancy rate for office, and research and development uses are taken from the Charles River Plaza DPIR, dated September 2001.
3. Vehicle trips are calculated by multiplying person trips by non-work trip share, multiplying the result by vehicle mode share, and dividing that result by the vehicle occupancy rate (average number of persons per vehicle).
4. Assumes one patient per vehicle.
5. All trips to retail were included because remote parking for work trips applies only to Mass. Eye and Ear uses.

Table 3.1-5 presents the number of morning and evening peak hour person trips projected to be generated by Mass. Eye and Ear's Proposed Projects. Approximately 103 to 116 person trips are projected for the morning peak hour and 125 to 136 person trips are projected for the evening peak hours. About 82 percent of morning trips are expected to be entering and 18 percent are expected to be exiting. In the evening peak hour, about 25 percent of trips are expected to be entering and 75 percent are expected to be exiting.

Table 3.1-5 Peak Hour Person Trip Generation by Proposed Projects

	Morning Peak Hour Trips			Evening Peak Hour Trips		
Proposed Project	Enter	Exit	Total	Enter	Exit	Total
Charles Street Rehabilitation and part of the 325 Cambridge Building	13	5	18	5	12	17

Table 3.1-5 Peak Hour Person Trip Generation by Proposed Projects (continued)

Proposed Project	Morning Peak Hour Trips			Evening Peak Hour Trips		
	Enter	Exit	Total	Enter	Exit	Total
325 Cambridge Building	-2	-0	-2	6	5	11
John Jeffries Annex	28	4	32	14	36	50
	45-	10-	55-	7-	40-	47-
Leased R&D Space	56	12	68	8	50	58
	84-	19-	103-	32-	93-	125-
Total	95	21	116	33	103	136

1. Calculated using vehicle trip rates published in *Trip Generation*, Institute of Transportation Engineers (ITE), 8th Edition, Washington, D.C., 2008. An assumed vehicle occupancy rate of 1.05 persons per vehicle was applied to the resulting vehicle trips to obtain person trips.

Table 3.1-6 presents the morning and evening peak hour vehicle trips. These were calculated using the same factors described above for daily vehicle trips, with the exception that non-work trip shares specific to each peak period were used. Because Mass. Eye and Ear employees will continue to park off-site, only a minor increase in vehicle trips to the hospital area is expected for patients and visitors in the peak commuting hours. A total of 11–12 morning peak hour trips and 20–21 evening peak hour trips are expected.

Table 3.1-6 Peak Hour Non-Work Vehicle Trip Generation[1] by Proposed Projects

Proposed Project	Morning Peak Hour Trips			Evening Peak Hour Trips		
	Enter	Exit	Total	Enter	Exit	Total
Charles Street Rehabilitation and part of the 325 Cambridge Building	3	2	5	2	3	5
325 Cambridge Building	-1	0	-1	2	1	3
John Jeffries Annex	2	1	3	4	5	9
	3-	1-	4-	1-	2-	3-
Leased R&D Space	4	1	5	1	3	4
	7-	4-	11-	9-	11-	20-
Total	8	4	12	9	12	21

1. Non-work vehicle trips calculated by multiplying person trips from Table 3.1-5 by non-work trip share times, multiplying the result by vehicle mode share and dividing that result by vehicle occupancy rate. The mode shares and vehicle occupancy rates are those shown in Table 3.1-4. The non-work trip shares are provided in the following table:

Use	Morning Peak Hour	Evening Peak Hour
Research & Development	29%	20%
Office	26%	24%
Retail	There are a negligible number of trips in the morning peak hour	71%

3.1.3 Planned Campus Parking and Access Improvements

As part of its IMP, Mass. Eye and Ear is planning three significant changes to campus access and parking:

- Installing stackers as needed in the Charles Street Garage to provide parking for up to 75 additional vehicles to accommodate existing and future needs.

- Relocating the entry and exit driveways for the Charles Lot to Charles Street opposite Fruit Street to improve access to the Charles Lot. Currently, entry to the lot is via a driveway off the Storrow Drive westbound on-ramp, which can be confusing, especially to first-time patients and visitors. The exit from the lot is onto Cambridge Street adjacent to the Storrow Drive westbound off-ramp. Heavy congestion at that location can make it difficult to exit the lot. The new driveway will provide access to the lot across the street from the Mass. Eye and Ear main entrance. The Charles Lot entrance will be relocated with the opening of the 325 Cambridge Street Building.

- Relocating the main hospital entrance from Fruit Street to Charles Street. The new entrance will be recessed inside the existing building footprint to provide covered shelter for up to six vehicles for drop-off and pick-up, including valet service. The Emergency Department will continue to be accessible at the existing entrance.

3.2 Environmental Protection

3.2.1 Wind / Shadow / Daylight

Of the Proposed Projects, only the 325 Cambridge Building project is anticipated to have new wind, shadow and daylight impacts. The Charles Street Rehabilitation project will have only minor impacts on the current massing of the existing 243 Charles Street building. Wind, shadow and daylight impacts beyond the existing conditions are anticipated to be minimal. The John Jeffries Annex at the intersection of Charles Street and David G. Mugar Way will be built on a vacant lot but will be similar in height to the two existing adjacent structures. Given its location in a dense, urban area mostly adjacent to roadways, and its height, impacts on wind, shadow and daylight are anticipated to be minimal. The 325 Cambridge Building project will create a new building that will have a larger mass than the existing structures on the site. Shadow, daylight and wind impacts will be addressed in the Draft Project Impact Report (PIR).

3.2.2 Solar Glare

The exterior materials for the Proposed Projects have not been determined. Building exteriors are expected to be constructed of a mixture of modern and traditional building materials that include brick, stone, pre-cast concrete, and glass. At this time, reflective glass is not anticipated. The Proposed Projects will be designed so as not to present an adverse safety impact on Project area traffic as a result of solar glare.

3.2.3 Air Quality

Potential long-term air quality impacts could result from emissions from vehicular traffic generated by the Proposed Projects. If changes in traffic conditions warrant a study, the study will be conducted in the Draft PIR.

Short-term air quality impacts from fugitive dust may be expected during the demolition and early phases of construction from site preparation activities. Plans for controlling dust during construction will include wetting during periods of high wind, and careful removal of debris by covered trucks. The construction contracts will provide for a number of strictly enforced measures to be utilized by contractors to reduce emissions and minimize impacts. These are expected to include:

- Using wetting agents where needed on a scheduled basis;
- Using covered trucks;
- Minimizing exposed storage debris on-site;
- Monitoring actual construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized;
- Locating aggregate storage piles away from areas having the greatest pedestrian activity where and when possible; and
- Periodic cleaning of streets and sidewalks to minimize dust accumulations.

3.2.4 Water Quality/Wetlands

The Proposed Projects are located on existing developed sites. They are not expected to increase the amount of impervious surface and are not expected to result in the introduction of any pollutants, including sediments, into the surface waters or local groundwater.

The Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("FIRM") indicates the FEMA Flood Zone Designations for the site areas (City of Boston, Community-Panel Number 250286 0004 C). The map for the campus shows that it is located in Zone C, Area of Minimal Flooding. The campus does not contain any wetlands.

3.2.5 Geotechnical/Groundwater

Specific geotechnical investigations for the proposed sites have not yet been conducted. However, the various geologic strata underlying the sites of the Proposed Projects are similar and are primarily influenced by the nearby Charles River and Beacon Hill. The following paragraphs summarize the subsurface conditions at the Project sites and are based on information from studies conducted in the vicinity.

- Miscellaneous Fill: The fill deposit typically consists of a brown to black, very loose to very dense heterogeneous mixture of sand and gravel containing trace to some silt and varying amounts of brick, concrete, wood, cinders, and ash. The thickness of the fill deposit is anticipated to vary from approximately 10 to 20 feet across the sites.

- Organic Deposit: An organic deposit is present below the fill which represents the former tidal flats of the Charles River. The organic deposit is anticipated to range from 5 to 20 feet in thickness and is likely to be more in the range of 5 to 10 feet thick at the John Jeffries Annex site. The organic deposit generally consists of a gray, very loose to loose organic silt containing some peat, sand and occasional shells.

- Marine Clay Deposit: The marine clay deposit generally consists of yellow to gray silty clay with occasional interbedded layers and lenses of sand and gravel. The upper portion of the clay deposit is generally very stiff in consistency, transitioning to firm to soft with increasing depth. The stratum is anticipated to vary from about 30 to 60 feet in thickness across the Charles Street Rehabilitation and 325 Cambridge Building sites and from 15 to 20 feet thick at the John Jeffries Annex site.

- Glacial Till: The glacial till deposit typically consists of a dense to very dense well-graded mixture of silt, sand and gravel containing numerous cobbles and boulders. The deposit is anticipated to vary in thickness from about 10 to 35 feet across the Charles Street Rehabilitation and 325 Cambridge Building sites and from about 5 to 10 feet in thickness at the John Jeffries Annex site. The surface of the glacial till deposit generally ranges from about 45 to 90 feet below the existing ground surface and generally rises up towards Beacon Hill.

- Bedrock: The bedrock underlying area is a shale-like deposit known locally as Cambridge Argillite. The bedrock is indicated to vary from a completely weathered silty clay, soil-like material to a medium hard, slightly fractured, moderately weathered rock. The bedrock surface is anticipated in the range of 90 to 115 feet below the existing ground surface across the Charles Street Rehabilitation and 325 Cambridge Building sites and from about 50 to 60 feet in depth at the John Jeffries Annex site.

- Groundwater: The existing groundwater level is anticipated to be located 6 to 10 feet below the existing ground surface, corresponding to Elevation +6 to Elevation +10 on the Boston City Base (BCB) based on existing data. The groundwater underlying the Project sites may be influenced by several factors such as periods of high precipitation or drought. The Groundwater Conservation Overlay District (GCOD) boundary is Cambridge Street, and therefore only the John Jeffries Annex is within the GCOD. Mass Eye and Ear will coordinate with the Boston Groundwater Trust and the BWSC.

3.2.6 Solid and Hazardous Waste

The Proposed Projects will generate solid waste typical of institutional hospital and office uses. All waste will be segregated at the point of origin into separate streams. Solid waste is expected to include wastepaper, cardboard, glass bottles and food. The Proposed Projects will also generate biomedical and infectious wastes typical of medical facilities. Management of hazardous waste is highly regulated for the safety of the public, the environment and the hospital community. Mass. Eye and Ear has an existing hazardous waste collection program which will be used to handle and dispose of all wastes generated by existing and proposed hospital facilities in accordance with applicable laws and regulations.

3.2.7 Noise

Most of the activity associated with the operation of the Proposed Projects will occur indoors. The primary operational noise caused by the Proposed Projects will be the result of mechanical equipment.

Intermittent increases in noise levels will occur in the short-term during construction. Construction work will comply with the requirements of the City of Boston noise ordinance. Every reasonable effort will be made to minimize the noise impact of construction activities. Mitigation measures are expected to include:

- Using appropriate mufflers on all equipment and providing ongoing maintenance of intake and exhaust mufflers;

- Muffling enclosures on continuously operating equipment, such as air compressors and welding generators with outdoor exposure;

- Replacing specific construction operations and techniques by less noisy ones where feasible;

- Selecting the quietest of alternate items of equipment;

- Scheduling equipment operations to keep average levels low, to synchronize noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;

- Turning off idling equipment; and

- Locating noise equipment at locations that protect sensitive locations by shielding or distance.

3.2.8 Construction

A Construction Management Plan in compliance with the City's Construction Management Program will be submitted to BTD for each of the Proposed Projects.

Short-term minor air quality impacts from fugitive dust may be expected during the construction of the Proposed Projects. Mitigation measures such as the use of wetting agents where needed and removal of spoils from the site using covered trucks will be utilized.

Noise impacts will be controlled during construction through the use of mufflers on heavy outdoor equipment, as appropriate and exterior construction hour restrictions.

Construction methodologies that ensure public safety and protect nearby residences will be employed for the Projects. Techniques such as barricades, walkways, and signage will be used. Construction management and scheduling will minimize impacts on the surrounding environment. This will include plans for construction worker commuting and parking, routing plans for trucking and deliveries, and control of noise and dust.

The proposed construction staging plan for the Proposed Projects will be designed to isolate the construction while providing safe access for pedestrians and automobiles during normal day-to-day activity and emergencies.

3.2.9 Rodent Control

A rodent extermination certificate will be filed with the building permit application for the Proposed Projects. Rodent inspection monitoring and treatment will be carried out before, during, and at the completion of all construction work for the Proposed Projects, in compliance with the City's requirements.

3.2.10 Wildlife Habitat

The Mass. Eye and Ear campus is in an established urban neighborhood. There are no wildlife habitats in or adjacent to the Proposed Projects' sites.

3.2.11 Sustainable Design

Mass. Eye and Ear is committed to developing buildings that are energy efficient, healthy for the environment and healthy for its staff and patients. As required under Article 37 of the Boston Zoning Code, the Projects that are subject to Article 80B, Large Project Review, will be Leadership in Energy and Environmental Design (LEED) certifiable. The LEED certification process breaks a project into seven credit categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation in Design Process and Regional Priority Credits. A description of the way the Charles Street Rehabilitation and 325 Cambridge Building projects anticipate achieving credits at this time under each category to meet the Zoning requirement is described below. As the Projects undergo further design, the specific credits and the manner in which they will be achieved may vary, but it is anticipated that the Projects will meet the requirements of Article 37 of the Boston Zoning Code. Preliminary LEED checklists are included in Appendix A.

3.2.11.1 Charles Street Rehabilitation

The Charles Street Rehabilitation project is anticipated to achieve a minimum of 43 credits (identified below as bolded). However, there are 23 credits that are still being studied to determine if they are achievable (identified below as italicized).

Sustainable Sites

As far as achieving Sustainable Sites credits, this project benefits from an urban setting which allows it to achieve credits for being in a dense neighborhood, close to public transportation and not adding new parking.

SSPrereq1 – Construction Activity Pollution Prevention: The contractor will implement an erosion and sedimentation control plan for all construction activities.

SS2 – Development Density and Community Connectivity: The project will be constructed on a previously developed site and in a community with a minimum density of 60,000 square feet per acre net.

SS4.1 – Alternative Transportation, Public Transportation Access: The project is within one-half mile of subway station.

SS4.2 – Alternative Transportation, Bicycle Storage and Changing Rooms: The infill addition portion of the project may include bicycle racks for 5% or more of building occupants as well as shower and changing facilities in building.

SS4.3 – Alternative Transportation, Low-Emitting and Fuel-Efficient Vehicles: Mass. Eye and Ear will designate preferred parking for low-emitting and fuel-efficient vehicles for 5% of parking capacity (or offer a discounted rate).

SS4.4 – Alternative Transportation, Parking Capacity: The project will not provide new parking.

SS6.1 – Stormwater Design, Quantity Control: The project may be designed with a stormwater management plan that prevents the post-development peak discharge rate from exceeding the predevelopment peak discharge rate.

SS7.2 – Heat Island Effect, Roof: The roof for the infill addition portion of the project will utilize roofing materials with SRI equal to or greater than 78 for a minimum of 75% of roof surface.

Water Efficiency

This project will plan to use water efficient fixtures where required to achieve credits in the Water Efficiency category.

WEPrereq1 – Water Use Reduction: The plumbing fixtures specified will use 20% less water than the water use baseline.

WE2 – Innovative Wastewater Technologies: The plumbing system will be designed to reduce potable water use for building sewage conveyance by 50%.

WE3 – Water Use Reduction: The plumbing system may be designed to use less water than baseline calculated for the building (30%, 35%, 40%).

Energy and Atmosphere

The energy systems on the project will be designed to optimize performance and utilize refrigerants that do not harm the environment to achieve energy and atmosphere credits. Also, the building will be commissioned to confirm that all its energy systems are performing as designed.

EAPrereq1 – Fundamental Commissioning of the Building Energy Systems: The building energy systems in the additions will be commissioned. A member of the project team will be designated as the Commissioning Authority and will lead, review and oversee the commissioning process.

EAPrereq2 – Minimum Energy Performance: The building energy systems will be designed to improve building energy performance. A whole building energy simulation will demonstrate a 5% improvement in the proposed building performance rating compared with the baseline building performance rating.

EAPrereq3 – Fundamental Refrigerant Management: The building HVAC systems will not use CFC-based refrigerants.

EA1 – Optimize Energy Performance: The building systems will demonstrate a percentage improvement in proposed building performance compared with baseline building performance which is calculated according to ANSI/ASHRAE/IESNA Standard 90.1-2007. This credit will be achieved through a whole building energy simulation and based on percentage of energy cost saved.

EA3 – Enhanced Commissioning: The Commissioning Authority will complete additional commissioning activities. The additional commissioning includes a design review of design development documents, review of contractor submittals and production of an Operations and Maintenance manual.

EA4 – Enhanced Refrigerant Management: The MEP engineer will select refrigerants that minimize or eliminate compounds that contribute to ozone depletion and climate change.

EA5 – Measurement and Verification: Mass. Eye and Ear may develop and implement a measurement and verification plan.

EA6 – Green Power: Mass. Eye and Ear may engage in a two-year renewable energy contract to provide at least 35% of the building's electricity from renewable sources.

Materials and Resources

During the construction process, the contractor will divert construction and demolition debris from landfills and materials will be specified to maximize recycled content, regional manufacturing and rapidly renewable content to achieve these credits in Materials and Resources.

MRPrereq1 – Storage and Collection of Recyclables: Mass. Eye and Ear will provide an easily-accessible dedicated area for the collection and storage of recyclables.

MR2.1 – Construction Waste Management, Divert 50% from Disposal: The contractor will recycle and/or salvage 50% of nonhazardous construction and demolition debris.

MR2.2 – Construction Waste Management, Divert 75% from Disposal: The contractor will recycle and/or salvage 75% of nonhazardous construction and demolition debris.

MR3.1 – Materials Reuse 5%: Mass. Eye and Ear may use salvaged, refurbished or reused materials for 5% of total value of materials on the project.

MR3.2 – Materials Reuse 10%: Mass. Eye and Ear may use salvaged, refurbished or reused materials for 10% of total value of materials on the project.

MR4.1 – Recycled Content, 10% (post-consumer + ½ pre-consumer): Mass. Eye and Ear will use materials with recycled content for 10% of the total value of materials on the project.

MR4.2 – Recycled Content, 20% (post-consumer + ½ pre-consumer): Mass. Eye and Ear may use materials with recycled content for 20% of the total value of materials on the project.

MR5.1 – Regional Materials, 10% Extracted, Processed and Manufactured Regionally: Mass. Eye and Ear will use building materials that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for 10% of the total materials value.

MR5.2 – Regional Materials, 20% Extracted, Processed and Manufactured Regionally: Mass. Eye and Ear may use building materials that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for 20% of the total materials value.

MR6 – Rapidly Renewable Materials: Mass. Eye and Ear will use rapidly renewable (harvested within 10 year or shorter cycle) building materials and products for 2.5% of the total value of all materials and products used in the project.

MR7 – Certified Wood: Mass. Eye and Ear may use a minimum of 50% wood-based materials and products that are FSC certified.

Indoor Environmental Quality

The monitoring of air quality during construction and before occupancy are important steps towards designing a building that is a safe place to work. Low-emitting materials will be used throughout construction to improve air quality. Post occupancy, occupants will be given a high degree of control over their lighting and thermal systems in order to make sure energy is utilized when necessary and not wasted.

IEQPrereq1 – Minimum IAQ Performance: The building systems will meet the minimum requirements of Sections 4 through 7 of ASHRAE Standard 62.1-2007, Ventilation for Acceptable Indoor Air Quality.

IEQPrereq2 – Environmental Tobacco Smoke: Mass. Eye and Ear will prohibit smoking in the building.

IEQ1 – Outdoor Air Delivery Monitoring: Mass. Eye and Ear will install a permanent monitoring system as part of the project to ensure the ventilation systems maintain the design requirements.

IEQ3.1 - Construction IAQ Management Plan, During Construction: The contractor will develop and implement an IAQ management plan for the construction and preoccupancy phases of the building.

IEQ3.2 – Construction IAQ Management Plan, Before Occupancy: The contractor will develop and implement an IAQ management plan after all finishes have been installed.

IEQ4.1 – Low-Emitting Materials, Adhesives and Sealants: The contractor and architect will ensure that all adhesives and sealants used on the interior of the building must comply with indoor air quality requirements.

IEQ4.2 – Low-Emitting Materials, Paints and Coatings: The contractor and architect will ensure that all paints and coatings used on the interior of the building comply with indoor air quality requirements.

IEQ4.3 – Low-Emitting Materials, Flooring Systems: The contractor and architect will ensure that all flooring comply with indoor air quality requirements.

IEQ4.4 – Low-Emitting Materials, Composite Wood & Agrifiber Products: The contractor and architect will ensure that all composite wood and agrifiber products used on the interior of the building contain no added urea-formaldehyde.

IEQ5 – Indoor Chemical and Pollutant Source Control: The infill addition portion of the project may be designed to minimize and control the entry of pollutants into the building and prevent cross-contamination.

IEQ6.1 – Controllability of Systems, Lighting: The design will provide for individual lighting controls for 90% (minimum) of the building occupants and for multi-occupant spaces.

IEQ6.2 – Controllability of Systems, Thermal Comfort: The design will provide individual controls for 50% (minimum) of the building occupants.

IEQ7.1 – Thermal Comfort, Design: The HVAC systems and the building envelope will be designed to meet ASHRAE Standard 55-2004.

IEQ7.2 – Thermal Comfort, Verification: Mass. Eye and Ear will conduct a thermal comfort survey of building occupants and permanent monitoring system. (Applicable when IEQ7.1 is achieved.)

IEQ8.1 – Daylight and Views, Daylight 75% of Spaces: The design may achieve daylighting in 75% of regularly occupied spaces.

Innovation and Design Process

ID1.1 – Innovation in Design: To be determined

ID1.2 – Innovation in Design: To be determined

ID1.3 – Innovation in Design: To be determined

ID2 – LEED Accredited Professional: The architect will have a LEED Accredited Professional on staff.

Regional Priority Credits

The Regional Priority Credits are designed to provide an incentive for the achievement of credits that address geographically specific environmental priorities.

RP1.1 – Regional Priority: The project will achieve Credit SS2 (Development Density and Community Connectivity).

RP1.2 – Regional Priority: The project may achieve Credit MR5.

RP1.3 – Regional Priority: The project may achieve Credit MR7.

RP1.4 – Regional Priority: The project may achieve Credit EA4.

3.2.11.2 325 Cambridge Building

The 325 Cambridge Building project is anticipated to achieve a minimum of 42 credits (identified below as bolded). However, there are 25 credits that are still being studied to determine if they are achievable (identified below as italicized).

Sustainable Sites

As far as achieving Sustainable Sites credits, the project benefits from an urban setting which allows it to achieve points for being in a dense neighborhood, close to public transportation and for not adding new parking.

SSPrereq1 – Construction Activity Pollution Prevention: The contractor will implement an erosion and sedimentation control plan for all construction activities.

SS1 – Site Selection: The building will be constructed on land that was previously developed.

SS2 – Development Density and Community Connectivity: The building will be constructed on a previously developed site and in a community with a minimum density of 60,000 square feet per acre net.

SS4.1 – Alternative Transportation, Public Transportation Access: The project is within one-half mile of a subway station.

SS4.2 – Alternative Transportation, Bicycle Storage and Changing Rooms: The project may provide bicycle racks for 5% or more of building occupants as well as provide shower and changing facilities in the building.

SS4.3 – Alternative Transportation, Low-Emitting and Fuel-Efficient Vehicles: The project may include preferred parking for low-emitting and fuel-efficient vehicles for 5% of parking capacity (or discounted rate).

SS4.4 – Alternative Transportation, Parking Capacity: The project will not provide new parking.

SS6.1 – Stormwater Design, Quantity Control: The project may be designed with a stormwater management plan that prevents the post-development peak discharge rate from exceeding the predevelopment peak discharge rate.

SS7.2 – Heat Island Effect, Roof: The building will use roofing materials with SRI equal to or greater than 78 for a minimum of 75% of roof surface or will have a vegetated roof that covers at least 50% of the roof surface or a combination of the two.

SS8 – Light Pollution Reduction: The project will minimize light trespass from the building and site by reducing the input power of interior luminaires between 11:00 pm and 5:00 am and providing exterior lighting for safety and comfort only.

Water Efficiency

This project will plan to use water efficient fixtures where required to achieve credits in the Water Efficiency category.

WEPrereq1 – Water Use Reduction: The plumbing fixtures specified will use 20% less water than the water use baseline.

WE2 – Innovative Wastewater Technologies: The plumbing system will be designed to reduce potable water use for building sewage conveyance by 50%.

WE3 – Water Use Reduction: The plumbing system may be designed to use less water than baseline calculated for the building (30%, 35%, 40%).

Energy and Atmosphere

The energy systems on the project will be designed to optimize performance and utilize refrigerants that do not harm the environment to achieve Energy and Atmosphere credits. Also, the building will be commissioned to confirm that all of its energy systems are performing as designed.

EAPrereq1 – Fundamental Commissioning of the Building Energy Systems: The building energy systems will be commissioned. A member of the project team will be designated as the Commissioning Authority and will lead, review and oversee the commissioning process.

EAPrereq2 – Minimum Energy Performance: The building energy systems will be designed to improve building energy performance. A whole building energy simulation will demonstrate a 5% improvement in the proposed building performance rating compared with the baseline building performance rating.

EAPrereq3 – Fundamental Refrigerant Management: The building HVAC systems will not use CFC-based refrigerants.

EA1 – Optimize Energy Performance: The building systems will demonstrate a percentage improvement in proposed building performance compared with baseline building performance which is calculated according to ANSI/ASHRAE/IESNA Standard 90.1-2007. This credit will be achieved through a whole building energy simulation and based on percentage of energy cost saved.

EA3 – Enhanced Commissioning: The Commissioning Authority will complete additional commissioning activities. The additional commissioning includes a design review of design development documents, review of contractor submittals and production of an Operations and Maintenance manual.

EA4 – Enhanced Refrigerant Management: The MEP engineer will select refrigerants that minimize or eliminate compounds that contribute to ozone depletion and climate change.

EA5 – Measurement and Verification: Mass. Eye and Ear may develop and implement a measurement and verification plan.

EA6 – Green Power: Mass. Eye and Ear may engage in a two-year renewable energy contract to provide at least 35% of the building's electricity from renewable sources.

Materials and Resources

During the construction process, the contractor will divert construction and demolition debris from the landfill and materials will be specified to maximize recycled content, regional manufacturing and rapidly renewable content to achieve these credits in Materials and Resources.

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MR2.2 – Construction Waste Management, Divert 75% from Disposal: The contractor will recycle and/or salvage 75% of nonhazardous construction and demolition debris.

MR3.1 – Materials Reuse 5%: Mass. Eye and Ear may use salvaged, refurbished or reused materials for 5% of total value of materials on the project.

MR3.2 – Materials Reuse 10%: Mass. Eye and Ear may use salvaged, refurbished or reused materials for 10% of total value of materials on the project.

MR4.1 – Recycled Content, 10% (post-consumer + ½ pre-consumer): Mass. Eye and Ear will use materials with recycled content for 10% of the total value of materials on the project.

MR4.2 – Recycled Content, 20% (post-consumer + ½ pre-consumer): Mass. Eye and Ear may use materials with recycled content for 20% of the total value of materials on the project.

MR5.1 – Regional Materials, 10% Extracted, Processed & Manufactured Regionally: Mass. Eye and Ear will use building materials that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for 10% of the total materials value.

MR5.2 – Regional Materials, 20% Extracted, Processed & Manufactured Regionally: Mass. Eye and Ear may use building materials that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for 20% of the total materials value.

MR6 – Rapidly Renewable Materials: Mass. Eye and Ear will use rapidly renewable (harvested within 10 year or shorter cycle) building materials and products for 2.5% of the total value of all materials and products used in the project.

MR7 – Certified Wood: Mass. Eye and Ear may use a minimum of 50% of wood-based materials and products that are FSC certified.

Indoor Environmental Quality

The monitoring of air quality during construction and before occupancy are important steps towards designing a building that is a safe place to work. Low-emitting materials will be used throughout construction to improve air quality. Post occupancy, occupants will be given a high degree of control over their lighting and thermal systems in order to make sure energy is utilized when necessary and not wasted.

IEQPrereq1 – Minimum IAQ Performance: The building systems will meet the minimum requirements of Sections 4 through 7 of ASHRAE Standard 62.1-2007, Ventilation for Acceptable Indoor Air Quality.

IEQPrereq2 – Environmental Tobacco Smoke: Mass. Eye and Ear will prohibit smoking in the building.

IEQ1 – Outdoor Air Delivery Monitoring: Mass. Eye and Ear will install a permanent monitoring system as part of the project to ensure the ventilation systems maintain the design requirements.

IEQ3.1 - Construction IAQ Management Plan, During Construction: The contractor will develop and implement an IAQ management plan for the construction and preoccupancy phases of the building.

IEQ3.2 – Construction IAQ Management Plan, Before Occupancy: The contractor will develop and implement an IAQ management plan after all finishes have been installed.

IEQ4.1 – Low-Emitting Materials, Adhesives and Sealants: The contractor and architect will ensure that all adhesives and sealants used on the interior of the building comply with indoor air quality requirements.

IEQ4.2 – Low-Emitting Materials, Paints and Coatings: The contractor and architect will ensure that all paints and coatings used on the interior of the building comply with indoor air quality requirements.

IEQ4.3 – Low-Emitting Materials, Flooring Systems: The contractor and architect will ensure that all flooring comply with indoor air quality requirements.

IEQ4.4 – Low-Emitting Materials, Composite Wood and Agrifiber Products: The contractor and architect will ensure that all composite wood and agrifiber products used on the interior of the building do not contain added urea-formaldehyde.

IEQ5 – Indoor Chemical and Pollutant Source Control: The addition may be designed to minimize and control the entry of pollutants into buildings and prevent cross-contamination.

IEQ6.1 – Controllability of Systems, Lighting: The design will provide for individual lighting controls for 90% (minimum) of the building occupants and for multi-occupant spaces.

IEQ6.2 – Controllability of Systems, Thermal Comfort: The design will provide individual controls for 50% (minimum) of the building occupants.

IEQ7.1 – Thermal Comfort, Design: The HVAC systems and the building envelope will be designed to meet ASHRAE Standard 55-2004.

IEQ7.2 – Thermal Comfort, Verification: Mass. Eye and Ear will conduct a thermal comfort survey of building occupants and a permanent monitoring system. (Applicable when IEQ7.1 is achieved.)

IEQ8.1 – Daylight & Views, Daylight 75% of Spaces: The design may achieve daylighting in 75% of regularly occupied spaces.

Innovation & Design Process

ID1.1 – Innovation in Design: To be determined

ID1.2 – Innovation in Design: To be determined

ID1.3 – Innovation in Design: To be determined

ID2 – LEED Accredited Professional: The architect will have a LEED Accredited Professional on staff.

Regional Priority Credits

The Regional Priority Credits are designed to provide an incentive for the achievement of credits that address geographically specific environmental priorities.

RP1.1 – Regional Priority: The project will achieve Credit SS2 (Development Density and Community Connectivity).

RP1.2 – Regional Priority: The project may achieve Credit MR5.

RP1.3 – Regional Priority: The project may achieve Credit MR7.

RP1.4 – Regional Priority: The project may achieve Credit EA4.

3.3 Urban Design

Mass. Eye and Ear is surrounded on three sides by Mass General and is located in a high density neighborhood primarily consisting of healthcare facilities. The Mass. Eye and Ear campus identity is defined more by its edges, vehicular and pedestrian-oriented circulation, than any group of buildings forming a traditional campus, and therefore lacks its own sense of "place". Each individual building must convey the Mass. Eye and Ear identity, since there is no cohesion within the campus.

The urban design objectives that seek to create a sense of place at and surrounding Mass. Eye and Ear's Proposed Projects are discussed below.

3.3.1 Streetscape/Neighborhood Coherence

Cambridge Street is an urban transition between neighborhoods that bridges the commercial, institutional and residential West End and the residential Beacon Hill. Similar to other buildings along Cambridge Street, Mass. Eye and Ear will continue the inclusion of retail on the ground floor, with other uses on the upper floors, in the 325 Cambridge

Building. Retail space at this location will reinforce the band of pedestrian retail activities and bring pedestrian traffic towards Charles Circle and the adjacent Charles/MGH MBTA Station.

Similar to the streetwall on portions of Cambridge Street west of Mass General, and on the opposite side of the street from Mass. Eye and Ear, the 325 Cambridge Building will allow for a generous sidewalk, while also providing a street wall that acknowledges the building is a gateway to the city from Cambridge and maintains the street edge. The building will also help to reinforce the form of the Yawkey Center, providing a view of Mass General's main entrance from Cambridge Street.

Along Charles Street, the front of 243 Charles Street will be redefined by landscaping and pedestrian amenities. The main entry will be relocated from Fruit Street, which is constrained due to the valet parking and ambulance loading and unloading, as well as other vehicle traffic, to Charles Street. The new entry will be a well-proportioned welcoming area, with a recessed covered entry at the ground level and a glassy vestibule and main lobby. This new entry will bring an improved face of Mass. Eye and Ear to the rest of the city, in contrast to its existing entry which is generally hidden from main thoroughfares.

The John Jeffries Annex will similarly reinforce the street wall of Charles Street by respecting existing building heights, adding retail space at the ground floor and providing for a new accessible entry to both the new and existing programs. New landscaping and a renovated drop off for the hotel will complete another important corner/gateway from Charles Circle into historic Beacon Hill.

3.3.2 Building Character/Open Space

By replacing the massing of the existing 1899 building at 243 Charles Street, the character of the neighborhood will be improved. The infill development of the hospital, as well as the development of new buildings on sites with existing, but unsuitable structures, allows for hospital expansion to meet its needs without developing on open space or pursuing construction in locations less suitable for institutional uses. The Proposed Projects intend to reference the surrounding areas; for example, the John Jeffries Annex will be of similar height to the adjacent and surrounding buildings, while the 325 Cambridge Building will have similar characteristics of the adjacent new buildings on Mass General's campus, including a variety of glass and metal expressions. The streetwall will be improved by the development of a more modern and uniform expression, and except for the use of lighter, more contemporary materials, there will be little change in pedestrian experience.

The pattern and massing of the Proposed Projects follow the established pattern of the area, and are defined by the established view corridors to the north along Charles Street and east along Cambridge Street.

The massing of the Charles Street Rehabilitation will be balanced by the transparency of the glassy new addition juxtaposed against the monolithic precast expression of the existing façade.

3.3.3 Pedestrian and Vehicular Circulation

Vehicular access to Mass. Eye and Ear's main entrance is currently via North Grove Street and Fruit Street. To improve circulation and minimize the number of vehicles using North Grove Street, the main entrance to 243 Charles Street will be relocated to Charles Street, allowing the drop-off area on Fruit Street that is only accessible by North Grove Street to become a secondary ambulance/emergency entry.

Pedestrian circulation will be improved through wider and more comfortable sidewalks, the inclusion of signage that will identify Mass. Eye and Ear buildings from Mass General and surrounding buildings, and lead individuals to the proper entrances. As mentioned above, the 325 Cambridge Building will include ground floor retail, providing activity along the street and a building entry facing Charles Circle and the MBTA station entry. The John Jeffries Annex will also include ground floor retail, providing pedestrian activity at the gateway to the Beacon Hill neighborhood and a new entry for both the new office space and the existing hotel. This new entry will be highly visible and will also face the MBTA station. Further planning will develop how Mass. Eye and Ear will be presented as one exits the Charles/MGH Station towards Mass. Eye and Ear.

3.4 Historic and Archaeological Resources

3.4.1 Historic Resources Within and in the Vicinity of the Mass. Eye and Ear Campus

The Mass. Eye and Ear campus includes and is in the vicinity of historic resources listed in the State and National Registers of Historic Places and included in the Inventory of Historic and Archaeological Assets of the Commonwealth (Inventory) maintained by the Massachusetts Historical Commission (MHC), and are also identified in Table 3.4-1 and Figure 3.4-1.

Table 3.4-1 Historic Resources Within and in the Vicinity of the Mass. Eye and Ear Campus

Map No.	Name	Address	Designation
A	Beacon Hill Historic District	Beacon Hill	State and National Registers; National Historic Landmark
B	Beacon Hill Landmark District	Beacon Hill	Local Landmark District; State Register
C	Charles River Basin Historic District	Charles River and embankments	State and National Registers
D	Suffolk County Jail (aka Charles Street Jail)	215 Charles Street	State and National Registers

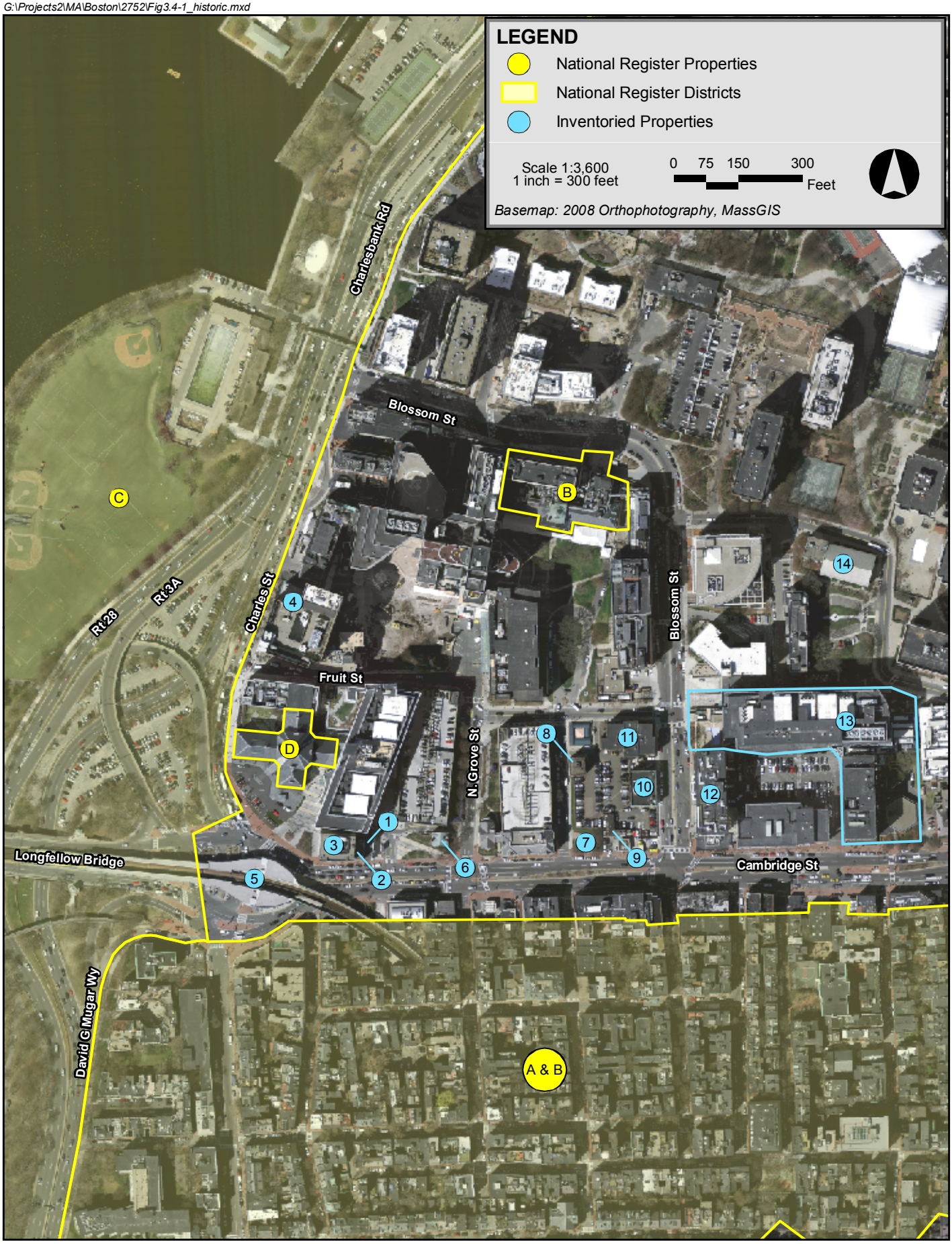
Table 3.4-1 Historic Resources Within and in the Vicinity of the Mass. Eye and Ear Campus (continued)

Map No.	Name	Address	Designation
E	Mass General/Bulfinch Building and Etherdome	Fruit Street	State and National Registers; National Historic Landmark
1		309-311 Cambridge Street*	Inventory
2		313 Cambridge Street*	Inventory
3	Boston Edison Electric Company Substation*	317-325 Cambridge Street	Inventory
4		243 Charles Street*	Over 50 years of age
5	Charles Street/MGH Red Line Station	Charles and Cambridge Streets	Inventory
6	Resident Physician's House	Cambridge and North Grove Streets	Inventory
7	North Anderson Street Park	245 Cambridge Street	Inventory
8	West End Tenement House	25 North Anderson Street	Inventory
9	Exxon Gas Station	239 Cambridge Street	Inventory
10	West End Settlement House	16-18 Blossom Street	Inventory
11	Ruth Sleeper Hall	24 Blossom Street	Inventory
12	Holiday Inn	5 Blossom Street	Inventory
13	Charles River Plaza	161-209 Cambridge Street	Inventory
14	St. Joseph's Church	68 Cardinal William O'Connell Way	Inventory

*within Mass. Eye and Ear Campus

The John Jeffries House at 14 David G. Mugar and the Charles Street Parking Garage are located within the Beacon Hill Historic District, a district listed in the State and National Registers of Historic Places and is a National Historic Landmark. The properties are also located within the Beacon Hill Landmark District, a local historic district administered by the Beacon Hill Landmark District Commission (BHLDC). Constructed in ca. 1925 and ca. 1920 respectively, the buildings contribute to the significance of both districts. The Charles Street Parking Lot is also located within the Districts.

G:\Projects2\MA\Boston\2752\Fig3.4-1_historic.mxd



IMPNF/PNF

Figure 3.4-1
Historic Resources

Massachusetts Eye and Ear Infirmary

Epsilon Associates, Inc.

The Storrow Drive Parking Lot is located within the Charles River Basin National Register District, a district listed in the State and National Registers of Historic Places. The three structures at 309-311, 313, and 317-325 Cambridge Street are included in the Inventory of Historic and Archaeological Assets of the Commonwealth (Inventory). The building at 243 Charles Street is not listed in the State or National Registers of Historic Places and is not included in the Inventory; however, the earliest structure at this address appears to have been constructed over 50 years ago.

3.4.2 Archaeological Resources

No previously identified archaeological resources are located within the Proposed Project areas. The Proposed Project areas are located within heavily developed urban parcels or within previously filled land. As a result, no impacts to archaeological resources are anticipated.

3.4.3 Potential Impacts

3.4.3.1 325 Cambridge Building

The construction of the 325 Cambridge Building will require the demolition the existing buildings at 309-311, 313 and 317-325 Cambridge Street. The new construction will be 10 stories tall, consistent with the height of the adjacent Mass General's Yawkey Center for Outpatient Care. Demolition of the three buildings will require review by the Boston Landmarks Commission under Article 85 of the Boston Zoning Code.

3.4.3.2 John Jeffries Annex

The John Jeffries Annex will be an approximately 25,000 sf, four-story building constructed on the existing surface parking lot adjacent to the John Jeffries House within the Beacon Hill Historic District and Beacon Hill Landmark District. The building will be designed to house administration space. The building will be approximately the same height as the adjacent John Jeffries House and Charles Street Parking Garage. The proposed new construction will be designed in a manner consistent with the Beacon Hill Landmark District Commission Standards and Criteria.

3.4.3.3 Charles Street Rehabilitation

The rehabilitation of 243 Charles Street includes the demolition of the existing 1899 building and the construction of a structure in its place approximately to the height of Mass. Eye and Ear's main building. The project also includes circulation improvements together with the construction of small additions to the existing building, including an infill of three floors of the building's light well, an addition to the loading dock, additions to the entry on Charles Street, an addition to the South Entry, and two new elevators. Demolition of the existing 1899 structure requires review by the BLC under Article 85 of the Boston Zoning Code.

3.4.3.4 Campus Improvements

Improvements to the campus and surrounding area including new sidewalks adjacent to the campus on Cambridge, Charles and Fruit streets as well as the relocation of the existing Charles Street Lot entry and exit driveways will improve the setting of the Beacon Hill and Charles River Basin Historic Districts.

3.4.3.5 Upgrades to Existing Facilities

Upgrades to the John Jeffries House, including a new approximately 1,500 sf addition, will be undertaken in a manner consistent with the Beacon Hill Landmark District Standards and Criteria. The installation of stackers into a portion of the Charles Street Garage to accommodate 75 additional cars to provide adequate parking for Mass. Eye and Ear without requiring new construction will preserve the setting of the Beacon Hill Historic District.

3.5. Infrastructure Systems

Existing domestic water, steam, natural gas, electrical, sanitary sewer and stormwater systems servicing the Proposed Projects are described herein.

3.5.1 Wastewater Generation

The Proposed Projects, in total, will generate an average daily net new sewer flow of approximately 34,548 to 36,548 gpd, inclusive of mechanical equipment as shown in Table 3.5-1. For patient care and research space, a wastewater generation rate of 200 gallons per day per 1,000 sf has been assumed. The location of the proposed leased space is not known at this time but it is assumed that half of it will be in existing space and half will be in newly constructed space.

The wastewater generation rates for the Proposed Projects will be re-calculated in the Draft PIR to reflect a more detailed program, staffing levels and architectural information, if available. Wastewater generation rates for offices are per Department of Environmental Protection (MassDEP) guidelines.

Table 3.5-1 Net New Wastewater Generation

Proposed Project Use	Size (sf)	Flow Rate (gpd)	Sewage Generation (gpd)
Charles Street Rehabilitation			
Patient Care	50,500	200/1,000 sf	10,100
325 Cambridge Building			
Research Space and Patient Care	89,700	200/1,000 sf	17,940
Less Existing Buildings to be Demolished[1]	-46,400	75/1,000 sf	-3,480

Table 3.5-1 Net New Wastewater Generation (continued)

John Jeffries Annex			
Office/Retail Space	25,000	75/1,000 sf	1,875
John Jeffries House Addition			
Office/Meeting Space	1,500	75/1,000 sf	113
Leased Research and Development Space[2]			
80,000 – 100,000 sf	40,000 – 50,000 sf net new space	200/1,000 sf	8,000-10,000
Charles Street Garage Expansion - Parking – No Wastewater Generation			
Total Net New Wastewater Generation			**34,548-36,548**

1 The existing buildings contain a mix of uses. For the purposes of this estimate, we have assumed the uses to have wastewater generating characteristics similar to an office building.

2 Half of the leased space is expected to be in existing buildings and half in newly constructed space.

Sewage generated by the proposed Charles Street Rehabilitation will discharge to the Boston Water and Sewer Commission (BWSC) system via either the West Side Interceptor in Charles Street Extension or a 39-inch by 39-inch sewer in Fruit Street.

The existing sanitary sewer connection on the site of the proposed 325 Cambridge Building will be cut and capped in accordance with BWSC if they cannot be re-used. Sewage generated by the proposed 325 Cambridge Building will be discharged to existing 12-inch BWSC sanitary sewers in Cambridge Street.

Sanitary sewage generated by the John Jeffries Annex and the John Jeffries House Addition will discharge to the existing 12-inch BWSC sewer system in Charles Street.

All sewage generated by the Proposed Projects flows into the West Side Interceptor sewer, ultimately flowing to the MWRA Deer Island Waste Water Treatment Plant for treatment and disposal.

All proposed sanitary sewer connections will be kept separate from stormwater connections in accordance with BWSC requirements.

3.5.2 Water Supply System

The BWSC will provide potable and fire protection water to the Proposed Projects. Water service will be provided to the Charles Street Rehabilitation project via a 16-inch main in Charles Street Extension and/or a 12-inch main in Fruit Street. Water service to the 325 Cambridge Building will be provided via a 12-inch main in Cambridge Street. Water service to the John Jeffries Annex and the John Jeffries House Addition will be provided via a 16-inch line in Charles Street.

Water generation is based upon estimated sewage generation with an added factor of 10 percent for consumption, system losses, and other usage. The average daily water demands for the Proposed Projects are expected to be approximately 38,003 to 40,203 gpd, inclusive of mechanical equipment demand.

3.5.3 Stormwater Management

The Proposed Projects are not expected to produce significant changes in the quantity of stormwater runoff from their respective sites. The existing sites are very nearly 100 percent impervious in the existing condition and will remain so in the future condition.

A small quality benefit is expected at the site of the John Jeffries Annex and the John Jeffries House Addition via the replacement of existing surface parking with building roof area, which is considered clean by MassDEP.

Stormwater collected at the proposed Charles Street Rehabilitation will discharge to the BWSC system via either the West Side Interceptor in Charles Street Extension or a 24-inch by 36-inch drain in Fruit Street. Stormwater collected at the proposed 325 Cambridge Building will be discharged to the existing 12-inch BWSC storm system in Cambridge Street. The John Jeffries Annex site is located within the Groundwater Conservation Overlay District and is subject to the requirements of Article 32 of the Boston Zoning Code. Any stormwater discharge allowed from the site will be discharged to the existing 12-inch BSWC storm system in Charles Street.

All proposed stormwater connections will be kept separate from sanitary sewer connections in accordance with BWSC requirements.

As part of the permitting process, Mass. Eye and Ear will submit stormwater management plans for each of the Proposed Projects to the BWSC for review and approval. Surface drain structures required by the Proposed Projects will be developed to meet the latest city and state codes and standards. Compliance with the standards for the final site design will be reviewed as part of BWSC's Site Plan Review Process.

3.5.4 Energy Systems

3.5.4.1 Energy Efficiency

Each building will be designed to provide for its own heating and cooling needs. Mass. Eye and Ear is committed to promoting energy efficiency measures throughout the Proposed Projects. Since research and healthcare facilities are by nature 24-hour operations and intense equipment users, Mass. Eye and Ear will take seriously its leadership role in helping control use of excess energy.

3.5.4.2 Energy Needs

The Proposed Projects' sites are well-served by private utility systems, including National Grid natural gas, NSTAR electricity, and Trigen steam (for the Charles Street Rehabilitation project). As the Proposed Projects progress further into design and entitlements, Mass. Eye and Ear will be coordinating service demands with each of the energy providers to determine the most appropriate service scenario. At this time, the demands associated with each energy source have not been quantified.

Future analyses will include a discussion of the Proposed Projects' energy needs including a description of the planned heating, cooling, and electrical systems. In addition, the future analyses will provide detail regarding the Proposed Projects' measures to reduce energy needs.

Chapter 4.0
Coordination With Other Governmental Agencies

4.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

4.1 Architectural Access Board Requirements

The Proposed Projects will comply with the requirements of the Massachusetts Architectural Access Board and will be designated to comply with the standards of the Americans with Disabilities Act.

4.2 Massachusetts Environmental Policy Act (MEPA)

As currently planned, the Proposed Projects do not meet any thresholds that would require MEPA review—there are fewer than 300 parking spaces planned, less than 2,000 average daily trips created by the Proposed Projects, and less than 100,000 gallons per day of wastewater. The Proposed Projects will include the demolition of properties listed in the Inventory of Historic and Archaeological Assets of the Commonwealth and it is anticipated that Massachusetts Health and Educational Facilities Authority (HEFA) funding will be used. However, since no other thresholds will be met, an Environmental Notification Form is not required, and instead a Massachusetts Historical Commission (MHC) Project Notification Form (PNF) will be filed with MHC.

4.3 Massachusetts Historical Commission

A MHC Project Notification Form will be filed for each project. As the BLC is considered a consulting party under State Register Review, it will receive a copy of the PNF and may participate in the consultation process.

4.4 Boston Civic Design Commission

The Proposed Projects will comply with the provisions of Article 28 of the Boston Zoning Code. This PNF will be submitted to the Boston Civic Design Commission by the BRA as part of the Article 80 process.

4.5 Boston Landmarks Commission

Construction of the 325 Cambridge Building and the Charles Street Rehabilitation project will require submission of an Application for Article 85 Review with the Boston Landmarks Commission for demolition of properties over 50 years of age.

4.6 Beacon Hill Landmark District Commission

Construction of the John Jeffries Annex, the addition to the John Jeffries House, and the improvements to the Charles Street Parking Garage will require review and approval by the Beacon Hill Landmark District Commission. An Application for a Certificate of Appropriateness will be filed for each project. In addition, any improvements to the public realm will also require review and approval by the BHLDC.

4.7 Other Permits and Approvals

Table 2-2 contains a list of agencies from which permits and approvals for the Proposed Projects will be sought.

Chapter 5.0
Public Review Process

5.0 PUBLIC REVIEW PROCESS

By filing this IMPNF/PNF, Mass. Eye and Ear formally initiates the Institutional Master Plan review process under Article 80D and Large Project Review process under Article 80B for the Proposed Projects with the Boston Redevelopment Authority. The IMP process forecasts Mass. Eye and Ear's space requirements on and near the Charles Street campus over the next ten years, identifying those projects that may be developed in the term of the IMP, and analyzing environmental, traffic and other growth-related impacts.

Mass. Eye and Ear has begun reaching out to abutters and other interested parties including state and local government officials, the BRA, Massachusetts General Hospital, Liberty Hotel, and community groups, including the Beacon Hill Civic Association, West End Council and West End Civic Association.

Chapter 6.0
Project Certification

6.0 PROJECT CERTIFICATION

This form has been submitted to the Boston Redevelopment Authority as required by the Boston Zoning Code, Article 80.

Signature of Proponent's Representative

Robert Biggio

Massachusetts Eye and Ear Infirmary
243 Charles Street
Boston, MA 02114

1/3/2011
Date

Signature of Preparer

Cindy Schlessinger

Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754

1/5/2011
Date

Appendix A
LEED Checklists

LEED for New Construction and Major Renovation 2009
Project Scorecard
LEED 2009 Certification Go Live Date: May 2009

Project Name: 243 Charles Street Rehabilitation
Project Address:
Certification Goal:
Certification Estimate: **CERTIFIED**

Yes	?	No		
17	3	6	**Sustainable Sites** (24%)	**26 Points**

Y							
			Prereq 1			**Construction Activity Pollution Prevention**	Required
		1	Credit 1			**Site Selection**	1
5			Credit 2			**Development Density & Community Connectivity**	5
		1	Credit 3			**Brownfield Redevelopment**	1
6			Credit 4.1			**Alternative Transportation**, Public Transportation Access	6
	1		Credit 4.2			**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
3			Credit 4.3			**Alternative Transportation**, Low-Emitting & Fuel-Efficient Vehicles	3
2			Credit 4.4			**Alternative Transportation**, Parking Capacity	2
		1	Credit 5.1			**Site Development,** Protect or Restore Habitat	1
		1	Credit 5.2			**Site Development,** Maximize Open Space	1
	1		Credit 6.1			**Stormwater Design,** Quantity Control	1
		1	Credit 6.2			**Stormwater Design,** Quality Control	1
		1	Credit 7.1			**Heat Island Effect,** Non-Roof	1
1			Credit 7.2			**Heat Island Effect,** Roof	1
	1		Credit 8			**Light Pollution Reduction**	1

Yes	?	No		
2	2	4	**Water Efficiency** (9%)	**10 Points**

Y							
			Prereq 1			**Water Use Reduction**, 20% Reduction	Required
		2	Credit 1.1			**Water Efficient Landscaping**, Reduce by 50%	2
		2	Credit 1.2			**Water Efficient Landscaping**, No Potable Use or No Irrigation	2
2			Credit 2			**Innovative Wastewater Technologies**	2
	2		Credit 3			**Water Use Reduction**	2 to 4
						30% Reduction	2
						35% Reduction	3
						40% Reduction	4

6	5	1	**Energy & Atmosphere** (32%) **35 Points**

Y							
			Prereq 1			**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2			**Minimum Energy Performance:** 10% New Bldgs or 5% Existing Bldg Renovations	Required
Y			Prereq 3			**Fundamental Refrigerant Management**	Required
2			Credit 1			**Optimize Energy Performance**	1 to 19
						12% New Buildings or 8% Existing Building Renovations	1
					2	14% New Buildings or 10% Existing Building Renovations	2
						16% New Buildings or 12% Existing Building Renovations	3
						18% New Buildings or 14% Existing Building Renovations	4
						20% New Buildings or 16% Existing Building Renovations	5
						22% New Buildings or 18% Existing Building Renovations	6
						24% New Buildings or 20% Existing Building Renovations	7
						26% New Buildings or 22% Existing Building Renovations	8
						28% New Buildings or 24% Existing Building Renovations	9
						30% New Buildings or 26% Existing Building Renovations	10
						32% New Buildings or 28% Existing Building Renovations	11
						34% New Buildings or 30% Existing Building Renovations	12
						36% New Buildings or 32% Existing Building Renovations	13
						38% New Buildings or 34% Existing Building Renovations	14
						40% New Buildings or 36% Existing Building Renovations	15
						42% New Buildings or 38% Existing Building Renovations	16
						44% New Buildings or 40% Existing Building Renovations	17
						46% New Buildings or 42% Existing Building Renovations	18
						48% New Buildings or 44% Existing Building Renovations	19
		1	Credit 2			**On-Site Renewable Energy**	1 to 7
						1% Renewable Energy	1
						3% Renewable Energy	2
						5% Renewable Energy	3
						7% Renewable Energy	4
						9% Renewable Energy	5
						11% Renewable Energy	6
						13% Renewable Energy	7
2			Credit 3			**Enhanced Commissioning**	2
2			Credit 4			**Enhanced Refrigerant Management**	2
	3		Credit 5			**Measurement & Verification**	3
	2		Credit 6			**Green Power**	2

Yes	?	No		
5	5	2	**Materials & Resources** (13%)	**14 Points**

Y							
			Prereq 1			**Storage & Collection of Recyclables**	Required
		1	Credit 1			**Building Reuse**	1 to 3
			Credit 1.1			Maintain 55% of Existing Walls, Floors & Roof	1
			Credit 1.2			Maintain 75% of Existing Walls, Floors & Roof	2
			Credit 1.3			Maintain 95% of Existing Walls, Floors & Roof	3
		1	Credit 1.4			**Building Reuse,** Maintain 50% of Interior Non-Structural Elements	1
1			Credit 2.1			**Construction Waste Management**, Divert 50% from Disposal	1
1			Credit 2.2			**Construction Waste Management**, Divert 75% from Disposal	1
	1		Credit 3.1			**Materials Reuse**, 5%	1
	1		Credit 3.2			**Materials Reuse**,10%	1
1			Credit 4.1			**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1
	1		Credit 4.2			**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
1			Credit 5.1			**Regional Materials**, 10% Extracted, Processed & Manufactured Regionally	1
	1		Credit 5.2			**Regional Materials**, 20% Extracted, Processed & Manufactured Regionally	1
1			Credit 6			**Rapidly Renewable Materials**	1
	1		Credit 7			**Certified Wood**	1

Yes	?	No			
11	2	2	**Indoor Environmental Quality** (14%)		**15 Points**
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
1			Credit 1	**Outdoor Air Delivery Monitoring**	1
		1	Credit 2	**Increased Ventilation**	1
1			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
1			Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
1			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
1			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
1			Credit 4.3	**Low-Emitting Materials**, Flooring Systems	1
1			Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
	1		Credit 5	**Indoor Chemical & Pollutant Source Control**	1
1			Credit 6.1	**Controllability of Systems**, Lighting	1
1			Credit 6.2	**Controllability of Systems**, Thermal Comfort	1
1			Credit 7.1	**Thermal Comfort**, Design	1
1			Credit 7.2	**Thermal Comfort**, Verification	1
	1		Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
		1	Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

Yes	?	No			
1	3	2	**Innovation & Design Process** (5%)		**6 Points**
	1		Credit 1.1	**Innovation in Design**: Provide Specific Title	1
	1		Credit 1.2	**Innovation in Design**: Provide Specific Title	1
	1		Credit 1.3	**Innovation in Design**: Provide Specific Title	1
		1	Credit 1.4	**Innovation in Design**: Provide Specific Title	1
		1	Credit 1.5	**Innovation in Design**: Provide Specific Title	1
1			Credit 2	**LEED® Accredited Professional**	1

Yes	?	No			
1	3		**Regional Priority Credits** (3%)		**4 Points**
1			Credit 1.1	**Regional Priority Credit**: Region Defined	1
	1		Credit 1.2	**Regional Priority Credit**: Region Defined	1
	1		Credit 1.3	**Regional Priority Credit**: Region Defined	1
	1		Credit 1.4	**Regional Priority Credit**: Region Defined	1

Yes	?	No		
43	23	17	**Project Totals (Certification Estimates)**	**110 Points**

Certified: 40-49 points **Silver:** 50-59 points **Gold:** 60-79 points **Platinum:** 80+ points

LEED for New Construction and Major Renovation 2009
Project Scorecard
LEED 2009 Certification Go Live Date: May 2009

Project Name: 325 Cambridge Building
Project Address:
Certification Goal:
Certification Estimate: **CERTIFIED**

Yes	?	No	
16	5	5	**Sustainable Sites** (24%) — **26 Points**

Y							
1			Prereq 1			**Construction Activity Pollution Prevention**	Required
1			Credit 1			**Site Selection**	1
5			Credit 2			**Development Density & Community Connectivity**	5
		1	Credit 3			**Brownfield Redevelopment**	1
6			Credit 4.1			**Alternative Transportation**, Public Transportation Access	6
	1		Credit 4.2			**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
	3		Credit 4.3			**Alternative Transportation**, Low-Emitting & Fuel-Efficient Vehicles	3
2			Credit 4.4			**Alternative Transportation**, Parking Capacity	2
		1	Credit 5.1			**Site Development,** Protect or Restore Habitat	1
		1	Credit 5.2			**Site Development,** Maximize Open Space	1
	1		Credit 6.1			**Stormwater Design,** Quantity Control	1
		1	Credit 6.2			**Stormwater Design,** Quality Control	1
		1	Credit 7.1			**Heat Island Effect,** Non-Roof	1
1			Credit 7.2			**Heat Island Effect,** Roof	1
1			Credit 8			**Light Pollution Reduction**	1

Yes	?	No	
2	2	4	**Water Efficiency** (9%) — **10 Points**

Y							
			Prereq 1			**Water Use Reduction**, 20% Reduction	Required
		2	Credit 1.1			**Water Efficient Landscaping**, Reduce by 50%	2
		2	Credit 1.2			**Water Efficient Landscaping**, No Potable Use or No Irrigation	2
2			Credit 2			**Innovative Wastewater Technologies**	2
	2		Credit 3			**Water Use Reduction**	2 to 4
						30% Reduction	2
						35% Reduction	3
						40% Reduction	4

6	5	1	**Energy & Atmosphere** (32%) — **35 Points**

Y							
			Prereq 1			**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2			**Minimum Energy Performance:** 10% New Bldgs or 5% Existing Bldg Renovations	Required
Y			Prereq 3			**Fundamental Refrigerant Management**	Required
2			Credit 1			**Optimize Energy Performance**	1 to 19
						12% New Buildings or 8% Existing Building Renovations	1
					2	14% New Buildings or 10% Existing Building Renovations	2
						16% New Buildings or 12% Existing Building Renovations	3
						18% New Buildings or 14% Existing Building Renovations	4
						20% New Buildings or 16% Existing Building Renovations	5
						22% New Buildings or 18% Existing Building Renovations	6
						24% New Buildings or 20% Existing Building Renovations	7
						26% New Buildings or 22% Existing Building Renovations	8
						28% New Buildings or 24% Existing Building Renovations	9
						30% New Buildings or 26% Existing Building Renovations	10
						32% New Buildings or 28% Existing Building Renovations	11
						34% New Buildings or 30% Existing Building Renovations	12
						36% New Buildings or 32% Existing Building Renovations	13
						38% New Buildings or 34% Existing Building Renovations	14
						40% New Buildings or 36% Existing Building Renovations	15
						42% New Buildings or 38% Existing Building Renovations	16
						44% New Buildings or 40% Existing Building Renovations	17
						46% New Buildings or 42% Existing Building Renovations	18
						48% New Buildings or 44% Existing Building Renovations	19
		1	Credit 2			**On-Site Renewable Energy**	1 to 7
						1% Renewable Energy	1
						3% Renewable Energy	2
						5% Renewable Energy	3
						7% Renewable Energy	4
						9% Renewable Energy	5
						11% Renewable Energy	6
						13% Renewable Energy	7
2			Credit 3			**Enhanced Commissioning**	2
2			Credit 4			**Enhanced Refrigerant Management**	2
	3		Credit 5			**Measurement & Verification**	3
	2		Credit 6			**Green Power**	2

Yes	?	No	
5	5	2	**Materials & Resources** (13%) — **14 Points**

Y							
			Prereq 1			**Storage & Collection of Recyclables**	Required
		1	Credit 1			**Building Reuse**	1 to 3
			Credit 1.1			Maintain 55% of Existing Walls, Floors & Roof	1
			Credit 1.2			Maintain 75% of Existing Walls, Floors & Roof	2
			Credit 1.3			Maintain 95% of Existing Walls, Floors & Roof	3
		1	Credit 1.4			**Building Reuse,** Maintain 50% of Interior Non-Structural Elements	1
1			Credit 2.1			**Construction Waste Management**, Divert 50% from Disposal	1
1			Credit 2.2			**Construction Waste Management**, Divert 75% from Disposal	1
	1		Credit 3.1			**Materials Reuse**, 5%	1
	1		Credit 3.2			**Materials Reuse**,10%	1
1			Credit 4.1			**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1
	1		Credit 4.2			**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
1			Credit 5.1			**Regional Materials**, 10% Extracted, Processed & Manufactured Regionally	1
	1		Credit 5.2			**Regional Materials**, 20% Extracted, Processed & Manufactured Regionally	1
1			Credit 6			**Rapidly Renewable Materials**	1
	1		Credit 7			**Certified Wood**	1

Yes	?	No			
11	2	2	**Indoor Environmental Quality** (14%)		**15 Points**
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
1			Credit 1	**Outdoor Air Delivery Monitoring**	1
		1	Credit 2	**Increased Ventilation**	1
1			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
1			Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
1			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
1			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
1			Credit 4.3	**Low-Emitting Materials**, Flooring Systems	1
1			Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
	1		Credit 5	**Indoor Chemical & Pollutant Source Control**	1
1			Credit 6.1	**Controllability of Systems**, Lighting	1
1			Credit 6.2	**Controllability of Systems**, Thermal Comfort	1
1			Credit 7.1	**Thermal Comfort**, Design	1
1			Credit 7.2	**Thermal Comfort**, Verification	1
	1		Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
		1	Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

Yes	?	No			
1	3	2	**Innovation & Design Process** (5%)		**6 Points**
	1		Credit 1.1	**Innovation in Design**: Provide Specific Title	1
	1		Credit 1.2	**Innovation in Design**: Provide Specific Title	1
	1		Credit 1.3	**Innovation in Design**: Provide Specific Title	1
		1	Credit 1.4	**Innovation in Design**: Provide Specific Title	1
		1	Credit 1.5	**Innovation in Design**: Provide Specific Title	1
1			Credit 2	**LEED® Accredited Professional**	1

Yes	?	No			
1	3		**Regional Priority Credits** (3%)		**4 Points**
1			Credit 1.1	**Regional Priority Credit**: Region Defined	1
	1		Credit 1.2	**Regional Priority Credit**: Region Defined	1
	1		Credit 1.3	**Regional Priority Credit**: Region Defined	1
	1		Credit 1.4	**Regional Priority Credit**: Region Defined	1

Yes	?	No		
42	25	16	**Project Totals (Certification Estimates)**	**110 Points**

Certified: 40-49 points **Silver:** 50-59 points **Gold:** 60-79 points **Platinum:** 80+ points